

Radio Retailing

The Business Magazine of the Radio Industry

A McGraw-Hill Publication

JANUARY, 1929



They Radiate Profits!

Gold Seal

Radio Tubes



ONE dealer might be wrong saying Gold Seal Radio Tubes sell best and serve best—six or a dozen dealers might be wrong—but you can't figure thousands of 'em as *all* wrong from Bangor to San Diego.

When thousands of men in your business make money on one line and come back for more, you can figure the straws that show the way the wind blows are really a whole hay stack. Join the army of Gold Sealers!

Write New York Office at 250 Park Avenue.

Made Right—Packed Right—Sold Right.

GOLD SEAL ELECTRICAL CO., INC.
New York and Chicago

Also Manufacturers of Gold Seal Electrical Appliances.



*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out-of-date tag on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.

Radio Retailing, January, 1929. Vol. 9, No. 1. Published monthly. McGraw-Hill Publishing Company, Inc., Tenth Avenue at Thirty-sixth Street, New York, N. Y. \$2 per year. 25 cents per copy. Entered as second-class matter, April 10, 1925, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

EARL WHITEHORNE,
Editorial Director
RAY V. SUTLIFFE,
Western Editor, Chicago
HENRY W. BAUKAT,
Technical Editor
S. J. RYAN,
Merchandising Counsellor

Radio Retailing

The Business Magazine of the Radio Industry

WILLIAM ALLEY
Managing Editor

Editorial Staff
OID RISO
HARRY PHILLIPS
C. GRUNSKY, San Francisco
PAUL WOOTON, Washington

Radio Retailing for JANUARY, 1929

STATISTICAL—

Statistical Review of the Radio Industry 56
Figures show radio had its greatest sales year in 1928.

TRENDS—

“The Radio Industry Is on the March” 64
New scientific achievements presage a year of commercial opportunities.
“Stabilization and Prosperity Are Keynotes” 58
Industry leaders forecast a year of unusual progress and profits.

SALES—

“Sell the Wiring Job First” 70
How McCoy-Roberton sells extra reproducers and wiring for “radio-in-every-room.”
Selling Combinations—an Art Unto Itself 75
The story of a dealer who did \$6,000 a month in radio-phonograph combinations.

BROADCASTING—

“What’s on the Air?” 93
A new department devoted to radio programs and how to merchandise them

NEWS—

New Products Announced This Month 82
What the Trade Is Talking About 84
News of Jobbers and Distributors 89
Latest Phonograph Records 90

MANAGEMENT—

S. J. Ryan Talks About Inventories 66
A practical merchandiser gives you a heart-to-heart talk about stock control.

TECHNICAL—

“Is Straight-Line-Frequency Now an Obligation?” 68
Do new allocations make S-L-F tuning essential?—Discussion by trade.

THE EDITORS SAY—

“Our Saturation Fades Away” 55
Some interesting comparisons brought out by an analysis of 1928 sales figures.
“Who Owns the Radio Industry?” 62
A re-statement of the plans and policies of “Radio Retailing.”
“Markdowns Kill Net Profits” 76
What happens to profits when you cut prices—other editorial comment.

SERVICE—

“Why Sets Don’t Work” 72
The California Service Co. reduces service by eliminating causes for complaint.

Practical Service Methods 78

MANUFACTURING—

Keeping in Touch with Radio Manufacturing 97
New Radio Trade-marks and Patents 101
Directory of Parts and Manufacturers 103

Publisher’s Statement

“Radio Retailing” was established in January, 1925, by the McGraw-Hill Publishing Company, to serve the merchandising problems of the new trade and industry that was being created by the public demand for radio products.

O. H. Caldwell was its first editor, remaining until his appointment to the Federal Radio Commission in March, 1927. He was succeeded by Earl Whitehorne as editorial director.

The editorial staff of “Radio Retailing” consists of:

Earl Whitehorne, editorial director; William Alley, managing editor; Ray V. Sutcliffe, Henry W. Baukat, Harry Phillips, Ovid Riso and C. Grunsky.

McGraw-Hill Publishing Company, Inc., Tenth Ave. at 36th St., New York, N. Y.

JAMES H. MCGRAW, Chairman of the Board
MALCOLM MUIR, President
JAMES H. MCGRAW, JR., Vice-Pres. and Treas.
EDWARD J. MCHREN, Vice-President
MARION BRITTON, Vice-President
EDGAR KOBAK, Vice-President
HAROLD W. MCGRAW, Vice-President
G. THOMPSON, Secretary

NEW YORK DISTRICT OFFICE, 285 Madison Ave.
Electrical World Electrical West Ingenieria Internacional
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
Copyright, 1929, by McGraw-Hill Publishing Company, Inc.
Cable Address: “Machinist, N. Y.”
Annual subscription rate is \$2 in United States and Canada.

WASHINGTON, National Press Bldg.
CHICAGO, 7 South Dearborn St.
PHILADELPHIA, 1800 Arch St.
CLEVELAND, Guardian Bldg.
ST. LOUIS, Bell Telephone Bldg.
SAN FRANCISCO, 883 Mission Street
LONDON, E. C., 8 Boulevard St.



“... that C sharp!
just as I taught her”

THOSE whose very lives are wrapt up in tone, who *create* tone, who *worship* tone, invariably turn to a Stromberg-Carlson as their aid in judging from afar the tones they have created.

Their trained musical sense cannot be deceived by over accentuations of any kind. They recognize that Stromberg-Carlson tone is *actual* tone, that every Stromberg-Carlson is a mirror which reflects whatever degree of musical artistry is placed before a microphone.

Nor are musical authorities unaware of the reasons for the trustworthy quality of Stromberg-Carlson tonal reproduction. They know that extra attention to detail, extra quality of materials, extra apparatus not thought necessary in purely commercial radio, safeguard the purity of Stromberg-Carlson tone.

There are All-Electric Stromberg-Carlson Receivers for alternating current areas, and for direct current areas, as well as Receivers operated with batteries—a complete line suitable to every dealer's patronage.

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

“There is Nothing Finer
than a Stromberg-Carlson”

No. 635 Stromberg-Carlson,
Walnut Treasure Chest, (illus-
trated above). Operates on
A. C. Tubes. Price, \$185
less tubes and Speaker

Slightly higher Rockies and West
and Canada

Stromberg-Carlson

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



FOR your splendid support in 1928, Utah thanks you. And in appreciation of that support, we promise even greater co-operation in 1929. With new plans, new ideas, new vision and enlarged manufacturing facilities we will strive to help you realize greater profits in this coming year.

UTAH



Our New Years -- Resolution --

To serve our in-
creasing clientele of
quality jobbers
with our increased
production of.

HIGHEST QUALITY TUBES



Now—at the entrance of the New Year—it gives us pleasure to announce that our plans for enlarging LaSalle Tube service are coming along well and production facilities steadily increasing.

We are better able than ever to serve our old clients and to take care of the waiting list of jobbers who desire to put on this quality line.

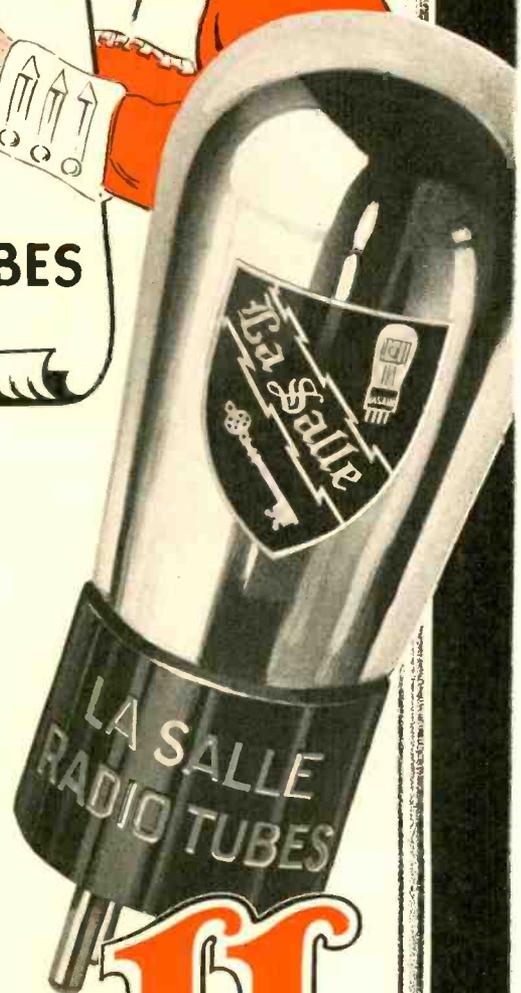
Before a LaSalle Tube is shipped it passes the most rigid tests—not by the dozen or case but singly and separately. Uniform quality—and that the highest—is thereby guaranteed with LaSalle and the price is no higher than for ordinary tubes.

Our special Distribution Plan will interest you. Write for it.

LA SALLE RADIO CORPORATION

DIVISION OF MATCHLESS ELECTRIC COMPANY

143 WEST AUSTIN AVENUE CHICAGO ILLINOIS



LaSalle

HIGH VACUUM RADIO TUBES

**Here's reproduction so perfect . . .
You forget the set completely**

GET IT BETTER WITH A GREBE

*How the Grebe
De Luxe Console
Brings an Orchestra
Into the Room*

Mounted in a finely-proportioned cabinet, the De Luxe looks its class.

The Grebe A-C Six Receiver and Power Unit get the best that's on the air, and through the 14" built-in, power-amplified dynamic speaker, speech and music are reproduced with absolute fidelity and stirring depth of tone.

Two 250 tubes in pull-push give tonal accuracy at all degrees of volume. Tune the De Luxe for a small living room or raise its volume level to that required for the dance floor and you get the same freedom from distortion—the same tonal excellence.

Here's the complete unit to sell to those patrons of every store who want the best there is.



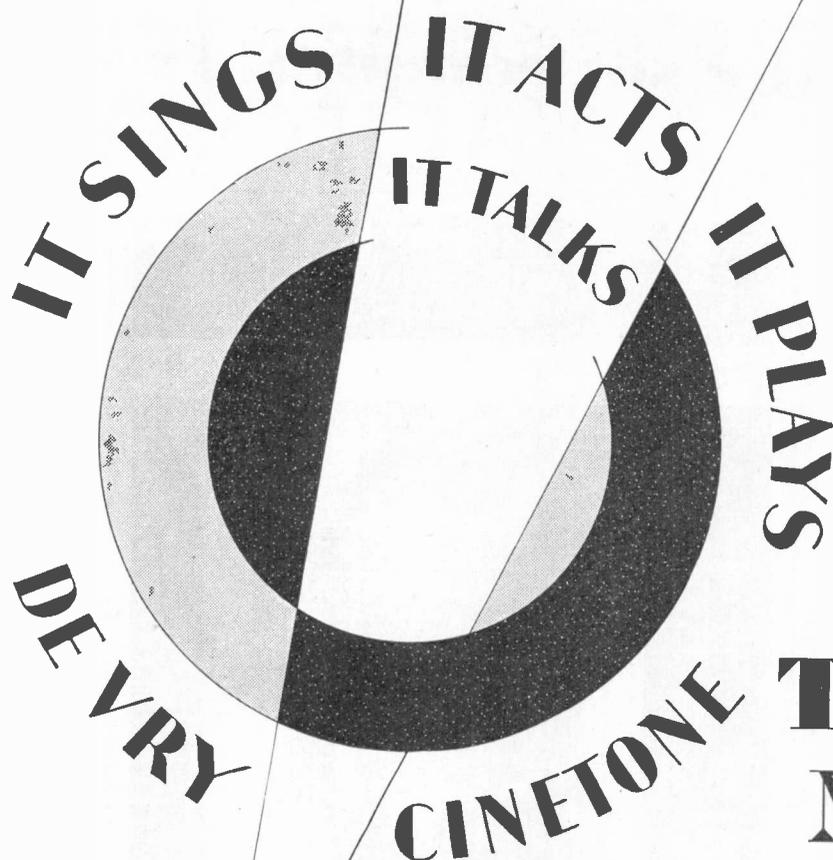
GREBE
SYNCHROPHASE
RADIO

A. H. GREBE & COMPANY, INC.
Richmond Hill, N. Y.

Western Branch:

443 So. San Pedro St., Los Angeles, Calif.

Makers of Quality Radio Since 1909



TALKING MOVIES FOR THE HOME

**Be First
in Your
Community**

STEP into unchallenged leadership with DeVry Cine-Tone!

Be first in your community to offer *talking movies for the home*. DeVry Cine-Tone sings, plays, talks, acts with results equal to the fine theater productions. Compact, easily operated by anyone, without experience!

Everyone knew this would come. But no one dreamed it could be offered at a price so astonishingly low. Complete with electrical connections to radio loud speaker. Cine-Tone retails for only \$250 with case. Think what a market this means!

The pictures and sound are perfectly synchronized. Sound reproduction is by the electric pick-up process. Dependability and quality always associated with the DeVry name give you assurance of satisfaction.

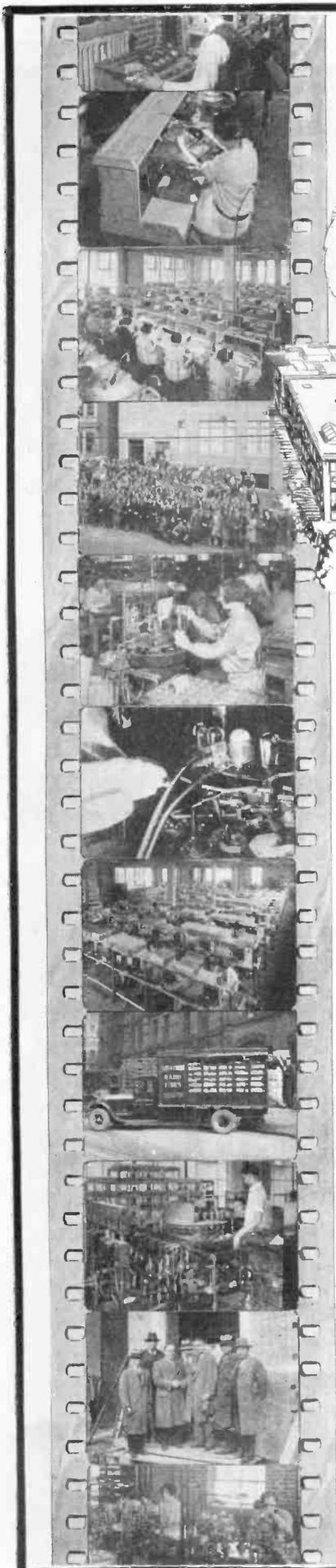
Make your store the talk of the town—a center of interest. Get the facts about DeVry Cine-Tone and the profit opportunity it affords. Capitalize on this latest sensation.

Write today!

DEVRY CORPORATION,
1111 CENTER STREET, CHICAGO, ILL., DEPT, RR1



World's Largest Manufacturer of Standard Motion Picture Cameras and Portable Projectors



... a great new tube
FACTORY!

NOTE!

The factory shown here, situated at Newark, N.J., is scarcely up when the news comes that Sonatron will locate another factory of equal size in Chicago!

... adding
thousands daily to production!

SONATRON throws this huge factory into the battle to supply a tremendous tube demand . . . a total of 35,000 square feet of floor space employing over a thousand workers . . . with production rapidly approaching a volume of 40,000 radio tubes a day . . . *and more to come!*

SONATRON TUBE COMPANY
CHICAGO NEW YORK NEWARK, N. J.

SONATRON

The World's Largest Radio Tube Line

THE LATEST RADIO MASTER CREATION



Made for Eveready Radio MODELS 2 AND 3

This beautiful Radio Master is designed especially to contain Eveready Radio Models 2 and 3—Approved by the National Carbon Co.

A splendid creation in beautiful woods combined with rare artistry.

Striped walnut body—butt walnut doors—overlays of satinwood—a wood that is at once brilliant and delicate.

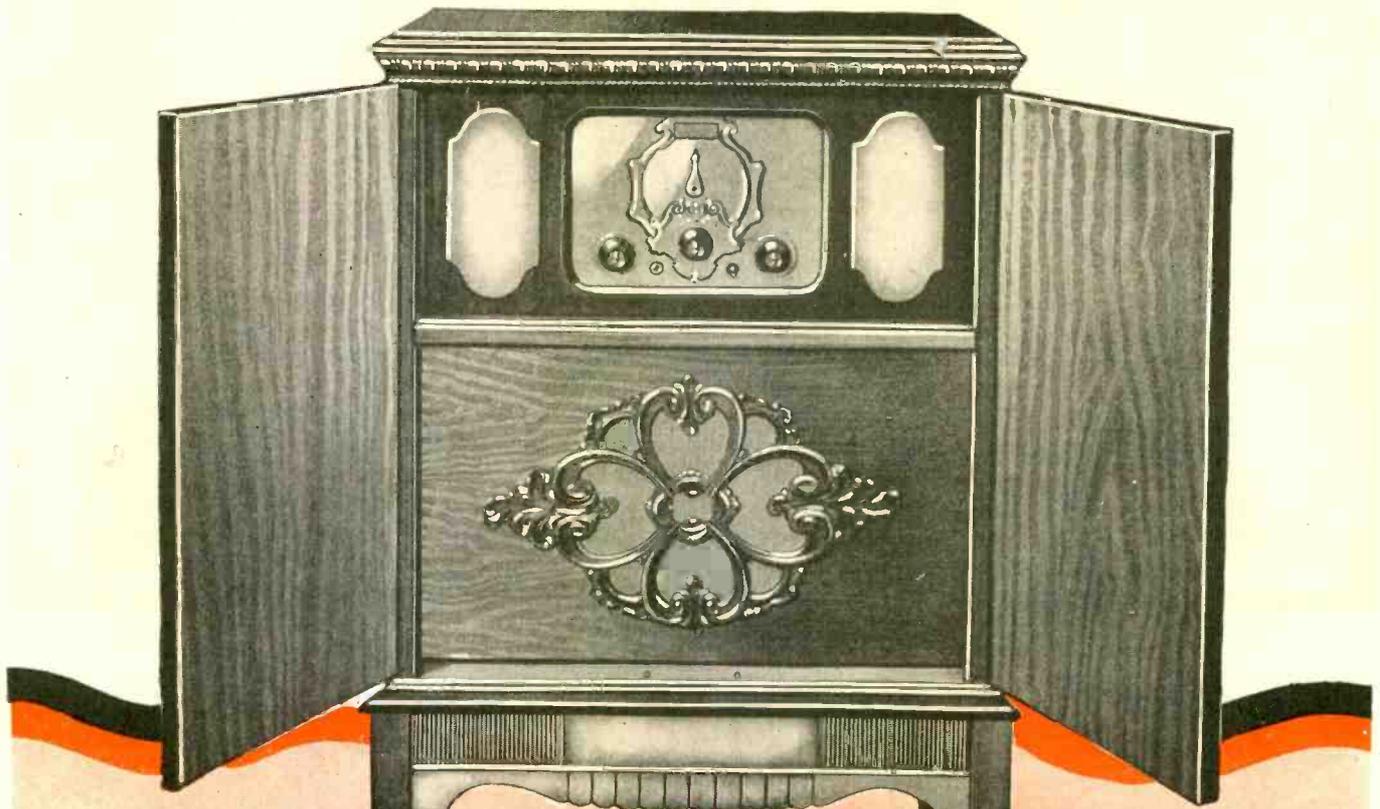
Not only is this a perfect container for the set, but the speaker space is ample for a dynamic speaker.

The Radio Master Line includes cabinets to receive any set on the market. Each is a masterpiece of design and craftsmanship.

RADIO MASTER CORPORATION
BAY CITY, MICHIGAN

A Great Radio Suc

COLONIAL ' ' ' New York's Greatest



The COLONIAL

with the built-in

CUTTING DYNAMIC SPEAKER

Models for A. C. and D. C.

Beautiful consoles...all-steel, electrically shielded chassis...automatic voltage compensator...bridge volume control...pick-up jack for phonograph records...illuminated panel. Audio system employs two 171 tubes in push pull. Laminated "A" metal transformers are used together with a frequency gain mesh. The whole net-work is designed to bring out wonderful capacity of the speaker.

RADIO'S
CLEAREST VOICE

COLLO

Success MOVES ON

Radio Sensation Now Available for Other Markets

WITH thousands of this PERFECT set already sold...with increased manufacturing service and financial resources...with a smashing, big-scale advertising campaign...with FOUR TIMES the factory space of a year ago...this marvelous set is ready to duplicate its great record in other territories.

Within a few short months, Colonial has built up one of the strongest dealer organizations in the New York and Philadelphia districts. Colonial products and Colonial policies have quickly put it in a position which other manufacturers have taken years to reach.

Read the brief description of the new Colonial. Get an actual demonstration of Cutting Dynamic Reception. Judge for yourself whether YOUR public will demand a set which gives so much in the way of beauty, performance and value at the price.

Get the COLONIAL Dealer Proposition NOW

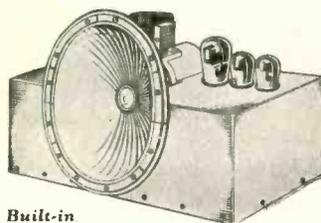
Within a short time, Colonial will have offices, service representatives and warehouse stocks in Chicago, Cleveland, Detroit, Pittsburgh, Baltimore, Boston and other large distributing centers. After January 1st, live dealers in these sections will have opportunity to capitalize this great New York success.

Any one of hundreds of successful dealers will tell you that Colonial knows how to advertise, how to service, how to cooperate, how to help dealers in every way that makes for success. Write, telephone or wire for dealer franchise information. Address

COLONIAL RADIO CORPORATION
LONG ISLAND CITY, N. Y.

CUTTING DYNAMIC POWER

The Cutting Dynamic Power Speaker Unit, weighing 65 pounds, consists of a power plant, power amplifier and electro-dynamic speaker. The speaker looks over-sized. It is large. It has a larger electro magnet, larger floating cone and a much larger single-turn driving coil. The clever design and combination of these elements have produced the effect that is little short of revolutionary.



Built-in
CUTTING DYNAMIC SPEAKER

*Different from all other
Dynamics!*

Licensed under patents of the Radio Corporation of America, General Electric, Westinghouse and American Telephone and Telegraph Companies.

The new Colonial is the greatest achievement of one of the world's foremost engineers, Dr. Fulton Cutting, designer of successful radio since 1916. Backed by the manufacturing resources of the Colonial Radio Corporation, Dr. Cutting gave his invention to the public with full confidence that it would be produced in keeping with the highest mechanical standards.

COLONIAL

THE FIRST STEP - in 1929

SPOKANE
KHQ

SEATTLE
KOMO

PORTLAND
KGW

SALT LAKE
CITY
KSL

SAN FRANCISCO
KPO

LOS ANGELES
KFI

ST. PAUL
KSTP

DENVER
KOA

KANSAS CITY
WREN



**FREED-
EISEMANN**
The Magnifying Tone
RADIO

Don't fail to tune in every Tuesday night, 10.30 P. M. Eastern Standard Time, on the Freshman Freed-Eisemann Orchestradians—the largest dance orchestra ever put regularly on the air. In a coast-to-coast hook-up through WJZ and Associated N. B. C. Stations. Sponsored by the Freshman and Freed-Eisemann Divisions of the Chas. Freshman Co., Inc.—and by Freshman and Freed-Eisemann dealers everywhere.

FRESHMAN
YOUR ULTIMATE RADIO

A **NEW** BROADCASTING ACHIEVEMENT



FRESHMAN YOUR ULTIMATE RADIO

WHEN we announced the merger of the Freshman and Freed-Eisemann organizations, we promised Freshman and Freed-Eisemann dealers some really great things in the way of co-operation during 1929.

The first step in our comprehensive campaign of dealer co-operation will be the presentation of a radio broadcasting program which far excels anything of its kind yet offered the public.

Beginning New Year's Day, the Freshman Freed-Eisemann Orchestradians, the largest dance orchestra ever put regularly on the air, will broadcast weekly throughout the year. The Orchestradians will be supported by vocalists of national reputation and in addition will offer many delightful musical novelties.

Every Tuesday evening, at 10.30 Eastern Standard Time, the Orchestradians will be heard over WJZ, New York, and Associated National Broadcasting Company Stations, in a hook-up extending from coast to coast.

These programs will be sponsored alternately by the Freshman and the Freed-Eisemann Divisions of the Charles Freshman Co., Inc.

This broadcasting by the Orchestradians is only the first step toward making 1929 the biggest year in radio history for Freshman and Freed-Eisemann dealers.

When you listen to the Orchestradians remember it is *your* program, broadcast to bring new customers and prospects into *your* store.

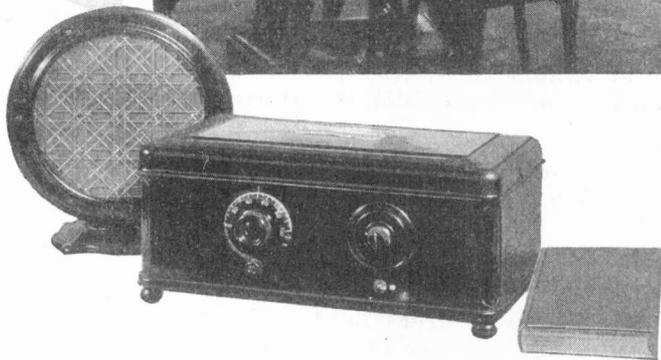
CHAS. FRESHMAN CO., INC.
NEW YORK CHICAGO SAN FRANCISCO LOS ANGELES KANSAS CITY
FREED-EISEMANN RADIO CORPORATION
BROOKLYN, N. Y.



ATWATER KENT

RADIO

Go to it again!

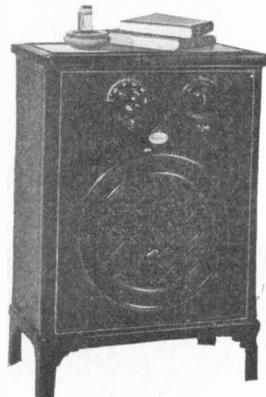


MODEL 46. New all-electric receiver for use with Model F-2 Electro-Dynamic speaker or other speakers of the same electrical characteristics. FULL-VISION Dial. Panelled corners, ball feet. Double power tube stage. Requires 7 A. C. tubes and 1 rectifying tube. Without tubes, \$83

MODEL F-2 Electro-Dynamic speaker. True to the whole range of music. For use with Model 46 Receiver or other receivers supplying a D. C. field current. \$34

Sell them *another* set!

RADIO in the living room, of course. But now it moves on to the dining room, sun porch, library, playroom, upstairs den. Family tastes in programs differ. People like to listen in different parts of the house. *Enough radio to go 'round makes everybody happy.* And that means more than one complete radio—not just extra speakers, but extra-sets, so that everybody can get the kind of program he likes when he likes and **WHERE** he likes . . . *Sell them another set and take the extra profit.*



MODEL 53. New, compact, all-in-one set with Atwater Kent Electro-Dynamic speaker. Not much higher than your knee! Makes a beautiful little table for lamp or books—and becomes a musical instrument at the snap of the switch. FULL-VISION Dial. Requires 7 A. C. tubes and 1 rectifying tube. Without tubes, \$117

ATWATER KENT

RADIO

The Atwater Kent Electro-Dynamic is here!

TIMED to the minute to meet the after-Christmas demand of dealers and public—here it is—the Atwater Kent Electro-Dynamic!

Tested, perfected—*right* in both performance and price—an Atwater Kent product you'll be proud to sell—Model 46 Receiver and Model F-2 (Electro-Dynamic) Speaker—the *new* profit-maker for 1929.

Test, test, and test again. It must be right or it cannot bear the name. And now you have it—the Electro-Dynamic Atwater Kent—not just another example of the Electro-Dynamic principle but the *perfection* of it.

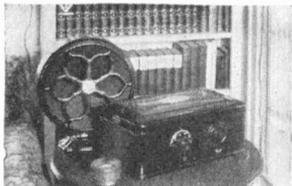
It's Electro-Dynamic in the true sense of the word. Reproduces the whole broadcasting range—every note of a grand organ or a full orchestra—realism all the way—no exaggeration, no booming—and no skimping the high notes.

Simple. Compact. Rugged. Durable. Reliable. Uses less than a cent's worth of electricity an hour. Only one cord to lamp socket. Only one switch to snap. Built by Atwater Kent to give people what they actually want in the form they want at the price they want to pay.

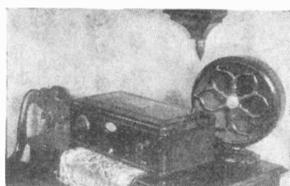
Offered in these forms for universal convenience: 1—Receiver. 2—Table speaker. 3—Speaker in chassis form. 4—all-in-one model with receiver and speaker combined.

Here's a **NEW** opportunity for Atwater Kent dealers. Another sure-fire seller from the manufacturer who pioneered compact radio, the true single dial and the shielding cabinet.

Remember how you cleaned up with the Atwater Kent 37 in the late winter months last year? Go to it again—with the Atwater Kent Electro-Dynamic!



MODEL 40. The world's most popular table model, for use with *magnetic* speaker. FULL-VISION Dial. Requires 6 A. C. tubes and 1 rectifying tube. Without tubes, \$77



MODEL 45. Extra-powerful, extra-selective receiver, for use with *magnetic* speaker. FULL-VISION Dial. Requires 7 A. C. tubes and 1 rectifying tube. Without tubes, \$94



MODEL 56. New, compact, all-in-one combination, with Atwater Kent *magnetic* speaker. Fits so beautifully anywhere. FULL-VISION Dial. Requires 6 A. C. tubes and 1 rectifying tube. Without tubes, \$97

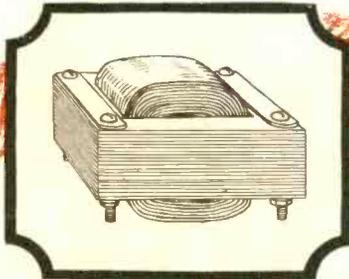
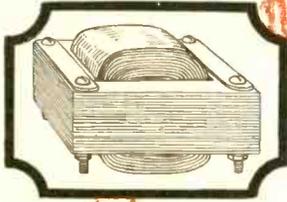


MODEL 57. New all-in-one set, with Atwater Kent *magnetic* speaker. Like Model 56—but stands a little higher. FULL-VISION Dial. Requires 6 A. C. tubes and 1 rectifying tube. Without tubes, \$105

Magnetic speakers. Models E, E-2, E-3, each \$20.

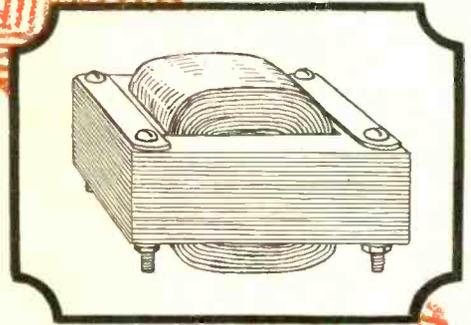
ATWATER KENT MANUFACTURING CO. A. Atwater Kent, Pres. 4733 Wissahickon Ave., Philadelphia, Pa.

1925
Volume of
Business



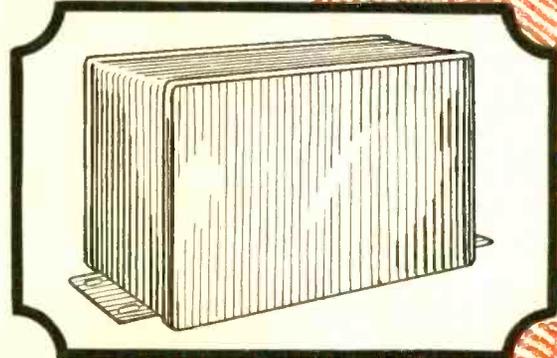
1926

1927



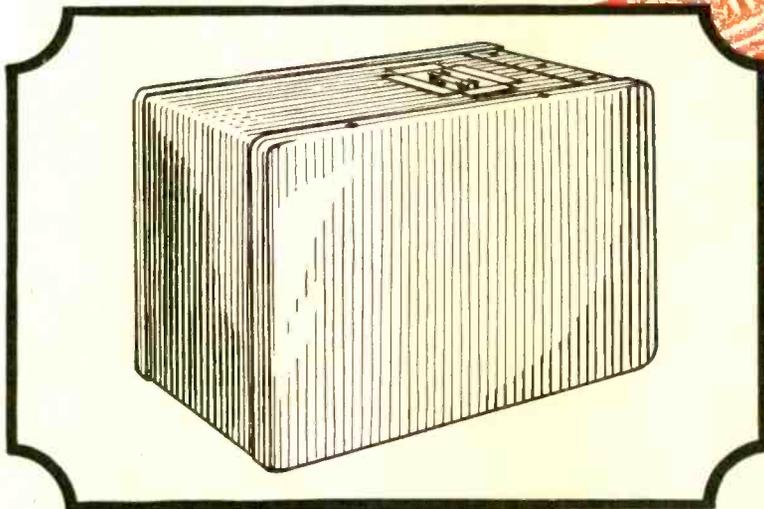
**Demand for
T.C.A. Products
Increases Business
173% to 380%
Each Year!**

1928



Wide reputation for efficiency and durability, due to refinements in construction and careful design, has resulted in a constantly increasing appreciation of T.C.A. Products. A new factory of seven times greater capacity is now under way to take care of the steadily mounting demand.

1929 *Estimated
Volume*



T.C.A. Products include a complete line of power, audio and neon transformers, chokes, power packs and filament transformers for A.C. conversion. They are being used as standard equipment by many of the country's largest builders of radio sets and accessories.

Sales offices in all principal cities, send specifications to Chicago office.

Manufacturers expecting to change or improve design this year should submit specifications early.

**THE TRANSFORMER CORPORATION
OF AMERICA**

1428-1432 Orleans Street, Chicago, Illinois



JUST OUT!

NEW 1929

PHILCO

ALL-ELECTRIC

RADIO

\$157



**8 Tubes Including Rectifier
Push-Pull Amplification
and equipped with
The NEW TYPE
Electro-Dynamic
Speaker**

Read this startling Philco announcement. Four pages that carry the complete details of the biggest selling opportunity ever offered the radio dealer.

Think of it! Philco "Neutrodyne-Plus"—world-recognized quality in radio, and now offered in exquisite furniture for only \$157. Contains every radio improvement that the public demands today; every feature to bring an enormous volume of retail sales. And Philco, with another new \$1,000,000 plant—6 factories in all—is ready to meet that demand.

Read Full Story on Following Pages!

This Most Amazing will Sweep the

here's why

1. New Type Philco
ELECTRO-DYNAMIC SPEAKER
2. Push-Pull Amplification
3. Eight (8) Tubes including Rectifier Tube
4. Furniture—superbly designed Console
5. No aerial needed; therefore movable
6. ALL-ELECTRIC—ENTIRELY DRY
7. Four Condensers—Range Control
8. Illuminated Dial
9. And—NEUTRODYNE-PLUS! Philco's famous Radio Discovery which gives—TONE PLUS POWER. Yes, a purity of tone combined with a selectivity and distance range that has thrilled users everywhere.
10. ALL THIS FOR \$157 LIST
11. AND THE PRODUCT IS PHILCO
12. In Big Volume Production—6 large factories

"NEUTRODYNE-PLUS"

Tone Plus Super-Power

Marvelous Selectivity—Vast Distance Range

PHILCO
REG. U.S. PAT. OFF.
ALL-ELECTRIC RADIO

Philco—Quality Radio

Here you have the selling sensation of 1929. A wonderful new model by Philco! Yes, the famous Philco All-Electric Radio, known everywhere for its superb quality and rare performance; now built with 8 tubes; now presented in fine furniture for only \$157. And equipped with the new type Electro-Dynamic Speaker with push-pull amplification.

Phenomenal Performance

Actually possesses sharper tuning than ever before—a selectivity that is truly marvelous. And such power, such remarkable distance range! You will admit you've never seen or heard anything to equal it.

And tone! Philco's perfected tone quality—actual LIFE-like RE-production—now *accentuated*, now *redoubled* by the New Type Electro-Dynamic Speaker, the New Electro-Dynamic that brings back the pure, clear-toned quality of voice and song, retains the pleasing resonance of low tones and restores the high notes to their necessary place in radio musical extertainment.

And Exquisite Furniture

This splendid, new model 8-tube Philco with the New Type Electro-Dynamic Speaker and push-pull amplification is in a *full-length* Console Cabinet of exquisite design and superbly finished by expert cabinet makers.

When you see this elegant furniture model, and when you try out the remarkable performance of the instrument and the clear volume of the speaker, you will wonder how it can be made to sell for only \$157. The answer is *rapid expansion, volume production and masterful radio engineering*.



The Highboy



The Lowboy

These superb cabinets are modern conceptions of the Louis XVI period style. Handsomely matched walnut panels, fluted legs and pillars. The Highboy has beautiful swinging doors, and the Lowboy, for those who prefer a low cabinet, has the convenient and attractive drop door.

These models contain the 8-tube (including rectifier) Philco Receiver; power supply; built-in aerial; portable ground; phonograph connection and the New Type Philco Electro-Dynamic Speaker.

Highboy, without tubes, \$275

Lowboy, without tubes, \$215

Turn to the Next Page

Value in Radio

Country Overnight

In Volume Production!

Big Dealer Profits

And now about trade discounts—about your margins of profit! They are just as liberal as ever—not cut, not reduced one iota, and Philco discounts to the dealer have always been generous.

In other words, Philco dealers this year will be offering the greatest selling radio ever built—the biggest value ever offered—and they will make a *real sizeable profit* on each and every sale.

Dealer Franchise Protection

Important! The demand for the new Philco models, particularly the splendid Console at \$157, is already assuming tremendous proportions, BUT Philco will maintain its policy of *territorial protection* for dealers.

This means that we will have only a limited number of Philco dealers within a given radius. And to those dealers we give the utmost protection and co-operation.

And Delivery!

Volume production has already started! Carloads of these new Philcos have already been shipped. Six big Philco factories are bending all facilities right now, this minute, to keep abreast of the demand. In other words, *you can get the merchandise*—not, perhaps, as many as you want—but plenty to enable you to do a big business and make a splendid profit each and every month.

Philco's Finance Plan

Thousands of Philco dealers qualify and use the Philco finance plan. Why? Because it is reasonable and because it works smoothly and quickly.

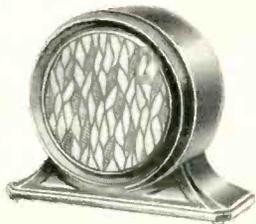
The Philco dealer can now do business in big volume on easy payments and *get the cash*. No confusing red tape! No long delays! And the Philco dealer gets this financing at a charge that is surprisingly low.

Prices Denver and west slightly higher; Pacific coast deliveries not available until January 15th.



The Philco Table Model

The Philco Table Cabinet is of simple, classic design, finished in rich two-tone Spanish Brown. It contains the 7-tube (including rectifier) Philco Receiver; power supply; built-in aerial and portable ground. Price, without tubes, \$115.00



The Philco Speaker (Magnetic Type)

A speaker designed for use with the Philco Table Model Radio. Reproduces the entire musical range, high notes as well as low notes, in perfect balance. Price, \$25.00.

NOTE: For 25 and 40 cycle sets add \$10 to any model

\$157

PHILCO

REG. U.S. PAT. OFF.

ALL-ELECTRIC RADIO

Full Advertising Story

Right Now—this Month

Nation Wide Introduction

By the time you read this announcement, big, smashing Philco newspaper advertisements, *for immediate publication*, will be on their way to more than 200 big daily newspapers over the entire United States — gigantic advertisements telling the vast buying public all about this remarkable radio value—*priced at only \$157.*

Yes, right now, this month of January, Philco begins the largest newspaper advertising campaign in its history — big size, dominating advertisements that will reach many millions of people and start a flood of buying that we believe will be without parallel in the radio business. And the full power of Philco's coast-to-coast broadcasting of the Philco Hour will be swung back of this tremendous nation-wide sales announcement.

Now then, while you are reading this message, the first carload shipments are being delivered to the Philco jobber in your territory.

If you are now a Philco dealer, get in touch with your jobber *at once.* Be ready when this Philco January advertising starts!

You know that the public—far and wide—will start buying on the very day that this advertising appears. *So get the merchandise on hand.* Get your Philco announcement banner ready. Don't miss your share of the big volume of business that is sure to come.

Read This Program!

1. Gigantic newspaper advertisements—*full pages*—1500 lines—1000 lines in more than 200 *big daily newspapers.*
2. 8-page Philco supplements dominating everything in big dailies.
3. Coast-to-coast broadcasting of the Philco Hour over 36 high-powered stations.
4. Direct factory “money” co-operation with all dealers for dealer's own advertising.
5. Nation-wide newspaper publicity by expert writers.
6. Big smashing outdoor banner for Philco dealer announcements. Window display! Display cards! Etc., etc.

Coast-to-Coast Broadcasting!

The popular “Philco Hour” with its tremendous following, will continue *every Friday night at 9.30 o'clock, Eastern standard time, through 36 high-powered stations.*

And, at the beginning and the end of each program, the marvelous new model Philco “Neutrodyne-Plus” Electric Radio will be announced to the millions of listeners from the Atlantic to Pacific.

Send Coupon Now

Whether or not you are a Philco dealer, send the coupon for the complete news—the full details.

If you are not now a Philco dealer, we will tell you frankly whether it is still possible for you to get the Philco franchise in your locality. We want the best dealers in every community and then we will continue to protect and co-operate with those dealers.

PHILCO
Philadelphia, Pa.

Philco
Ontario and C
Streets, Dept. 5021
Philadelphia, Penna.

GENTLEMEN:

Please send me at once full description of the new Philco 8-tube models with *new type* Electro-Dynamic Speaker; also full information on Philco dealer franchise and sales and advertising plans.

Name _____

Address _____

City _____ State _____



The Demand for the Webster Electric Pick-up has Exceeded all Expectations!

... if your shipment has been delayed please be patient ... production is now being doubled .. prompt deliveries will start soon.

and precision workmanship so evident in the Webster Electric Pick-



THE enthusiastic reception given the Webster Electric Pick-up by

dealers all over the country exceeded our expectations. While we had great faith in the sales possibilities of this new Webster product, we did not anticipate such an immediate response. And, though highly gratified, we regret that deliveries have been temporarily delayed.

Production on the Webster Electric Pick-up is now being doubled. Delays in delivery will soon be eliminated.

If you have not yet investigated the sales possibilities offered by the beautiful appearance, fine tone qualities,

up, do so today. Discover for yourself why hundreds of dealers have chosen to concentrate on Webster.

If your jobber has no Webster Electric Pick-ups in stock, send your order for a sample and display carton direct to us. You can cash in on the big demand.



Webster Power Amplifiers used in conjunction with the Webster Electric Pick-up provide new standards of perfection. When used in conjunction with the Webster Electric Pick-up you have an ideal combination.

Model A-210 List \$105.00 Model A-310 List \$115.00
Model A-271 List \$67.50

Prices slightly higher west of Rockies. Send for full details.

WEBSTER ELECTRIC COMPANY
RACINE, WISCONSIN

Webster
Electric
Pick-up

Champion

RADIO TUBES



KNOWN BY THE BOX
Tubes May Be Tested Without Unwrapping



Distinctive Counter Display

—and now let's tube-replace

3,000,000 A.C. sets in use today—a tremendous market for tube replacements. At least half these sets need new tubes *now*. For in the rush of business created by the prizefights, presidential campaign and other events of widespread interest, many of these sets were sold equipped with any tubes that were available—some good, some not so good.

With these 5

1. *Quality*—The consistent high quality of CHAMPION RADIO TUBES is well established, for it is based on 28 years of successful experience in the manufacture of incandescent lamps and vacuum tubes. Wherever Champions have been installed they have given satisfaction to the customer and built goodwill for the dealer.

2. *Champion Standard Equipment Packages*—Combinations of proper tubes for all standard radio sets, securely packed in attractive cartons, they form complete selling units of 7 or 8 tubes.

The “replace-’em-all at once” idea in a really practical form—an excellent aid to bigger tube-replacement sales, and to easier original equipment sales.

CHAMPION RAD

139 Pine
DanVers,



The New 8303 Extra-Heavy-Duty RADIO "B" BATTERY

Ray-O-Vac's newest and greatest "B" battery achievement—the new 8303 EXTRA Heavy-Duty Radio Battery! The *extra-value* battery you and your customers long have wanted. Extra power—extra life—extra good reception from the first day to the very last!

The famous Ray-O-Vac Cell Pocket construction—embodying new perfections and improvements—brings many new advantages for better reception and longer life to this EXTRA Heavy-Duty Battery. By the elimination of the old-fashioned pitch block, it also makes this 8303 Ray-O-Vac 20% lighter than other heavy duty batteries.

This "super" Ray-O-Vac has 30% greater capacity than the 9303 Heavy-Duty Ray-O-

Vac Radio Battery. 30% longer life with only 13% more cost! New economy and better reception to attract new customers and hold the old!

Here is the super battery with the strongest selling appeal—extra value for your customers' battery dollar. This new battery will be dominantly advertised during 1929 to millions of battery-operated set owners. Tune in now for more battery profits with this Ray-O-Vac 8303. Order from your jobber today!

FRENCH BATTERY COMPANY

Factory: Madison, Wisconsin

Sales Office: 30 N. Michigan Ave., Chicago, Ill.

Branches Chicago, New York, Minneapolis, Kansas City, Atlanta, Los Angeles

Also makers of Ray-O-Vac "A" and "C" Radio Batteries, Ray-O-Vac Flashlights and Batteries, Ray-O-Vac Telephone Batteries and Ray-O-Vac Ignition Cells

▼ ▼ Radio is Better with BATTERY Power and Best with Ray-O-Vacs ▼ ▼



a big name
deForest
grows bigger
de Forest

In 1929 the De Forest franchise means more to radio dealers than ever before. All the ingredients that spell S-U-C-C-E-S-S are there!

The Product! De Forest Audions perform and stand up—so that every user comes back for more of the same.

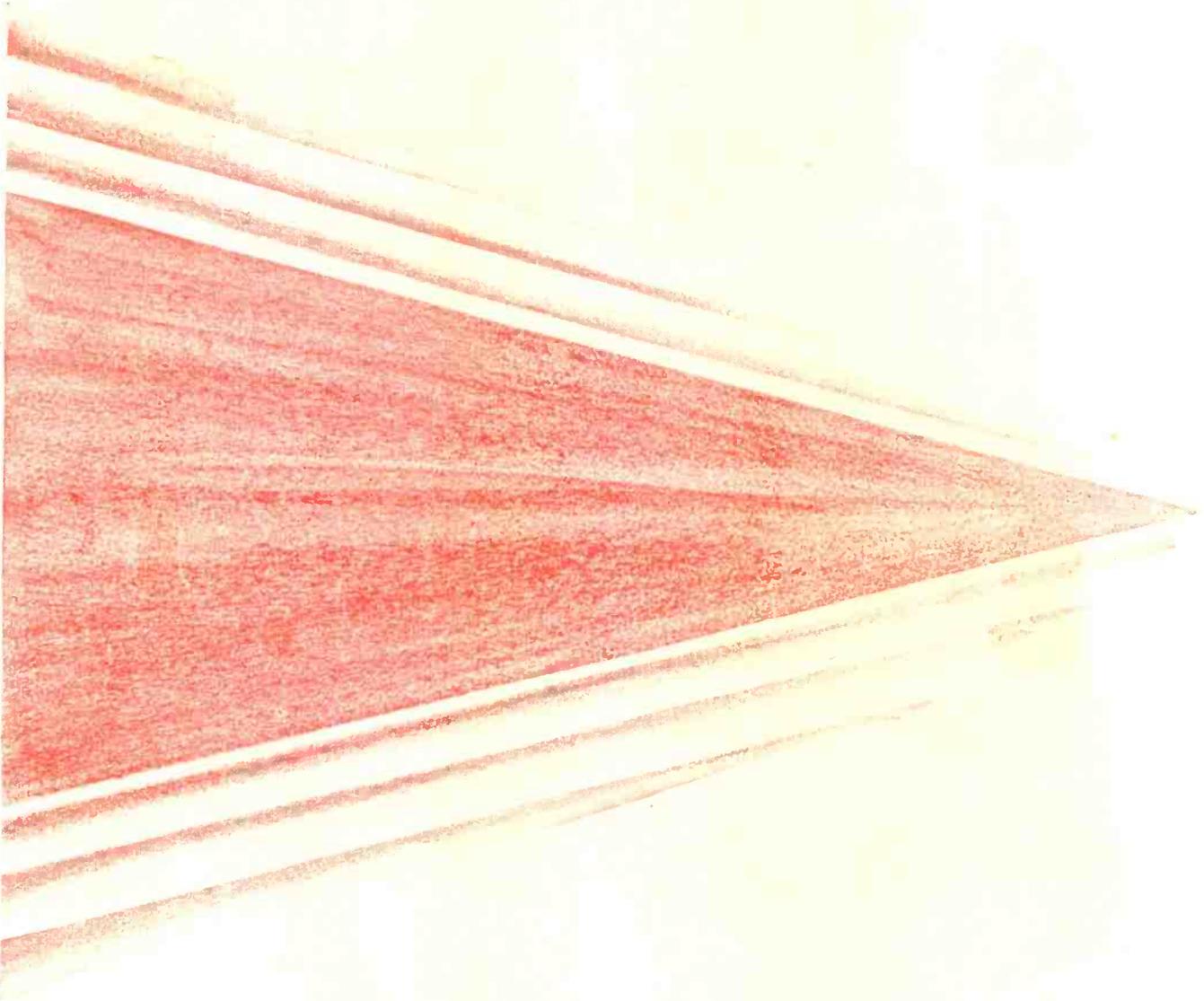
The Policy! The slightly higher selling price (justified by the better performance) means bigger discounts to you.

The Advertising! 1929 sees the greatest advertising campaign in De Forest History. Broadcasting extended to wider territory — Larger space in newspapers and more papers! Dominating space in the SATURDAY EVENING POST in the height of the selling season! Entire country blanketed by three months' Billboard campaign in 453 cities! More Display Material for your Windows—Booklets—Counter Cards—to help you sell more De Forest Audions!

Watch De Forest in 1929!

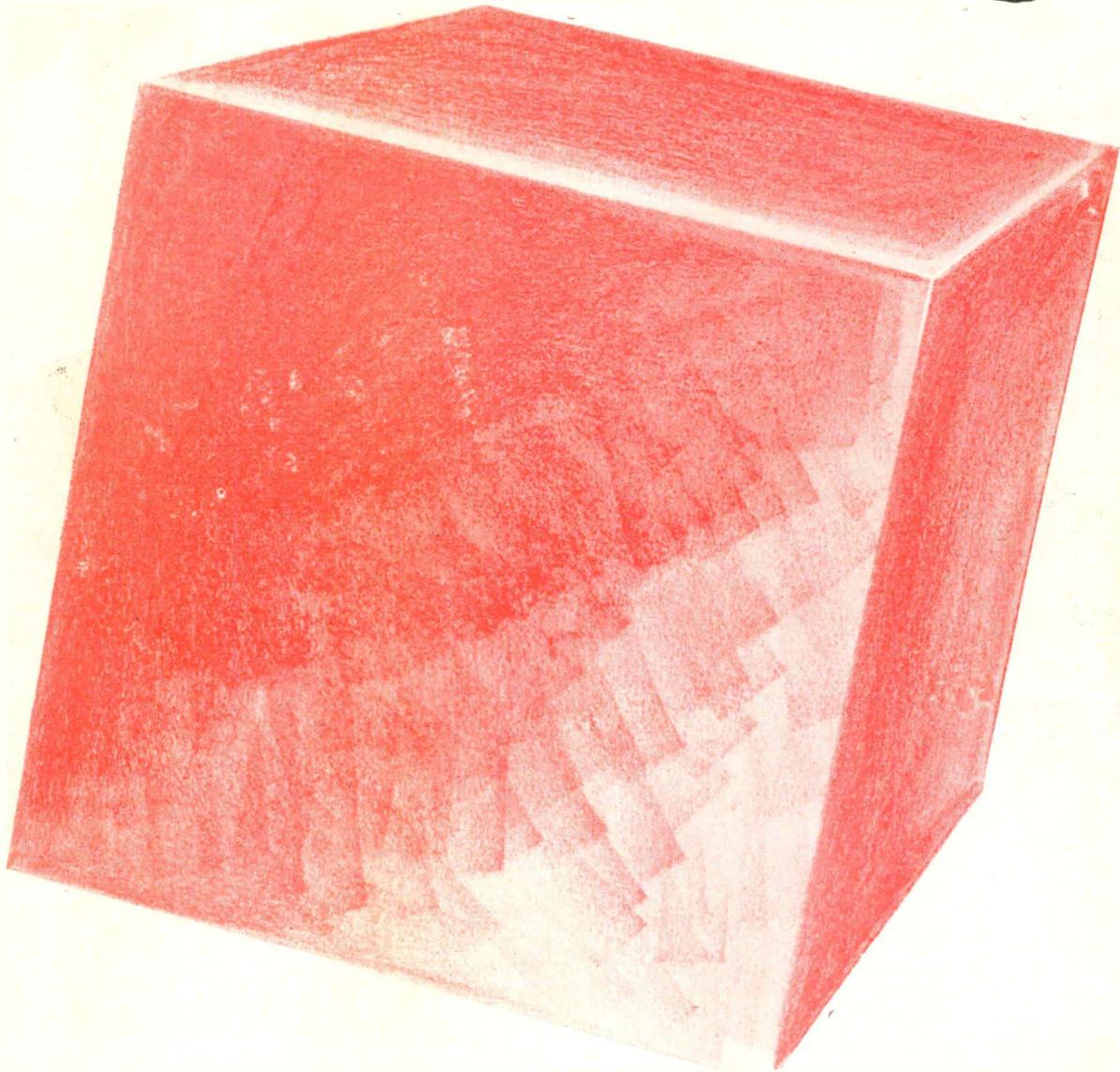
DE FOREST RADIO CO., JERSEY CITY, N. J.





What happens when an irresistible force meets an immovable body?

Do you know? We know that Kolster is an irresistible force in radio selling that has never yet met an immovable obstacle. When a radio merchant investigates Kolster Radio and the Kolster organization and the vast resources behind them he



realizes that nothing is possible but success on a striking scale. ⇨ ⇩ Kolster Radio is destined to make prosperity for everyone concerned as it moves irresistibly forward. ⇨ ⇩

Little wonder that the Kolster dealer franchise is being looked on today as something to be entered under "assets" on any balance sheet!

Radiogram from Byrd Expedition:
"Nov. 29, 1928. The Kolster equipment on the expedition is more than justifying our decision to standardize on Kolster Broadcast receivers."

Signed, R. G. Brophy, 2nd in Command.

Copyright by Kolster Radio Corporation, Newark, N. J., 1929



ANNO

\$32.50

The BATAVIA

The new, powerful and pleasing Conamic Unit housed in a beautiful walnut cabinet. This table model has surprising power and tone beauty. You will be delighted with its performance.

THE NEW CON
IDYNAMIC
AMAZING LOW

THIS new speaker is an outstanding achievement not only in value but in performance as well. In the deep richness of the bass and the complete tonal range, its performance is comparable to any Dynamic Speaker we have ever heard. It offers to the waiting radio world a speaker which gives Dynamic reproduction at a new low price standard and it completes the already attractive Operadio line.

OPERADIO

REPRODUCERS FOR EVERY NEED

UNCING-



The AURORA

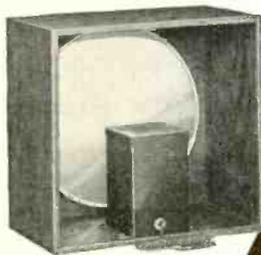
The Conamic Unit in a beautiful metal cabinet of classic design. Great tonal range, tremendous volume and faithful reproduction. You will be delighted with this Speaker and surprised at the price.

\$28.00

AMIC

PERFORMANCE AT PRICE..

DEALERS find Operadio the greatest profit builder...with unusual turnover. You can make every sale because Operadio meets every need. There is new pleasure and zest in selling radio when you can offer such splendid broadcast reproduction as Operadio makes possible. In these fine speakers, Operadio has completely met the varying demands for speaker performance.....power and volume to handle any stage of amplification.



The CONAMIC CHASSIS

This is the Conamic Chassis for manufacturers who desire to install in their cabinets this fine new type of speaker giving reproduction equal to Dynamic but at a much lower price. Write for specifications and other information.

\$18.00

Manufacturers	Export Department	Sales Department
Operadio Mfg. Co.	535 Fifth Avenue	The Zinke Company
St. Charles, Ill.	New York, N. Y.	1323-25 S. Michigan Ave.
Greater Chicago District	Cable Address: "Amsta"	Chicago, Illinois

—Pacific Coast prices slightly higher

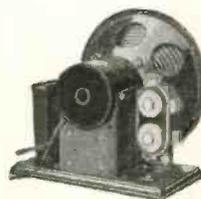


The SENIOR

Radio's greatest speaker value! The Senior will deliver the output of any set up to and including 5 and 6 tube Neutrodyne, Superheterodyne, etc. using 201-A type tubes. Great volume, range and sensitivity. 54 inch air column. 3 colors. The Junior, 2 colors.

The WESTMINSTER

The newest and finest of Operadio Air Column Speakers. May be connected to any set and will handle the output of any standard amplifier up to and including the 171 tube. Has 61 inch air column.



The GENEVA Dynamic

A table model Dynamic Speaker, scientifically constructed with a sounding board giving maximum baffle effect. Beautiful in design and finished in rich walnut. Furnished with Operadio Dynamic Unit. 6 volt D. C. 110 volt D. C., 110 volt A. C.

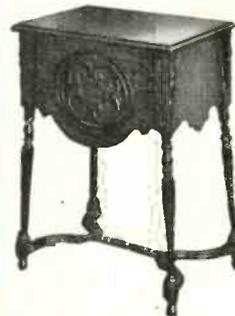
DYNAMIC UNIT

Decisive improvements in power reproduction due to special Operadio designs. Will handle output of largest sets without trace of distortion, blasting or rattling regardless of stages of power amplification.



The BARCELONA

A very attractive speaker table of Spanish design equipped with a 54 inch air column. A beautiful cabinet that is also designed to accommodate any standard radio set.



The ST. CHARLES Dynamic

A cabinet model Dynamic Speaker which will handle and give tremendous volume with undistorted tone fidelity. For sets employing power tubes or equipped with separate amplifiers using power tubes.

6 volt D. C.
110 volt D. C.
110 volt A. C.



The BEL CANTO

Can be had with 84 inch air column or dynamic Unit, 6 volt D. C. or 110 volt D. C. or A. C. [with or without an Operadio 4 or 5 tube amplifier]. Amplifier may be used in combination with air column or Dynamic Unit.



Realism



Last May we promised to Stewart-Warner dealers a new and greater radio. One with qualities that would set new and higher standards of radio value.

The now-famous "800" series made that promise a fact!

This super-selective set not only brought new, exclusive advancements in design and performance but also new, surpassing qualities in voice and music reproduction. TONE REALISM near perfection!

This Realism, adding so vastly to value, and bringing added enjoyment, was the year's greatest radio achievement. It was attained through the marvelous Electric Ear test.

The Electric Ear, an instrument devised by Stewart-Warner scientists for recording sound vibrations, is many times more sensitive and accurate than the human ear. It is used in perfecting the Stewart-Warner Radio and absolutely proves Realism.

STEWART-
The voice of

Wins!

The success of the "800" series is without precedent in radio history. So great was the welcome and so widespread the demand that even our very extensive manufacturing facilities were taxed to the limit.

It is natural that this corporation, with leadership won through 22 years' achievement in the precision instrument field, should lead in radio progress. Only instruments of highest character will ever bear the Stewart-Warner name; and only the best and most aggressive methods will back their selling.

With unequalled research equipment, increased producing facilities and our unchanging policy of constant improvement of product, the Stewart-Warner Dealer Franchise grows more and more in value with every passing year. Better investigate today.

STEWART-WARNER SPEEDOMETER CORPORATION, Chicago

22 years in business—world-wide service—50 million dollars in resources—22 million products in use—5th successful radio year

WARNER
authority in radio



Repeat Business is the stamp of **MERIT**



Remarkable Performance builds repeat sales for the Bodine Electric Turntable

Bodine Type RC-10 Electric Turntables are the only turntables offering ALL the following sales advantages. Read the 12 points of Bodine superiority.

- 1—Brushless motor—no sparking, no interference.
- 2—DOUBLE contact, SELF-aligning, NON-chattering governor brake.
- 3—Absolute speed uniformity from START to FINISH of a record.
- 4—Speed regulator set by stroboscopic check.
- 5—Extra rapid acceleration.
- 6—Silent operation, because of—
- 7—Three bearings, no exposed belts, gears or pulleys.
- 8—Dynamically balanced rotor.
- 9—Shafts ground to tolerances of .00025" under, nothing over.
- 10—Bakelite gears encased in grease.
- 11—Cannot gather dust or magnetic particles.
- 12—Factory lubrication good for two years average home use—when finally required, merely lift turntable—put a few drops of oil in the extended oil cups and forget it again.

Write for prices and discounts today!



Newcombe-Hawley Radio-Phonograph Combination equipped with Bodine Turntable. Manufacturers—write for sample unit!



Demonstrate Radio Sets with the Bodine Motor Generator Set

Converts 110-115 volt direct current to a pure 60-cycle alternating current of 110 volts. Efficient filter system prevents electrical disturbances from being heard in the loudspeaker. Ideal for dealers in D. C. districts. Write for information.

BODINE

SMALL MOTOR SPECIALISTS FOR 23 YEARS

BODINE ELECTRIC CO.
2242 W. Ohio St., Chicago, Ill.

Send information and prices on items checked below:

Bodine Electric Turntable

Bodine Motor Generator Set

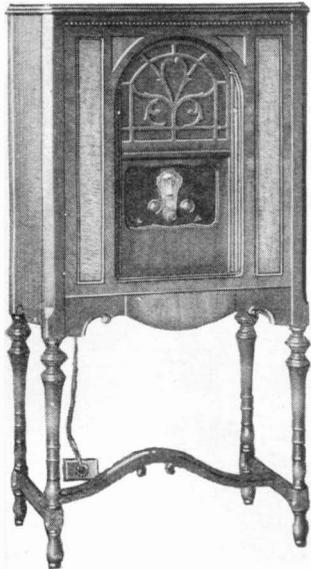
Name _____

Address _____

City _____

Bremer-Tully

Six models priced from \$115.00 to \$490.00—a complete line.



B-T 7-71

A shielded AC set with four tuned stages. Push-pull amplification. Seven tubes and rectifier. Tone control for choosing tonal pitch as preferred. Walnut cabinet with sliding doors. Dynamic Speaker.



B-T 8-21

The finest AC radio made regardless of price. Eight tubes and rectifier. Tone control and "Rejector Stage" for utmost selectivity. Beautiful walnut cabinet and dynamic speaker.

RADIO

Confidence

BASED ON

Experience

Dictated these letters—

Baxter Springs, Kan.,

"I have placed fourteen of your models recently and believe me or not it is 100% Bremer-Tully for me next year.

"It is hard to tell what is in store for the future but I have enough confidence in your engineering department to feel that a product will be offered at all times that will be second to none." R. H.

Greene, Ia.,

"We are going to be Bremer-Tully dealers 100% this year. We are all thru with price goods after some very trying experiences. Have made only one service call on all the Bremer-Tully sets we have sold. M. & C.

Isn't that the kind of merchandise you want to deal in?

The coupon will bring information about our franchise and how it protects the B-T dealer. Send it!

Bremer-Tully Mfg. Company

656-662 Washington Blvd.

Chicago, Illinois

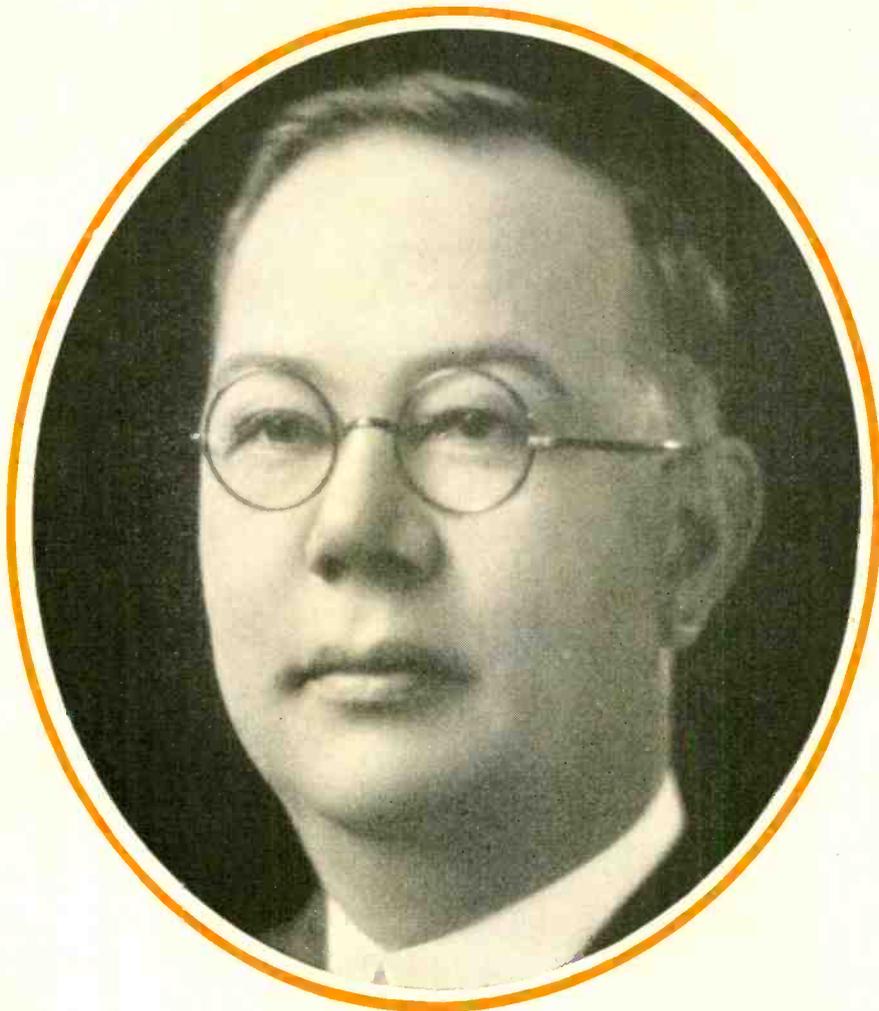
←————— COUPON —————→

Dealer.....

Street.....

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

THE WORLD'S GREATEST AND LATEST LIGHT METAL



CHAS. B. BOHN

The authority who
developed

BOHNALITE

62%

LIGHTER THAN IRON

Here is a new light metal that is destined to revolutionize the practices of thousands of manufacturing companies.

For Bohnalite—a new light alloy—has already replaced the use of iron and steel in many and various American industries.

Bohnalite is 62% lighter than iron. Bohnalite has all the advantages of iron. Bohnalite possesses many highly important merits which are lacking in iron.

In Bohnalite you get unusual strength—unusual lightness—long life—a non-rusting metal that wears like iron. Easy to machine—easy to handle in the shop.

Tell us about your requirements. Let us tell you more about Bohnalite—its physical properties and the large number of large industries that are using a large volume of Bohnalite. Write for interesting new descriptive Bohnalite booklet.

BOHN ALUMINUM & BRASS CORPORATION, DETROIT, MICHIGAN

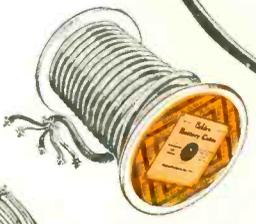
NEW YORK

CHICAGO

PHILADELPHIA

CLEVELAND

PITTSBURGH



The New Beldentenna

A Remarkable Socket Antenna and Extension Cord for Radio Sets



Completely revolutionizes old methods of radio set installation. Provides self-contained antenna and connects lighting current to set, eliminating outdoor or indoor antennas, lightning arresters, and other accessories.

Consists of 7-foot Belden Extension Cord, with Belden Soft Rubber Plug for base outlet—the other end provided with Belden Bakelite Receptacle for plug of radio receiver or power unit. A lead is provided to attach to antenna binding post of set.

Write for price and discounts on this fast selling unit.

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

Specify Belden

Federal Radio

**1st Licensed
Manufacturer
to use the sensational
A C Shielded
Grid Tube**

"K" TABLE MODELS

K 10-60 60 cycle \$127.50

K 10-25 25 cycle \$137.50

"K" CONSOLE

MODELS

K 40-60 60 cycle \$197.50

K 40-25 25 cycle \$207.50

with DYNAMIC SPEAKER

K 41-60 60 cycle \$227.50

K 41-25 25 cycle \$237.50

Slightly higher in West.



Once again Federal proves itself a radio pioneer and leads the way as the first licensed manufacturer to build a set using the new 222 A. C. shielded grid tube—the tube that's conceded to be the means of perfecting A. C. reception—the tube that makes possible tremendous power, extreme selectivity, and unusual sensitivity.

Federal's new K models—constructed especially for the new 222 A. C. shielded grid tube—are companion sets to the sensational H models announced a few months ago. With these two types of A. C. receivers, Federal retailers have a double sales opportunity that places them far ahead of competition.

Phone, wire or write for details.

FEDERAL RADIO CORPORATION, BUFFALO, N. Y.

OPERATING BROADCAST STATION WGR AT BUFFALO

Federal Ortho-sonic Radio, Ltd., Bridgeburg, Ont.

FEDERAL RADIO CORPORATION,
1738 Elmwood Avenue, Buffalo, N. Y.

Please send me complete details of the Federal Proposition.

Name

Address

City

Here's the *Why* of their *Healthy Life*

4-Pillar Construction



Cross-Anchored Top and Bottom



The inner structure of Raytheon tubes, pictured above, gives the reason for their sturdy health and long life, and their freedom from microphonic noises.

The elements—filament, grid and plate—are permanently held in their correct relative positions by a unique 4-pillar construction cross-anchored top and bottom.

This exclusively Raytheon improvement gives eight points of support instead of the usual two.

RAYTHEON MFG. CO., Cambridge, Mass.

Raytheon

LONG LIFE RADIO TUBES

This CROSLLEY

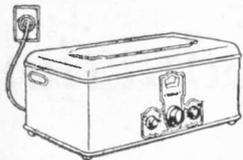
AC Electric GEMBOX

\$65.



CROSLLEY
POWER
DYNACONE

\$25



The 8 tube AC Electric SHOWBOX—\$80

Genuine Neutrodyne circuit—push-pull audio amplification with two 171 power tubes on last stage—trouble proof Mershon condenser supplying full 180 volts CONSTANTLY—modern illuminated dial—(7 tubes, radio, detector, audio stages and 1 rectifier, 8 in all)—operating dynamic type power speaker—unbeatable in performance and value offered—\$80.



Crosley Battery Type Sets embody superior advantages of new AC models.

The 6 tube BANDBOX operates the DYNACONE, new Crosley dynamic type speaker. Price \$55. The 5 tube BANDBOX Jr. is a dry cell set very easy on batteries and operates loud speaker. Price \$35.



••gives no condenser trouble

The higher the voltage the better the reception. Crosley has designed this set to stand maximum power supplied CONTINUOUSLY. Celebrated Mershon Condensers used in the power supply section do NOT BREAK down. If they should be punctured they are self-healing. Paper condensers constantly break down and the only safeguard is to reduce power which reduces enjoyment of your radio.

••operates power speaker

The popular dynamic quality of radio reception is attained in the new power CROSLLEY DYNACONE. This speaker like its predecessor has created a tremendous demand because of its wonderful performance at so low a price. The range of true notes on this new speaker has been greatly increased over accepted standards.

••uses famous Neutrodyne circuit

This well known and preferred radio circuit is introduced into this inexpensive radio that you may possess the BEST possible apparatus for receiving radio programs. This with other Crosley features permits you a degree of selectivity and sensitivity that many a radio at twice and three times the \$65 price of this set will never have.

••embodies latest radio improvements

Modern illuminated dial for dark corners—is easy to read especially these days of hunting about for station reallocations. The rich gold highlighted brown case is both an attractive container and an efficient shield. Everything about this amazing set is NEW, UP-TO-DATE! Enormous demand—mass production—straight line assembly—enables Crosley to top the radio world with this unmatched value this season!

THE CROSLLEY RADIO CORPORATION

POWEL CROSLLEY, JR., Pres.!

Department 130

Cincinnati, Ohio

Prices quoted are without tubes.
Montana, Wyoming, Colorado, New Mexico and West,
prices slightly higher.

THERE WITH A CROSLLEY

Neonlite Corporation of America

IRVINGTON, NEW JERSEY

Neonlite Radio Tubes for Distribution

Neonlite Television Tubes Going Into Production

Neonlite RADIO TUBES ARE:—

FIRST: Manufactured by an organization whose staff comprises experienced and competent radio engineers, dating back to 1909. Also men with years of knowledge and experience with Neon, backed by powerful financial interests with a modern up-to-date plant.

SECOND: Selling direct to the trade through recognized wholesalers. *Neonlite* radio tube quality is supreme.

Line comprises a complete guaranteed 100%.

Use *Neonlite* Radio tubes and you eliminate...
Signal Fading... Hum... Microphonism

Neonlite Corporation of America

Manufacturers of Radio and Television Tubes

IRVINGTON, NEW JERSEY



Weston Meter Equipped

Model 400A

It is Amazing Radio Men Everywhere

No Other Instrument Will
Make ALL These Tests

THE SUPREME is sweeping the country by storm. Radiotricians and engineers everywhere are amazed at its performance, and its already long list of users are enthusiastically proclaiming its superiority. Truly an amazing instrument; it makes every test that can be made by all other testing devices combined and many that heretofore have not been available in any service instrument.

A Real Money Maker

You have waited long and patiently for an instrument such as the SUPREME. It is now here—at your command for greater accuracy and thoroughness, bigger profits and satisfied customers.

Tubes, power units, loads, breakdowns, voltages, all instantly analyzed, peaking condensers, also modulated radiator. Everything you have ever hoped for is there; all contained in one compact instrument.

The only self-rectifying oscillation tester in existence.

The exact working conditions of any tube from 1½ to 15 volts, including screen grid, heater type, and rectifier tubes, are shown by meter readings; the only service instrument that shows output of rectifier tubes on meter.

The oscillation tests from alternating current are made possible by the exclusive self-rectifying SUPREME Power Plant. Every radio engineer and service man will appreciate this feature.

The SUPREME radiator sends out a modulated wave. Simply plug into A.C. line. No more wasting valuable time on broadcast stations; always at your service and finer adjustment assured.

Condensers can be balanced or synchronized—not by the former tedious methods—but with both meter reading and audible click. Easy and much more accurate. All continuity tests can be made from socket on either A.C. or D.C. sets, with independent cathode readings.

The SUPREME heavy duty rejuvenator provides scientific method of rejuvenation of any throtiated filament tube. Will reactivate up to 12 tubes at one time without removal from set. Push a plug—the SUPREME does the rest.

The SUPREME will give direct reading of amplifying power of tubes and will show actual working condition of all tubes.

The SUPREME will play radios with open transfor-

ers and will give condenser, choke coil output and capacity output on radios not wired for that purpose.

Access is provided to all apparatus through pin-jacks. Will test condensers for breakdown. Contains various fixed condensers from .001 to 2 mfd., a 30 ohm rheostat, a 500,000 ohm variable resistance, and an audio transformer, for instant use and various combinations.

It will give plate and filament voltage readings with or without load; will test voltage and current of all radios, including those using tubes such as 210 and 250. It will give grid circuit readings up to 100 volts; plate voltage readings up to 600 volts; will test output of trickle chargers, or any output up to 2½ amps.

Why wait longer? Share in the satisfaction and added profits that come with SUPREME ownership.

Three Weston Meters

- Mounted in Bakelite cases.
- 1 Voltmeter, three scales of 0/10/100/600, 1000 ohms per volt.
- 1 Millimeter, of 125 mills and 2½ amps.
- 1 A.C. Voltmeter, three large scales of 0/3/15/150.

Prices and Terms

Under our time payment plan, the Model 400A SUPREME can be bought for \$38.50 cash and 10 trade acceptances (installment notes) for \$10 each, due monthly. Cash price, if preferred, \$124.85. All prices are net and do not carry dealers' discounts.

Complete, Handy Carrying Case

The case containing the instrument was designed after careful study by practical radiotricians of many years' experience in radio service. Its arrangement is most complete and convenient—a proper place for every tool, accessory, part, and material that a service man might need; even a swinging tube shelf that affords absolute protection to tubes. A complete set of tools, from electric soldering iron to screw driver, is furnished, and of course, all necessary adapters and accessories. Everything the service man requires—all in one case. And still, due to ingenious design, this case is only 18x10¼x7 in., and weighs complete only 25 pounds.

Send No Money

The SUPREME must sell itself to you on sheer merit and performance. We are willing to place it in your hands for actual use in your service work, and allow you to be the sole judge of its value. Fill out and sign the following request for six-day trial.

6 Day Trial

Date.....

Supreme Instruments Corporation,
311 Supreme Building, Greenwood, Miss.

Please ship me one Model 400A SUPREME.

Upon delivery of the instrument I will deposit with the express agent either the cash price of \$124.85 or \$38.50 cash and 10 trade acceptances (installment notes) for \$10 each, due monthly, at my option, subject to the following conditions:

It is agreed that the deposit made with the express agent shall be retained by him for six days. If, within that time, after testing the instrument I am not entirely satisfied, I have the privilege of returning the instrument to the express agent in good condition, with the seal unbroken (see note below) and all tools and parts intact. Upon such return and upon the prepayment of return express charges, the deposit I have made with the express agent will be promptly returned to me.

Signed

Firm Name

Address

City State

Please send three or more trade references, including at least one bank, with this coupon.

NOTE: The seal on the panel of the instrument covers the master screw in the assembly. It is never necessary to disturb this, and it does not in any way prevent or restrict the use of the instrument. Factory guarantee ceases with disturbance of seal.

SUPREME

Radio Diagonometer

Makes every conceivable test on any Radio Set-

Look for the Sign of Efficient Radio Service
Radio Owners: Look for this emblem in your radio shop or on the button worn or card carried by your service man. It is your guarantee of dependable service.



ANNOUN



FADA 32

List price \$225, without tubes

The Fada 32 uses 227 type indirect heater tubes, giving exceptionally long life as employed by Fada—reproduction not affected by line voltage fluctuations. With self-contained Fada dynamic speaker (enormous volume or mere whisper)—Illuminated single dial—single tuning knob—Uses 7 tubes and rectifier (8 tubes total). Two 171-A tubes with push-pull amplification—Equipped for phonograph attachment—Smooth volume control—Completely self-contained in a beautiful burl walnut console—Operates from A. C. light socket (90-130 volts, 50 to 60 cycles). Model 32-Z also available for operation on A. C. lines 90-130 volts—25 to 49 cycles. Yes it's a neutrodyne!

ANNOUNCING

Fada's new sensation

NOW! Fada comes through with the most sensational values in the history of radio . . . the Fada 32 and the Fada 16. They're what the radio buying public has been waiting for . . . even *begging* for.

Just think of it! An 8-tube console with self-contained dynamic speaker . . . using heater element tubes . . . two 171-A tubes with push-pull amplification . . . to sell for only \$225. And the same features in a table model for use with dynamic or magnetic speaker—to sell for only \$110!

That's the kind of values Fada produces. And all Fada merchandise is sold on the Fada franchise protective policy . . . communicate with us for details regarding one of our valuable franchises in your territory.

F. A. D. ANDREA, INC., LONG ISLAND CITY, N. Y.



FADA 16

List price \$110, without tubes

This handsome table model contains all of the features of the Fada 32—For use with either dynamic or magnetic speaker—Self-contained in attractive metal cabinet. Model 16-Z also available for operation on A. C. lines 90-130 volts—25 to 49 cycles.

FADA 17

Same as Fada 16 in artistic, dark brown burl walnut table model cabinet—to sell at \$135.

Every G-E Fan Dealer

You can be cool, too

Five dollars can give you a day-or-night breeze!

Away with smoke, odors, heat... use a G-E Utility Fan

A breeze is priceless on a sweltering day!

Cool—that's what you can be!

GENERAL ELECTRIC Fans buy them here

This coupon will bring you a powerful tonic to brace up summer sales for 1929

Section F-291, Merchandise Dept.
General Electric Company
Bridgeport, Conn.

I am interested to see the complete G-E Fan Plan for 1929. Please send me the details.

Name _____ Address _____
 City _____ State _____

will have this support

*Consider its value carefully
before signing your fan contract*



General Electric Fan advertising for 1929 is to be more extensive—and *will be more effective*—than any fan campaign we have ever run.

On the opposite page are shown some of the striking advertisements which will be used in the campaign.

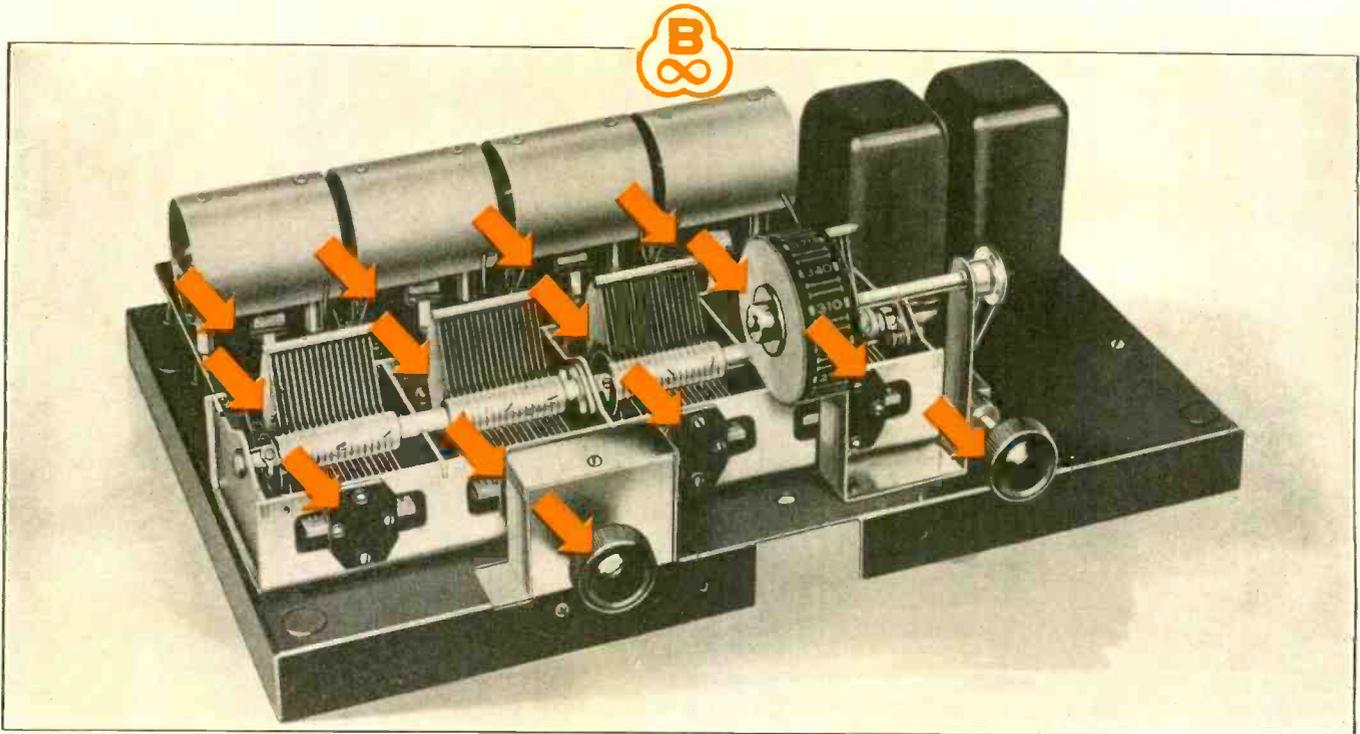
Over 6,000,000 of these powerful advertisements, mostly in four colors, will appear in such dominant magazines as *The Saturday Evening Post*, *Collier's* and *Liberty*.

This coast-to-coast campaign will be supported by an effective *local sales plan* which will be available to every General Electric Fan Dealer.

You will notice that every advertisement gives prominent display to the G-E Fan sign. This means that the campaign will not only sell General Electric Fans, but will tell the public just where to buy them. Make sure of big sales—have *your shop* marked by this sign! Mail the coupon for details.

GENERAL ELECTRIC

MERCHANDISE DEPARTMENT GENERAL ELECTRIC COMPANY BRIDGEPORT, CONN.



Chassis of Amrad Receiver, with Bakelite Insulation indicated by arrows. Made by The Amrad Corporation, Medford Hillside, Mass.

Amrad performance is protected through the use of Bakelite Insulation

WHEN a dealer examines a truly fine radio receiver, one with a famous name and a country-wide reputation for performance, he will invariably find that Bakelite Materials have been extensively used in its construction. The Amrad is an instrument in this quality class.

A number of the parts of the Amrad receiver which are insulated with Bakelite Materials, are indicated on the photograph of the chassis reproduced above.



Both laminated and molded forms are used.

Radio dealers will find that following the practice of the leading radio manufacturers is a safe guide when selecting receivers, accessories or parts. The use of Bakelite Molded and Bakelite Laminated indicates that a manufacturer is concerned about the permanent performance of his product, and that he is endeavoring to provide customer satisfaction.

Write for 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."

A new and wider market is open to you with Trav-Ler

Individual receivers for the home in addition to present cabinet console models. Many families buying two, three, and more. Also ideal for apartments, hotels, hospitals, country homes and cottages

HERE is a new individual Receiver which opens up unlimited *additional* business for every alert distributor, jobber and dealer. Decide now to get your share!

The Trav-Ler is not in competition with the radio sets you are now handling. In fact, it offers an exceptional opportunity to make sales to families who already own a cabinet or console model, but who appreciate the advantage of having individual Receivers for private, personal use *at any time, in any room* desired. Many radio fans are ordering two and three Trav-Lers at a time. And remember that the Trav-Ler is especially ideal for apartments, hotels, hospitals, and summer homes and cottages.

Briefly, the Trav-Ler is a compact, new, one dial Receiver completely self-contained, equipped with loop and speaker and is instantly portable, requiring no outside connections.

The new 1929 Trav-Ler line—the finest and most complete line of Trav-Ler Receivers ever produced—is ready for the trade. Sales policy extends you full protection. Extensive advertising campaign.

Write or wire today for full details.

TRAV-LER MANUFACTURING CORPORATION
3402 N. Halsted Street Chicago, Illinois



57⁵⁰
STANDARD
\$75 DE LUXE
\$100 ARISTOCRAT.
ALL PRICES LESS ACCESSORIES

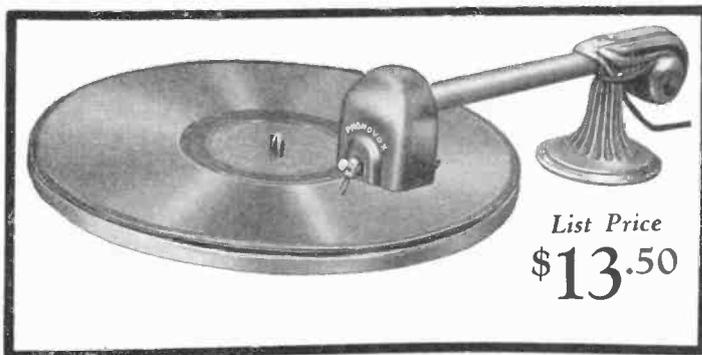
The new Trav-Ler Receivers are offered with cases in color. The chassis has numerous improvements and refinements, resulting in greater selectivity, volume and tone quality.

TRAV-LER

PACENT

They're Buying These Popular Accessories by Thousands

THE PACENT PHONOVOX was the first and is acknowledged the finest pick-up on the market today. Its amazingly natural tone, its complete freedom from scratchy distortion, assure a quality of clear reproduction that is unsurpassed. Ideal, too, for demonstrating records or sets.



List Price
\$13.50

THE PACENT ELECTROVOX, a complete electrically motored unit playing all types of records through the radio with a reality and beauty of reproduction hitherto impossible except in instruments costing hundreds of dollars. Switches instantly from radio to phonograph without removing tube. Uses fibre needle without material loss of volume.

HERE are two noteworthy pieces of radio phonograph merchandise whose rapidly growing and tremendous popularity are building business and profits for thousands of dealers all over the country.

If you are not stocking these fast-selling items, write today for full information, prices, discounts, etc.

List Price
\$75.00



PACENT ELECTRIC COMPANY, INC., 91 Seventh Ave., New York City

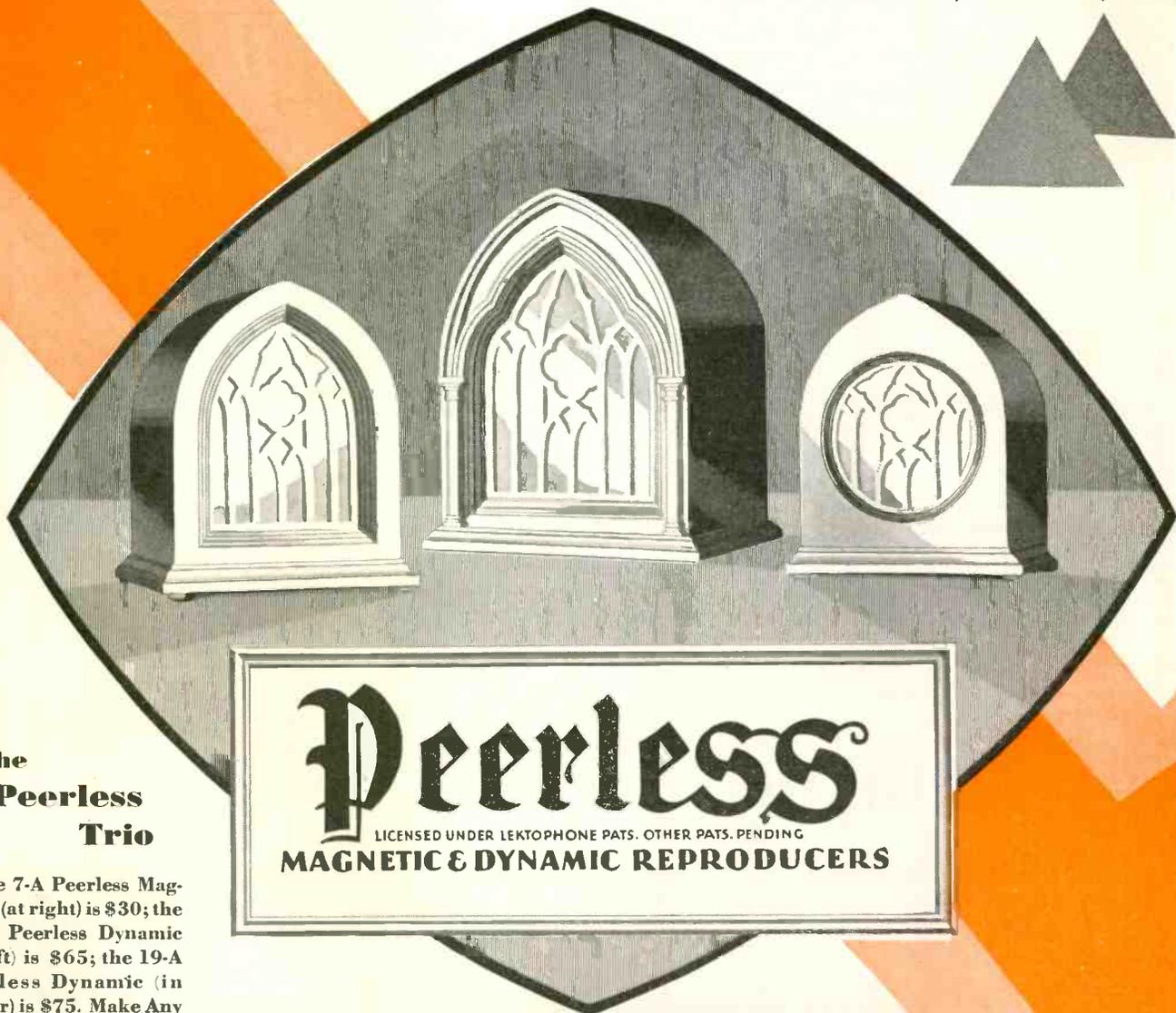
Pioneers in Radio and Electric Reproduction for Over 20 Years
Manufacturing Licensee for Great Britain and Ireland, Igranic Electric Co., Ltd., Bedford, England

"The Sweetest Voice IN RADIO"

THUS one owner characterizes the powerful Peerless Dynamic. She was not a radio expert—just a music-wise woman whose ear told her when her speaker brought in, with real fidelity, all the mellow harmonics and elusive shadings of tone.

The single-turn voice coil, the cone suspension, the single-turn transformer secondary—these exclusive Peerless features make the Peerless Dynamic the simplest and sturdiest dynamic ever built. "Peerless Makes Any Radio Better!"

UNITED REPRODUCERS CORPORATION, *Peerless Division*, Rochester, New York, *Export Department*, 130 West 42nd Street, New York, N. Y.



The Peerless Trio

The 7-A Peerless Magnetic (at right) is \$30; the 17-A Peerless Dynamic (at left) is \$65; the 19-A Peerless Dynamic (in center) is \$75. Make Any Radio Better.

Watch

TEMPLE



in
Radio

Temple Corporation

1929 S. Western Ave., Chicago, U. S. A.

Watch for Our Announcement
of the NEW NAME Selected for

AUDAK PICK-UP

which has awakened sensational interest
also for the names of the prize winners in our contest

COMMENTS from the TRADE

*Excerpts from letters
received in the Contest*

"You folks can rest easy on your oars, because you have a real genuine background when it comes down to sound reproducers."

"Don't believe that there is any name that can be more suitable on any line of tonal equipment than the old stand-by, AUDAK."

"Judging by Audachrome, your new pick-up should amply fill our requirements."
(THIS INCIDENTALLY,
COMES FROM PARIS,
FRANCE)

"I consider Audak products the finest selling items in their line, and dare say this without fear of contradiction from any one of your competitors... a challenge."

"I am well acquainted with the high standard of your products and what your name has come to mean in the music field. Therefore I submit as a name... This certainly is a fitting name for AUDAK products, as everyone knows they rule the field."

THE names are all in. The curtain has rung down on the great AUDAK Prize Contest and now the judges are hard at work trying to select the winners. Of the great many suggestions received, we have been astonished by two things. First, the surprising number of suitable, really excellent names submitted. Second, the gratifying opinion of AUDAK Products, which is shared by the entire trade. This Company has a very high reputation among music merchants for Quality and Reproducing Fidelity. They expect real INSTRUMENTS from AUDAK. What a Pick-up OURS must be!

AND what a Pick-up it IS! Completely bestriding and overshadowing all that has come before in this line though there are some good pick-ups on the market at present. None, however, that will stand side by side with the new AUDAK masterpiece when it comes to interpreting the subtle, complicated values of radio and talking machine expression. None that will so completely enthrall the listener. None that will so fully reproduce every shade and chromatic change in voice and music. None so LIFE-LIKE and completely free of mechanical suggestion. Vastly superior in construction and vastly superior in performance.

YOU are interested, because our new Pick-up means better business for you bigger sales and bigger profits. Get in touch with your wholesaler and request an early demonstration. Jobbers communicate with us at once.

Reputation! Over and over that word or its equivalent has occurred in letters from the trade. We want everyone to know how proud we are of your confidence. AUDAK has a prestige to uphold . . . and our new Pick-up will amply support that prestige. "As good as AUDAK Reproducers," is our pledge.

Just as soon as the judges make their decision, the names of the winners and the new name of our Pick-up will be published in this magazine. Be on the lookout!

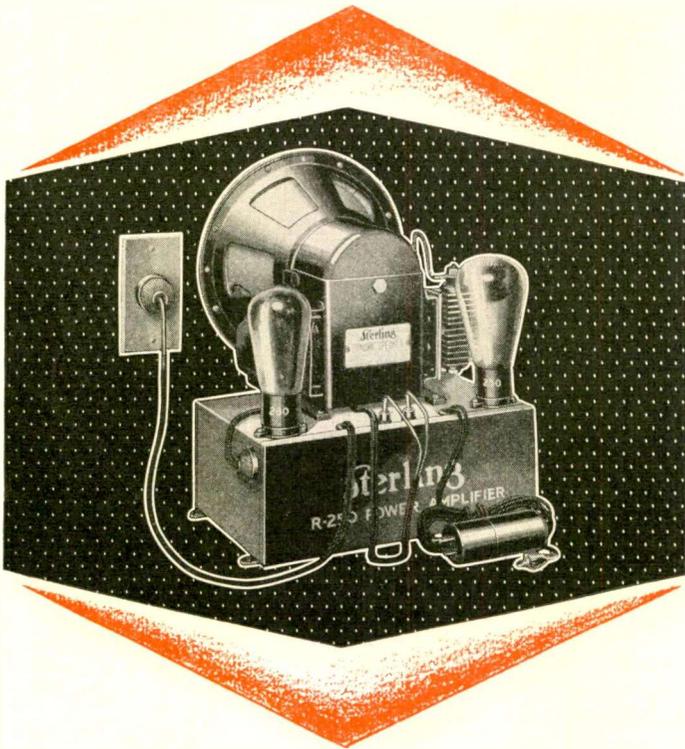
The AUDAK COMPANY

565 Fifth Avenue

New York

"Creators of High Grade Electrical and Acoustical Apparatus Since 1915"

America's



Super-Magnetic

Sterling's highly improved Magnetic Speakers deliver better tone and more volume than many dynamic speakers on ordinary amplification. Customers who want *good tone quality* can have it at *low cost* with this wonderful chassis. Don't take our word for it, but arrange at once with your jobber for a comparative demonstration.

R-1, stripped chassis, as shown, \$14 List.

R-3, the same chassis in a well-made baffle box, \$18 List.

R-2, the Vari-tone model, is a table type speaker, beautifully finished in deep bronze and old gold. Has the R-1 mechanism, \$25 List.

Humless Dynamic

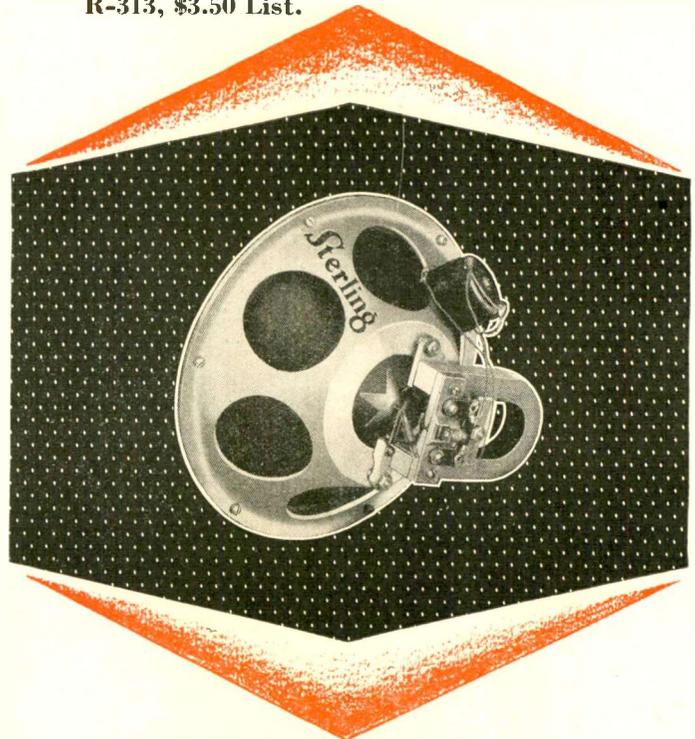
Sterling has it! No longer need your customers complain of a dynamic hum, if you sell the powerful Sterling Dynamic. Unusually efficient on sets employing ordinary amplification. R-13-C, 110 volt 60 cycle Chassis, \$43 List.

\$38 Power Amplifier

Improves tone by using either the 210 or 250 super-power tube. Connected in a few minutes to any type of radio set. May be used as the base of the Sterling Dynamic Chassis as shown. Only \$38 List.

Hum Eliminator

Attach this new Sterling device to any AC dynamic speaker in a jiffy and the hum will disappear. Remove the last objection to dynamic speakers. Priced low for universal use. R-313, \$3.50 List.



THE STERLING MANUFACTURING COMPANY, CLEVELAND, OHIO

Best by Test

Over 11,000,000 products in use

Greatest Radio Accessory Line

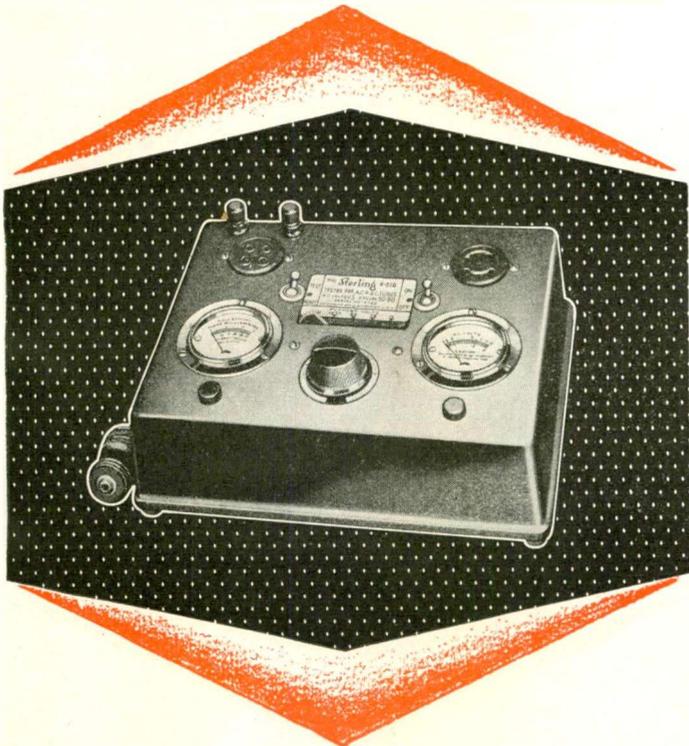
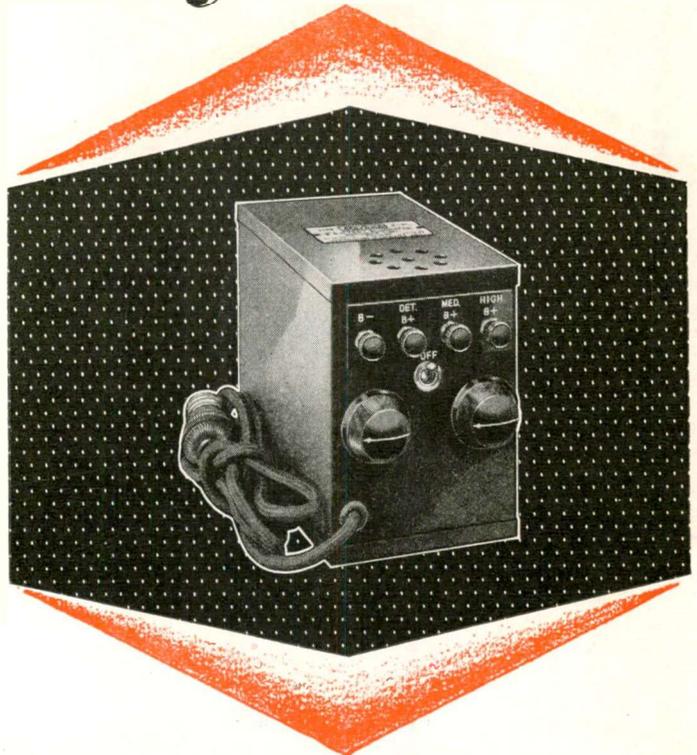
Power Units

Thousands of *dependable* Sterling Power Units are supplying constant, economical socket power for operating DC radios in every section of the country. If a customer is not ready to buy a new AC set, retain his good-will by suggesting that he electrify his present set with Sterling Power Units. Complete line of "A", "B" and "B-C" Units.

R-81, 180 volt "B" Power, complete, \$28.50 List.

R-93 V, strictly dry 6-volt "A" Power, complete, \$37.50 List.

R-94, special 4-volt "A" Power for Radiolas 20, 25 and 28, complete, \$32 List.



Service Equipment

complete testing equipment.

Universal Tube Tester

reactivates DC tubes. Designed for universal service at the counter or in the service department. R-510, \$21 Net.

Free!—Our little magazine, "The Sterling Radio Salesman," will gladly be sent regularly to any radio salesman on request. Interesting and helpful.

The several Sterling dependable testers are priced so low there's no need to be without

This popular tester shows and checks emission on all AC and DC tubes and



Sterling Jobbers Everywhere . . . Send for Complete Catalog

Sterling

23 Years of Precision Manufacturing

Sales Help Every Wednesday That Brings Customers to You

THE greatest sales help a dealer can have is the help that brings customers to him. Such help is yours if you're selling Sylvania Radio Tubes.

For, besides the consistent newspaper campaign in all leading cities, Sylvania Radio Tubes are advertised on the air each Wednesday through the popular Sylvania Foresters.

This is sales help. Real dealer help. Broadcast to twenty million people.

And once you've used Sylvania Radio Tubes in your own set—you'll understand why thousands of users consider them the very finest of all.

*If You Aren't Yet a Sylvania Dealer
Get the Details Soon!*

SYLVANIA PRODUCTS COMPANY
Emporium Pennsylvania

*The Sylvania Foresters—every Wednesday at 8.30 Eastern
Standard Time—through Stations WJZ - WBZ - WBZA -
WHAM - WBAL - KDKA - WJR - WLW - WLS - KWK - WREN*



Sylvania
RADIO TUBES

Radio Retailing

The Business Magazine of the Radio Industry

McGraw-Hill Publishing Co., Inc.
 JAMES H. MCGRAW,
 Chairman of the Board
 MALCOLM MUIR, President

EARL WHITEHORNE
 Editorial Director

WILLIAM ALLEY
 Managing Editor

Vol. 9

JANUARY, 1929

No. 1

Our Saturation *Fades Away*

IF THERE ever was a business that should delight the hearts and prosper the fortunes of the men who sell, it is our own radio industry. *Look at the figures.*

In seven short seasons of accelerating technical and commercial achievement radio has been introduced into 9,000,000 households across this broad land. It has captured the hearts of the people, rich and poor, in town and country. It has wrought a social revolution in the American home by introducing opportunities for the enjoyment of entertainment and culture undreamed of by previous generations. It has contributed more happiness and contentment to men and women than any other single gift of science.

And so radio has been sold into 9,000,000 homes—to use round figures. And this would mean—by any ordinary calculation—that there would remain still unsold about 19,000,000 other homes—since there are roughly 28,000,000 families in the United States.

But let's dig deeper. Let's consider these other figures—

Homes now using electric light.....	19,000,000
Proportion that own radio.....	7,000,000
<hr/>	
Wired homes still to be sold.....	12,000,000
Unwired farm homes.....	6,000,000
Unwired homes in towns.....	3,000,000
<hr/>	
Total unwired homes.....	9,000,000
Proportion now using radio.....	2,000,000
<hr/>	
Unwired homes still to be sold.....	7,000,000
<hr/>	
Grand total—Homes without radio.....	19,000,000

Yet even this is but half the story in our meteoric market. For last year there was still another revolution in the world of radio. The alternating current

receiving set suddenly swept into popularity by raising radio to a new and higher standard of perfection. *And it rendered obsolete most of the battery-operated sets in use in the 7,000,000 wired homes that owned radio.* According to 1927 and 1928 sales, it is estimated that only 2,700,000 of these homes have modern A.C. sets.

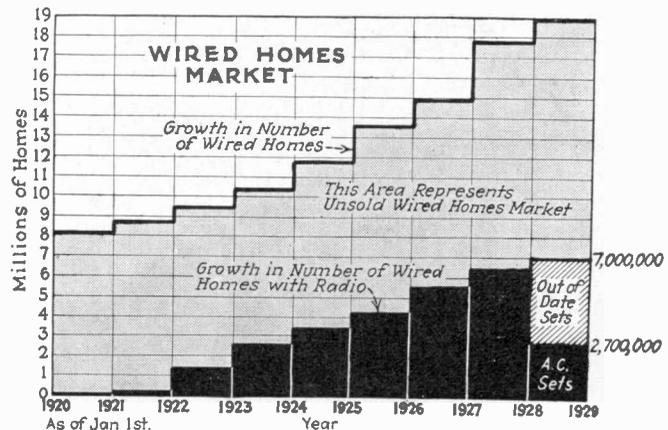
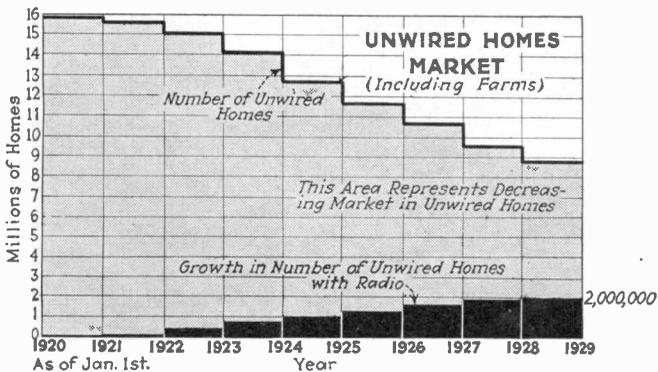
Therefore, here are the true saturation figures on the present radio market—

Homes without radio (including wired and unwired)	19,000,000
Wired homes with radio.....	7,000,000
A.C. sets in use.....	2,700,000
<hr/>	
Obsolete battery sets in wired homes.....	4,300,000
<hr/>	
Total homes waiting to be sold or resold modern receivers	23,300,000

In a word, the present practical saturation in the radio market can only be considered as those wired homes that now have the A.C. set—2,700,000—plus the 2,000,000 unwired homes that have battery sets. Thus, out of the 28,000,000 homes in the United States, only 4,700,000 are using satisfactory radio equipment.

This means that despite the fact that the radio industry has just enjoyed its greatest year of sales, the saturation of the market has fallen sharply backward. For there are now close onto 23,300,000 homes in America that can be sold or resold modern equipment.

Study the charts and the statistics on Pages 56 and 57. Could any industry ask for any better outlook for a Happy New Year? *We stand today as though we had but sold 4,700,000 homes!* And all the world delighting in our merchandise!



Statistical Review of the **R**RADIO

Radio Retailing's annual statistical survey reveals that the industry experienced its greatest year of sales in 1928

Number of Homes With Sets

1922	60,000
1923	1,500,000
1924	3,000,000
1925	4,000,000
1926	5,000,000
1927	6,500,000
1928	7,500,000
1929	9,000,000

Radio Audience

1922	75,000
1923	3,000,000
1924	10,000,000
1925	15,000,000
1926	20,000,000
1927	26,000,000
1928	35,000,000
1929	40,000,000

Total Radio Sales (1922-1928)

(At retail, in numbers and dollars, during the year)

	1922	1923	1924	1925	1926	1927	1928
Radio Sets, factory-built No. (including consoles and built-in reproducers)..... \$	100,000 \$5,000,000	250,000 \$15,000,000	1,500,000 \$100,000,000	2,000,000 \$165,000,000	1,750,000 \$200,000,000	1,350,000 \$168,750,000	2,550,000 \$306,000,000
Radio-Phonograph Combinations..... \$							81,000 \$38,000,000
Reproducers (excluding No. 841,000 in consoles and combinations)..... \$	25,000 \$750,000	500,000 \$12,000,000	1,500,000 \$30,000,000	2,000,000 \$32,000,000	2,000,000 \$30,000,000	1,400,000 \$28,000,000	2,460,000 \$66,400,000
Tubes \$	1,000,000 \$6,000,000	4,500,000 \$17,000,000	12,000,000 \$36,000,000	20,000,000 \$48,000,000	30,000,000 \$58,000,000	41,200,000 \$67,300,000	50,200,000 \$110,250,000
Furniture (separate) \$							800,000 \$42,000,000
A-B-C (Dry) Batteries \$	\$4,500,000	\$6,000,000	\$55,000,000	\$66,000,000	\$80,000,000	\$68,000,000	\$50,400,000
A-B Power Units, Storage Batteries and Chargers \$		\$7,000,000	\$25,400,000	\$30,000,000	\$55,000,000	\$34,000,000	\$17,500,000
Other accessories (including headsets, aerial equipment, furniture, meters, pick-ups, etc.). (1928 does not include furniture)..... \$	\$3,750,000	\$4,000,000	\$11,600,000	\$24,000,000	\$33,000,000	\$38,550,000	\$8,000,000
Parts (does not include sales to manufacturers).... \$	\$40,000,000	\$75,000,000	\$100,000,000	\$65,000,000	\$50,000,000	\$21,000,000	*\$12,000,000
Totals							
Sets \$	\$5,000,000	\$15,000,000	\$100,000,000	\$165,000,000	\$200,000,000	\$168,750,000	\$306,000,000
Parts \$	\$40,000,000	\$75,000,000	\$100,000,000	\$65,000,000	\$50,000,000	\$21,000,000	\$12,000,000
Accessories \$	\$15,000,000	\$46,000,000	\$158,000,000	\$200,000,000	\$256,000,000	\$235,850,000	\$332,550,000
Total Sales for year.... \$	\$60,000,000	\$136,000,000	\$358,000,000	\$430,000,000	\$506,000,000	\$425,600,000	\$650,550,000

* Subject to later revision.

Radio Exports

1922	\$2,800,000
1923	\$3,450,000
1924	\$6,000,000
1925	\$9,900,000
1926	\$9,500,000
1927	\$9,200,000
1928	\$10,907,000

"Radio Retailing" takes this means to acknowledge the valuable co-operation of the leading radio manufacturers in the preparation of these statistics.

All figures on these pages are copyrighted by "Radio Retailing" and permission to quote is granted only if proper credit is given.

BUSINESS, as of January 1, 1929

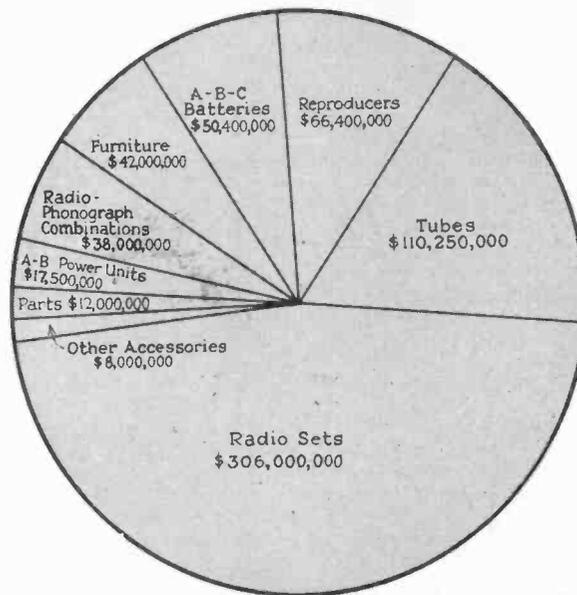
Set sales last year practically doubled the figures for 1927—
Sales of other radio products show corresponding increases

Saturation Comparison

No. Homes in U. S.	28,061,000
No. Homes with Phonographs	13,000,000
No. Homes with Passenger Autos	17,000,000
No. Homes with Telephones	13,000,000
No. Homes wired for electricity	19,012,664
No. Farms	6,500,000
No. Homes without radio sets	19,061,000
Radio Saturation	32%

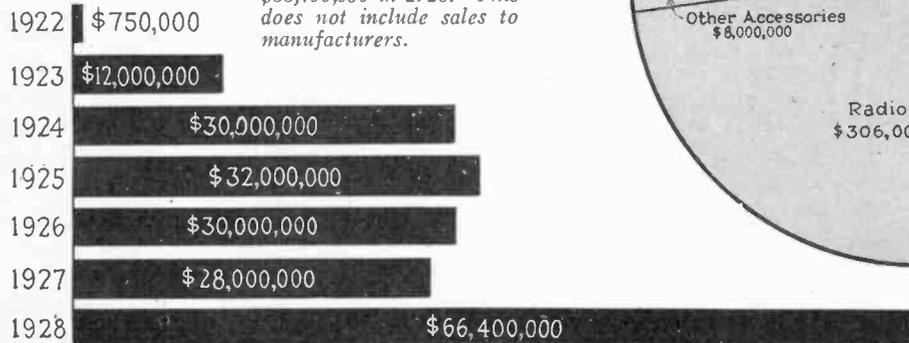
How 1928 Sales Divide Up According to Products—

A Total Business of \$650,550,000



Reproducer Sales \$66,400,000

Below—Retail sales of reproducers have grown from \$750,000 in 1922, to \$66,400,000 in 1928. This does not include sales to manufacturers.



1928 Tube Sales \$110,250,000

Sales of tubes have shown a steady yearly progression from 1922 to 1928, as the replacement market expanded. The 1928 sales of this accessory totaled \$110,250,000.



Receiver Sales Reach \$306,000,000 Mark

Sales of receiving sets last year reached the amazing total of \$306,000,000. Both in numbers and in dollar volume, the sale of sets almost doubled the 1927 totals.

Stabilization and Prosperity

Expansion in sales and importance of replacement market are points stressed in 1929 comments by industry executives.

Dealers' Stocks Found to Be in Healthy Condition

By PETER SAMPSON
President, Sampson Electric Co., and Radio Wholesalers Association



DEALERS have moved a tremendous amount of radio merchandise and enjoyed their most prosperous radio year in 1928. Dealer stocks are in good shape.

The presidential election forced the dealers to stock and to sell merchandise during the summer months on a much bigger scale than had ever been attempted before. The very healthy business that resulted from all this activity during the summer period will stand, I believe, as a definite and affirmative answer to the question whether or not a profitable radio business can be secured throughout the entire year.

Dealers, large and small, and distributors from all parts of the country with whom I have talked are all optimistic as regards the future. The country is prospering as a whole. I can see many things that would justify me in looking for another boom year in 1929.

Future Progress of Radio Sure But Slower Than Past

By DR. LEE DE FOREST

IT is difficult to look forward to better things in broadcasting. We have attained such heights of technical perfection, artistic achievement, and nation-wide service, that one might be severely criticized for even contemplating further progress. Yet I feel we are still pioneering.

Television, an experiment today, is certain to be a household fixture tomorrow. But television, or sight broadcasting, in no way threatens our sound broadcasting.

In every direction our radio progress tends to reach out to still greater achievement. I look forward to continued refinements, although progress will be less spectacular and certainly slower than in the past.



New Allocations And Powerful Stations Increasing Radio Market

By O. H. CALDWELL
Member, Federal Radio Commission

THE prospects for radio and for broadcasting never were so bright as they now appear standing at the threshold of 1929. Substantial progress has been made toward putting the broadcasting structure on a sound scientific basis with clear chan-

nels laid into the homes of all our citizens in all parts of the nation. The value of high power as a service to farm and remote listeners is now generally recognized and in the South, West and North as well as in the East adequate superpower transmitters are being erected. Meanwhile enrichment of local and chain programs continues. Certainly to every owner of a good radio set 1929 will bring new services, satisfactions and delights with the added thrill of cross continental excursions at the twist of a dial.



Sees Increased Public Interest With Keen Competition

By HAROLD J. WRAPPE
President, Federated Radio Trade Association

WITH the increased interest in radio due to a radio consciousness that has developed throughout the nation, there will, of course, be some problems. Radio legislation is sure to spring up again with newly developed angles we have never before encountered. A satisfactory, permanent basis must be provided for the high standard of broadcasting required.

Merchandising will increase in intensity, and competition will be keener. But, we are learning rapidly, and are better equipped to meet these problems.

The remarkable growth during the past year of our trade associations indicates a splendid spirit of co-operation in the industry. This leads me to believe that whatever problems arise, they will be met and conquered, and that everyone in our industry can look forward with pleasant anticipation that the present prosperity will continue and 1929 will be a greater and better radio year than ever.

General Prosperity Gives Assurance of Excellent Year

By C. J. ROBERTS
President, National Association of Music Merchants

FROM the standpoint of the music merchant, radio has a most promising prospect for the year of 1929. The country as a whole is prosperous, especially from the financial standpoint. There is every reason to believe that this prosperity will continue. Industrial activity in the country will be of a more general character than during the past two years when certain industries have been phenomenally prosperous while others have been only moderately so. All musical instruments, especially radio, will have a great sale during the coming year. Music merchants who handle radio, and exclusive dealers in radio who practice modern methods will have a most prosperous year.



A Great Replacement Year Ahead

By DAVID SARNOFF
Executive Vice-President
Radio Corporation
of America

THE end of 1928 sees the radio industry definitely emerged from its formative period and firmly established among the leading industries.

With the refinement of the A.C. tubes and their associated circuits, broadcast reception has been reduced to standard practice, which, in turn, has made possible the mass production of standardized receivers. There is now available to the buying public a wide variety of cabinets and loudspeaker combinations for meeting every taste and pocketbook. The economies of standardized practice and mass production have been reflected in the lowest prices for the greatest values yet attained by the radio industry, accompanied by a natural and profitable market. The patent situation, too, long a basic problem with our industry, has been steadily clarified during 1928.

In short, the radio industry with its unlimited laboratory resources enters 1929 with a sound foundation upon which to rear a magnificent edifice of further progress.

The growing appreciation of the fact that the quality of a broadcasting program can be no better than the quality of reception possible on the radio set used will make 1929, it is probable, a continuous replacement year. The radio industry will have the task and the opportunity of re-equipping millions of homes, on the basis of the most modern radio technique.



Expansion of Broadcast Service Planned

By MERLIN HALL
AYLESWORTH
President, National
Broadcasting Company, Inc.

THE National Broadcasting Company looks forward to the year 1929 with an optimism born of the progress which radio as an art and radio as an industry have made in the last twelve months. There is every indication that in the next twelve months there will be an even higher rate of progress and expansion.

We, as broadcasters, expect during the coming year to increase and to improve our programs so that there will be an ever-increasing appeal to more and more persons. We are aiming at such balance and such universality of interest in our programs as to make everything on radio interesting to somebody and something on radio of interest to everybody.

are Keynotes for New Year



Trend Now Towards Appearance and Quality

By MAJOR

HERBERT H. FROST
President, Radio Manufacturers Association
Vice-President, Kolster Radio Corporation

ENTERING 1929, the radio industry finds the market trend toward appearance and quality of performance, without regard to what types of tubes or speakers bring the acceptable results. If the radio receiver is pleasing in appearance and the reproduction is natural, most buyers assume that it is well built and will give satisfactory service without prying around among the working parts to see how it is constructed.

Cabinet designs will be improved and the size of cabinets will be reduced. A progressive development will take place in the mechanical and electrical design of receivers as it has in automobiles. There will be no "revolutionary development" in 1929.

The new year will see a larger market, due to the new buyers who have gone without radio so far and are now tempted by the quality of reproduction and the lowered costs. The resale market will also increase in 1929. The richness of tone made possible by improved design makes the owner of obsolete equipment dissatisfied with his set and reproducer.

Other contributing reasons for a larger market in 1929 are the new broadcasting allocations for stations and the increased use of radio receivers in homes because of the feature programs which will be on the air every night. This progress in the distribution and quality of programs is bound to show a marked increase in the use of radio equipment in every section next year.



Country's Demand Will Bring Our Busiest Year

By A. ATWATER KENT
President, Atwater Kent Mfg. Co.

IN spite of the fact that 1928 set a new peak in the radio industry, I anticipate that 1929 will be even greater. The country is moving forward rapidly in all lines. Prosperity is sound and substantial, and in this situation it is obvious that radio is bound to take a position of leadership.

New users of radio are rapidly appearing all over the country and owners of battery sets are replacing their old equipment with all-electric instruments at a rate which keeps producers busy to meet demands. These conditions will continue throughout 1929.

At the same time the quality of broadcast entertainment is getting better every day. The problems pertaining to satisfactory reception are receiving attention and will undoubtedly be solved. Leaders in every field of human activity are taking

cognizance of radio in shaping their programs and activities. The important part which radio played in the presidential campaign is only one instance of the application of this new science to an ever-increasing number of new fields.

In the language of modern business, the country is "sold" on radio. Our effort to meet the country's demands is destined to make 1929 the busiest year of our lives.



National Importance Of Radio Now Recognized

By LOUIS B. F. RAYCROFT
Vice-President NEMA
In charge of the Radio Division

RADIO enters 1929 fully recognized as a most important contributing factor in restoring the attractiveness of the family circle in a "Back to the Home" movement.

Its entertainment value is being more fully matched by its influence in educational movements and by its use as a forum for questions of national consequence.

Adverse influences have not succeeded in staying its forward progress and, while there are numerous problems and difficulties, radio forges ahead rapidly by reason of an unrivalled service rendered to an appreciative public.

It needs no spirit of prophecy to forecast radio as being a billion-dollar industry in the near future.



Increased Programs Will Result in Unprecedented Sales

By MAJOR
J. ANDREW WHITE
Managing Director,
Columbia Broadcasting System

THE radio industry—both in the broadcasting and reception aspects—is now upon the threshold of its golden era. Profitable as it may have proved, the past has been an era of development and experimentation. And now we come to a realization of the fruits of these research labors.

Radio broadcasting and its improvement has as much bearing upon the radio reception set and accessory business as improvements in those articles themselves, and I forecast the greatest year in history from the broadcasting angle. National advertisers are applying for time faster than they can be supplied, and with competition for the attention of the listening audience keen, and quality of broadcasts rising daily because of this competition, set and accessory business should reach an unprecedented peak. From all sides, next year is going to be radio's greatest year.



Promising Outlook for Both Radio and Phonograph

By EDWARD E. SHUMAKER
President, Victor Talking Machine Company

THE outlook for the radio and talking machine business looks most promising. It is certain to prosper and expand if we look upon it as a stable enterprise—a business in which we may safely invest our money and expend all of our energy in building for the future.

If we improve our merchandise, enlarge our service, offer the public the finest quality products at the lowest possible prices, and avoid over-production, then we are building substantial foundations for the future.

Millions will be invested for entertainment in 1929, and we must take full advantage of our sales opportunities. We must compete for our full share of the dollars which, if we are not sufficiently enterprising, will be spent for other commodities.

If these things are done, the talking machine and radio industries must hold their rightful place among the great business enterprises of the country. Under the leadership of the farsighted men who continually plan and build for them, their future is secure, because business must, and will, respond and thrive if capably managed.



A Great Business And No Saturation Point

By PAUL B. KLUGH
Vice-President and General Manager, Zenith Radio Corp.

ALTHOUGH we have just passed through the largest year in the history of the radio industry, we have hardly scratched the surface. Next year will bring a still greater recognition of the necessity of radio in the home. It is a great business. There is no saturation point. New models every year and everybody wants to own a new model. The old sets go quietly on their way to—nobody knows where.

Replacement Market Now Ripe For A.C. Sets

By B. J. GRIGSBY,
President, Grigsby-Grunow Company

RADIO broadcasting and reception have overcome difficulties to the extent that the results are not excelled by any other apparatus for the reproduction of sound.

The electrically-operated receiving set has made radio as simple in operation and maintenance as any household electrical appliance and therefore has stilled the objections of a vast number of people who were formerly fearful of receiving sets because of their semi-technical nature and

the inconvenience of maintaining a power supply.

There is little doubt that the owners of the 7,000,000 battery sets still in use will replace those sets with electrically-operated receivers within the next two or three years. Business from that source alone will be approximately equal to the average sales of receivers in the past three years. We believe that 1929 will prove to be the biggest year in the history of the radio industry.



Educational and Recreational Force of Radio Without Parallel

By P. L. DEUTSCH
President, Sonora
Phonograph Co.

THE amazing developments of recent years and the marvelous tonal reproduction now obtainable have lifted the better radios right out of the class of "machines" into the class of high grade musical instruments.

Radio is recognized today as an instructional, educational and recreational force without parallel in the world's history, and I am confident that it will soon be as natural to find a radio in every home as it now is to find books.

In my opinion, the new year promises to be the brightest and best the radio industry has yet seen.



Industry Starts New Year With Feeling of Security

By BOND P. GEDDES
Executive Vice-President,
R.M.A.

STABILIZATION assures security in 1929 for the radio public, as well as the industry. After a record-breaking 1928, marked by flattening of the summer sales curve, stabilization of products, and improved broadcasting, the new year dawns with every prospect of wider utilization of radio for entertainment, educational, commercial and other purposes. Radio is an ever increasing factor in home and business life, and thus makes our industry a large factor in this progress, collectively and in its component units, small and large.

We have recently enjoyed a "seller's" market and, typical of the radio industry, will meet changed conditions in 1929. But with every prospect of continuance of reasonably prosperous conditions generally, with our manufacturers and merchants shelves cleared as never before, and with improvements in our products certain to come in the rapid development of radio, and with certain wider use, we can look forward with satisfied assurance.

Research and Technical Advance Plus Mass Production Bring Bright Outlook

By JAMES W. GARSIDE
President, DeForest Radio Company

WE enter the year 1929 with a firm foundation laid for future progress. Competitive research and development among the leaders of the industry is mak-

ing for genuine technical advances such as we could never achieve while depending upon a single organization or group for technical guidance.

While we have gone ahead with refinements and improvements, the basic principles of the radio art have been reduced to definite standards. Mass production, based on standardized practice, has made possible the greatest value at the lowest price to the consumer, providing us with a wonderful market for our wares.

I look forward to important improvements in vacuum tubes during the next few months, now that tube specialists are engaged in competitive research and development. I expect to see the dawn of practical television in the home, with inexpensive televisions and a comprehensive nationwide television service. I anticipate ample refinements and improvements in the 1929 offerings of radio set manufacturers, but nothing so radical as to upset our well-established fundamentals. All in all, 1929 will be a great year in radio history.



Public Acceptance Now Gives Greater Opportunity

By HARRY CHRILESTEIN
President, Sonatron Tube
Company

THE radio business is, I believe, enjoying its most successful season. There is greater acceptance of radio by the American public than at any time in radio's history. The high degree of perfection achieved in receivers has removed every doubt and fear in the prospective purchaser's mind.

With set sales at a new high peak, tube sales have gone forward tremendously. For a time, the huge demand, distributed throughout the entire industry by the elimination of the now famous "Clause 9," has gone far ahead of production. The situation, however, is not serious and enlarged manufacturing facilities have resulted in a more satisfactory supply of tubes.

The tube field, with an ever increasing number of sets as a market, will enjoy greater sales both in replacements and in initial equipment. Radio has arrived. There is real stability in its future.

No Radical Changes Ahead in Sets

By CLARENCE A. EARL
President, Charles Freshman-Freed-
Eisemann Radio Corp.

THE radio audience of 1929 will continue to be the most critical and still the most appreciative. The failure or success of any and all manufacturers in radio fields is based largely upon the nature of the programs being broadcast. Aggressive manufacturers in all lines of industry who have been quick to perceive the value of intelligent radio broadcasting are insisting upon programs that will meet the demands of present day America and fill the growing need for home entertainment of the better class.

"The reaction is largely in the direction of music and features which will more than ever in 1929 make radio entertainment broader as one of the dominant factors in

the home life of the people of this country. Our own organization following extensive research has entered upon just such a program and will offer a year's entertainment over a national network. This will be our contribution as pioneer manufacturers to the radio audience of America.

"From the earliest days of the radio industry our company has struggled with others in the pioneer class with the result that we clearly see the trend of the future. Present day sets will undergo no radical changes. The buying public will continue to be guided in future purchases by merchandise which is a credit to the radio set building art. Radio entertainment will continue in 1929 to be one of the most potent forces in the upbuilding of the American nation."



A.C. Set Has Now Overcome Public Hesitancy

By POWEL CROSLLEY JR.,
President, Crosley Radio
Corp.

THE radio business is no longer highly seasonal. January, February and March seem to be just as profitable as September and October. Even the intervening summer months show a substantial business, enabling distributors to retain their full organization and meet their summer overhead.

The reason for this is obviously a certainty in the public mind that radio has passed through the development stage and that present day A.C. receivers will remain standard for a long time to come. The public now buys with confidence.

To me, it appears that 1929 will show a much greater business for those who have become well established. I see no radical changes. The millions of battery operated sets sold previous to this year have not yet been replaced, and it will take the combined efforts of the reputable manufacturers to replace these sets and take care of the demand for new sets in the year 1929.

Basic Factors Portend Year of Sound Merchandising

By JOSEPH L. RAY
Vice-President and General Sales Manager
Radio Corporation of America

SIMPLIFIED radio, standardization, clarification of the patent situation, mass production, low prices, coast-to-coast broadcasting of matchless entertainment and enlightenment, and wholesome merchandising practice—that is a summary of the radio industry during 1929.

With the simple, self-contained, electric-operated radio set of today, radio has definitely entered the practical stage. We now sell a complete radio set as a unit; the installation is comparatively simple; the operation is so positive that servicing is hardly a problem.

Closely linked with the simplicity of radio is standardization. So far as fundamentals are concerned, we are dealing with accepted standards, but there is still plenty of latitude in details and refinements for the expression of individuality. Standardization has led to mass production of limited types of receivers, which are made available in a sufficiently wide range of cabinet and speaker combinations to meet every purse and purpose. Lower production costs are

reflected in attractive prices and a reasonably sure market.

Radio broadcasting, aided by the close interlinking of interests, must assume still greater proportions during 1929. Network operation is to be extended from coast-to-coast, and from border to border, in reaching a truly national audience with virtually priceless programs of music and speech. The sponsored program, now firmly established, is meeting with ever wider acceptance as the publicity value of broadcasting becomes increasingly apparent to the sponsors.

To the merchandiser of radio, the year 1929 means bigger and better opportunities for rendering *service*—as well as for profit. To the merchandiser as the ultimate link, the radio industry now entrusts the future, as we enter an era of genuine merchandising, efficient service, and sound merchandise.

Sales Increase to Continue Through 1929

By GEO. A. SCOVILLE
Vice-President, Stromberg-Carlson
Telephone Mfg. Co.

OUR business during July, August, September, October and November was better than during any corresponding period in the history of our company, and, as I write, December bids fair to keep up this record. As a matter of fact, I can see no reason why this impetus will not carry over into 1929, thus giving us the best start we have ever had. This condition seems to be prevalent with other manufacturers with whom I have talked, which would indicate that 1929 should be a splendid year for the radio industry.

The recent political campaigns have done more than anything else, in my opinion, to prove to the public that a radio set is indispensable in the home.



Modern Production Methods Now Essential to Radio Progress

By ERNEST KAUER
President,
CeCo Mfg. Co., Inc.

THE radio industry is now getting to a point where modern methods of production are absolutely essential. For the progressive up-to-date manufacturer who maintains a Research Department, and an active Engineering Department and makes a good product, a permanent position in the industry is assured.

We have already contracted for fifty-two weeks of continuous broadcasting, and this item alone should show what this organization believes will be accomplished next year.

I believe that 1929 will be a more prosperous year for radio than the present year and am at this time preparing for a large increase in business.

More Comments from Prominent Executives

SOME changes portend for 1929. Technically and mechanically, receiving sets will be much as they are now. The trend to the complete console job, however, has become so unmistakable that it will become dominant in the New Year. The table set

may always be with us, but it will be as minor a factor as the table model phonograph has become. In the reproducer field, great progress will be witnessed and I daresay 1929 will see important new developments.

The most significant development of all, though, will be in the new economic alignment within the radio industry itself. The New Year will mark a turning point in matters of production and distribution. Small units will be absorbed into great units or else will eliminate themselves. Also 1929 will witness the concentration of production into a small number of huge, capable forces. I think there will be about a dozen outstanding names in radio in the New Year; hardly more. This definitely spells progress, because the successful ones will be so large as to assure responsibility and capability in every phase that enters into radio manufacture and merchandising.

—J. D. R. FREED, *President, Freed-Eisemann Radio Corp.*

MOST of the "IF" has been taken out of radio and 1928 has demonstrated the potentialities of this wonderful new industry beyond any doubt. We have just concluded the most successful radio year in our history and in anticipation of even greater business for 1929 are extending our radio division all along the line. And with certain requirements in parts together with the wonderful new tubes in prospect, we are confident that our forthcoming models will meet with even greater success.

Since there was so pronounced a shortage of materials and certain essentials the past year it would seem that the safest plan for the future would be for the manufacturer to build more of these in his own plant.—R. H. WOODFORD, *Sales manager, radio division, Stewart-Warner Speedometer Corp.*

THE two outstanding factors contributing to the stability of the radio industry during 1928 are the refinement of the all-electric radio receiving set and the perfection of the electro-dynamic reproducer.

Vast foreign markets are rapidly developing. The demand from all parts of the world for quality radio apparatus gravitates to American manufacturers as from past experience they have learned to depend upon American-made products.

Many homes will not only have several separate speakers but will have more than one set. This field as yet has not even been cultivated.

This year, also, greater attention has been given to the selection of distributing outlets. This has resulted in a firmer credit structure placing the radio industry on par financially with many industries established for several decades. With constructive business methods the year 1929 should represent the greatest opportunity of any year in the industry.—F. B. TRAVERS, *President, The Magnavox Co.*

NINETEEN hundred twenty-nine will top all previous years insofar as volume of radio sales is concerned. The time has come when every household must be radio-equipped. We are living in a progressive age. All of us want to be up-to-date. Radio is an important factor in our progressiveness. To be without radio is to live practically in the dark; to live in an age that has passed! Full realization of these facts will come in 1929. It will be a year of superb radio events, program construction, music, in fact every phase of broadcasting will, under better reception conditions, rise to a new high

level.—DOUGLAS RIGNEY, *General Manager, A. H. Grebe and Co.*

WE are entering 1929 having had an extraordinary sales increase over the preceding year. Our radio set business has shown a very large increase over 1927, and we now have approximately three times as many franchised Amrad dealers as we had when we entered the season, and the set sales have shown a relative progress.

The Mershon condenser division of The Amrad Corporation has also made astounding progress. Plans are now under way for a complete duplicate plant so that there will be two separate units operating independently, each with a capacity of supplying 10,000 units per day.—MAJOR J. E. HAHN, *President, The Amrad Corp.*

THE basic product of the radio industry is home reproduction of satisfying education and entertainment programs distributed by broadcasting stations. Therefore improvement in program variety, in transmission quality and in the conditions maintained in the ether highways where our broadcasting channels lie, is as significant to the progress of radio as advances in the construction and design of radio receivers themselves.

Urban listeners find their favorite local stations occupying cleared channels, unmarred by heterodyne whistles. Rural listeners, heretofore limited in their program sources to a few stations, most of which are linked by wire lines, now find satisfactory programs on half the points on the dial. Indeed, were all listeners equipped with highly sensitive and selective receivers, they would find at least forty or fifty available program sources in any location, many of which would be sufficiently clear to offer programs of entertainment value. This condition will undoubtedly influence the trend of receiver design. Greater emphasis will be placed upon sensitivity and selectivity. The creation of good highways of the air for radio reception is certain to prove an incentive to utilize them to the utmost, with concurrent benefits to the listener and the industry.—EDGAR H. FELIX, *National Electrical Manufacturers' Assn.*

ALTHOUGH the year just closing is the largest by far in the history of the Pilot company, I look forward to even a bigger year in 1929. Inasmuch as the manufacturer of factory-built radio receivers is gradually concentrating on fewer and larger units, it will readily be seen that mass production methods on a huge scale do not permit immediate adoption of improvements. The custom set builder, who is the largest consumer of radio parts today, demands up-to-the-minute circuits that are designed by technically-trained radio engineers. The parts manufacturers must assume the responsibility of supplying properly designed circuits and correct assembling information.—ISIDOR GOLDBERG, *President, The Pilot Mfg. Co.*

THE improvements made by the radio industry in the last few years have been epochal. All-electric radios and dynamic speakers have done much to beautify the entertainment the radio makes possible.

Although radio is primarily a source of entertainment, it is nevertheless rendering a much deeper service. With the extension of radio broadcasting throughout the world, and the accompanying development of chain systems radio is playing an important part in bringing the peoples of the world more closely together.—OSCAR GETZ, *Vice-president, the Steinite Co.*

Who Owns the

A Re-statement

NEVER has an industry been so courted as our own.

Radio came into the world an orphan. It was discovered on the doorstep of the electrical industry. The child showed promise and was promptly adopted into the family.

But the child grew. Almost over night it became a man. And it was seen that this was not just an electrical man. It was before all else a man of music. And so the world of music arose and said—"This is our man. Now he rightfully belongs to us."

Then came the A.C. set. Whereupon the electrical industry once more declared—"This settles it. No one can longer question it. For radio has become a current consuming appliance. Surely this man is ours."

But while they talked the man—now grown to a colossus—found his own strong voice. "I have the right to be myself," he said.



Home office of
Radio Retailing
in New York

- Six editors last year traveled 35,000 miles studying the radio field.
- Seventy circulation men visited 30,000 radio merchants traveling 750,000 miles.
- Twenty-three thousand radio merchants buy and read the magazine because it helps them to sell and make a profit.

BECAUSE the question has been asked so many times—"Will *Radio Retailing* change its name to embrace the new allied products?"—the publishers desire to make a re-statement of policy.

This paper was established in January, 1925, because the radio industry had reached a point where it needed a strong industry publication. It had passed through two years of commercial hysterics. The radio boom had drawn a multitude of inexperienced men into the distribution and retailing of this popular merchandise. The time had come to begin in an orderly way to work for the standardizing of policies and practices.

There were many radio journals riding along on the prosperity wave. They were mostly "fan papers." There was no industry paper, seriously striving to stabilize the trade. To this task *Radio Retailing* addressed itself.

In our first issue we said—

"No outstanding publishing organization has undertaken a trade magazine to treat fundamentally with radio distribution problems and to exchange the best business and selling ideas among all radio dealers.

"It is to serve such a clearing house for this great vital business of retailing radio that the publishers and editors of this journal, backed with fifty years of publishing experience, now accept responsibility."

We have no desire to change a letter of that statement. Radio has grown to be a great industry. It has won a definite position in the American industrial structure. *It is not a branch or part of any other industry. It is an industry itself.*

A NATURAL CONFUSION

IT WAS inevitable that there should have been confusion of mind in so rapid and gigantic an industrial evolution. In the beginning, radio was just a parts business and it was natural that those parts should have



Radio Industry?

of Policy

had their source in the electrical industry. But many highly specialized industries draw their raw materials and parts from without. And the source or nature of these supplies does not make radio a part of the electrical industry.

Nor does the fact that a receiving set is housed in furniture make it a part of the furniture industry. Nor does the fact that this set furnishes music in the home, make it a part of the phonograph industry. That industrial group that manufactures and distributes radio receiving sets and reproducers and provides through them its great new service of entertainment and instruction for the home can have but one name. *It is the radio industry.* It is a unit in itself.

It was also inevitable that there should be confusion in the development of the distribution of radio products. The electrical dealer, the music trade, the department store, the hardware store, the automobile accessory man, the druggist and the furniture, sporting goods and chain stores and even the undertaker each saw in radio something new to sell his customers. And each became a radio outlet. More important of all we now have the exclusive radio shop, fast growing in number and importance.

Year after year the channel of radio distribution has writhed and twisted in its course like a flooded river rushing to the sea. First one and then another class of dealer has appeared to be "the radio trade." Each has claimed radio as its own. They have forgotten that only the American people can control the distribution of radio. For as long as men and women prefer to buy radio from the most convenient store that serves them best, radio will be sold by many kinds of merchants. And together these merchants, themselves, will constitute "the radio trade."

WHO IS THE RADIO TRADE?

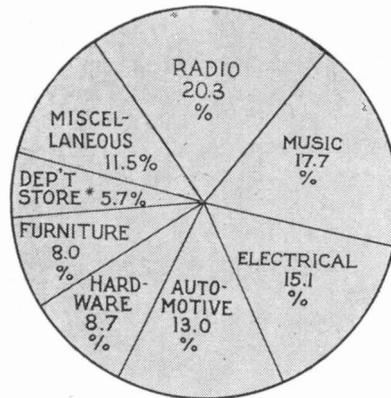
THE accompanying "pie-diagram" gives the picture of radio distribution as it stands today. This is the radio trade. By a nationwide survey, entailing much labor and expense, we have broken it down into its many parts. Certainly no single part is large enough to own the whole.

The phonograph trade claims radio. But radio sales were \$650,550,000 in 1928 while phonograph sales were roughly \$160,000,000.

The electrical appliance trade claims radio. But the sale of household electrical appliances in 1928 totaled \$800,000,000. Radio has already grown nearly as great as the electrical appliance trade.

Radio does not belong to either of them. But they have each become prominent participants in the radio trade.

And then what of the future? We must think of



An analysis of total retail radio sales by type of outlet as reported by 1,200 national distributors.

that also. The day will come when radio in the home will provide not only broadcast entertainment and music reproduced from records as at present, but also talking moving pictures and television. And it will all be "radio." This merchandise will all flow through the radio trade.

OUR POINT OF VIEW UNCHANGED

NO, *Radio Retailing* will not change its name nor its policy for the benefit of any one group of its readers. And the radio industry will not alter its terminology each time the flow of evolution appears to take a new direction and some opportunist presents his claim.

In an exclusive article in our first issue, Herbert Hoover, now elected President of the United States, said this—

"No industry has had the phenomenal development that has radio, and few are the industries whose products have as broad an appeal to men, women and children alike in city and in country. It is inherent, therefore, as our experience is proving it, that the distribution of radio should have broader channels, and a greater number of classes of retail outlets than almost any other fabricated product, in order to serve this widespread demand.

"However, great as this distribution network has already become, it is apparent that there is yet much undeveloped area in which efficient merchandising will make radio more useful to the citizens of this country, and that there is room for improvement in the methods through which radio equipment passes from the manufacturer into the home of the user."

Radio Retailing has set itself to the service of this radio trade that serves the radio industry. The paper will continue to follow the merchandise through whatever channels may best provide distribution for radio products. For wherever radio is well sold, there is the radio trade. And there *Radio Retailing* will be at work.

The Publishers

The Radio Industry

A review of developments both technical and

AS THE industry swings into the new year, many new developments, both technical and commercial, are making themselves apparent. The radio business is on the march. Improved receiving sets, improved reproducers, improved tubes, better furniture and a broadening market for the radio-phonograph combination in the popular price field are all impending. Each of these trends naturally opens up the prospect of growing demand and increased opportunity for the radio manufacturer, wholesaler and retailer. And that spells more prosperity for the entire industry.

It is one of the most encouraging aspects of the radio business that we are still in our era of rapid technical advance. Fortunately, we have passed the early pains of experiment when a new invention would suddenly sweep into the field and destroy the market for the best equipment of the week before. Fundamental principles have been so far established that an encouraging degree of stability has come to radio. Improvements now are more in the nature of refinements that bring not disaster to the trade but fresh life and spirit to the market, by constantly increasing the public interest and enthusiasm for radio.

Several such technical developments are now within sight. They are of prime importance. They should be understood by every dealer, so that he may prepare to receive them when they come into the market. For each of these technical developments will bring with it new commercial opportunity. Among these new possibilities, the following are of major interest—

SETS AND CIRCUITS

A.C. Screen Grid Tube

THE most significant immediate technical trend is probably the continued experimentation by many manufacturers with circuits using the screen-grid heater-type tube designed to operate on alternating current. The principal duties of this tube will be the prevention of oscillation in R.F. circuits with no outside assistance and at high amplification. For best results tuned circuits designed particularly for it are required. Careful shielding and filters in all leads entering the stage shields are important. The tube may also be used as a detector either with grid leak or grid bias.

The use of this tube will require a definite change in circuits. One or two tubes, in the radio frequency stages, can be made to give results equal to the three to five radio frequency tubes now in use. This will naturally result in smaller, more compact cabinets and very probably a reduction in prices, particularly in the lower price ranges, as this tube apparently has its greatest usefulness in the low price market.

Straight Line Frequency

THE "band selector" principle of tuning is another radio frequency circuit development which will probably come into more widespread use in 1929, making it possible to receive broadcast stations in their even-kilocycle separations as ordained by the Federal Radio Commission's present spectrum.

Along these lines also, a modified form of straight line frequency is indicated as the most satisfactory form of condenser, with the dials divided equally in kilocycles rather than in meters or the arbitrary numbers of zero to one hundred.

Automatic Volume Control

SOME of the RCA and Howard models are now including an automatic volume control as an integral part of the circuit. Automatic volume control necessitates the use of an additional tube and is accomplished by means of an electrical circuit using a rectified carrier voltage to adjust the grid bias of the radio frequency amplifier tubes. This automatically controls the radio frequency amplification giving a nearly constant voltage at the detector, independent of the difference in antenna signal voltage.

This system compensates immediately for differences in signal intensity, even when caused by fading. The operator simply adjusts a control, and, no matter how weak the signal may be when received, it is built up to the desired volume of sound.

Line Voltage Control

LINE voltage control, which has given so much trouble in the past year, seems to have settled into a problem for the set manufacturer. Therefore it can be expected that proper means for line voltage control will be found within the set itself in 1929. This device rightly belongs within the set and most manufacturers will undoubtedly make it an integral part of the power pack.

Time Clock Switch

THE electric time clock switch is too well known to need explanation. By use of this clock switch the receiver is automatically turned on or off at any predetermined period. Inasmuch as most broadcast stations give the correct time over the air the electric clock should prove a desirable as well as utilitarian addition to the set. At least one of the largest manufacturers is preparing to incorporate this device in models planned for the coming season.

Amplification

NEW trends in both radio and audio frequency amplification are also noticeable at this time. Both attempt to improve tone quality, while the radio frequency developments have the added stimulants of greater volume and sharper selectivity.

In the audio frequency amplifier, high voltage with push-pull transformers, new power tubes and improved speakers are being combined to give better tone. Practically all A.C. sets this year will include push-pull amplification. Manufacturers are also finding it necessary to build circuits that are inherently selective, due to the new broadcasting allocations.

Tuning Controls

GANGED condensers and single control, once the cause of so many differences of opinion, are here to stay. Simplified panel design, with the controls located in a center escutcheon seems to be the vogue. Back of the panel it is at once evident that mechanical strength of the chassis and improved shielding of the coils and condensers have been two factors uppermost in the minds of manufacturers.

NEW REPRODUCERS

Inductor-Dynamic

AT least two new types of reproducers are preparing to take their places beside the electro-dynamic as the latest developments in sound re-creation. Foremost in the new speaker field is the inductor-dynamic type. The important feature of this speaker is that the action of the drive rod is almost identical to that of the electro-dynamic speaker, i.e., a plunger motion. This eliminates much of the distortion found in magnetic speakers due to the vibration of the drive rod which has more of a confined, spring action. In this way, results approaching that of the electro-dynamic speaker are obtained without the necessity of the electro-magnetic field with its accompanying heavy and bulky iron housing. It will probably be the outstanding development of 1929 in the low price speaker field.

is On the MARCH

commercial that will influence the 1929 market

Electro-Static

THE electro-static type of reproducer is another new development which will probably have its inception some time during 1929. While there is apparently much laboratory work still to be done on this type of speaker, it is to be expected that its commercial exploitation is not far away. There are two schools of design that have taken leadership in the electro-static principle, one in this country and one in Germany.

The German design is of the bi-lateral type and uses two metal plates with a thin metallic substance stretched between them. This third member acts as a diaphragm and the whole arrangement operates as a condenser. Thus, when it is charged with the output voltage of the set, through proper coupling devices, the diaphragm vibrates under the varying electrical stresses, resulting in sound.

In the American design, only one fixed plate is used, making the speaker uni-lateral. Besides this the moving member is made of thin rubber and coated with a conductive substance. Also, both surfaces are curved instead of flat as with the German type. Both types need between 400 and 800 volts for satisfactory operation. This would seem to limit these speakers, at present, to sets designed specifically for them.

As this reproducer is very economical to build and exceedingly simple to make and operate, it will undoubtedly prove popular as it can be made to approximate electro-dynamic results at a much lower cost. The electro-dynamic, of course, will continue to be the popular reproducer in the quality class, at least during the months immediately ahead.

OTHER IMPROVEMENTS IN TUBES

New Detector and Power Tubes

PERHAPS the most rapid scientific advances are being made right now in the perfection of tubes. In addition to the A.C. screen grid tube already described, there are others now in the laboratories of leading tube manufacturers which presage unusual improvements in tube construction. A new type of heater, or 227 tube, is on the way for use as a detector. While definite information concerning this tube is not yet available, it is known that it is being designed to give more satisfactory reception and longer life than the 227 type now on the market.

Then it is probable that a new power tube will be brought out to come between the 171A and the 210. It will use the same filament voltage as the 171A but a little more current, and will take considerably more plate voltage. It will give much better operation of an electro-dynamic reproducer when used in ordinary receivers.

There is also a new type of rectifier tube which will be available shortly. It will have a capacity of about 1,000 watts, and will have its main application at present in transmitters.

TRENDS IN FURNITURE

RADIO furniture will continue to progress under the impetus it gained last year. Consoles will maintain their simplicity of design and will tend to be still more compact, with the so-called "high-boy" probably the most popular model. Swinging doors have been displaced by the sliding type making for a much neater appearance and a more ready adaptability to the room in which it is to be placed. Sturdier and better looking hardware is also being used. More thought and care are being taken to insure solid construction and correct period design.

Consoles are being designed to obtain proper acoustical effects with built-in reproducers. The demand for more artistic and expensive furniture is increasing, although a definite effort is being made by several manufacturers to produce satisfactory consoles for a low price market. Many separate consoles and tables are being made with the reproducer attached to a baffleboard as an integral part of the construction. This is a new idea which gives the radio merchant an excellent opportunity to sell furniture best suited to individual tastes, installing almost any receiving set chassis.

EACH of these considerations provides interesting food for thought. For every dealer's market will be effected and in each community new opportunity will come to the local trade.

But beyond these intimate trends that are in process within the scope of radio equipment itself, there is another new development clearly approaching that will very vitally influence the radio trade. For radio seems destined to embrace a group of allied services that will include the reproduction of phonograph records, the talking moving picture, for both the home and the theatre market, and, in time, television. Of immediate interest the radio-phonograph is outstanding because it is rapidly crystallizing into practical form.

The electric phonograph pick-up and turntable has already established itself as a major improvement in *a la carte* music, and many radio sets are now being made with tip-jack connection for the pick-up. This is helping radio directly, because, used with a good reproducer, a demonstration from a record is about the strongest sales argument for illustrating the excellence of modern tone reproduction through the radio set. This is of utmost value to the radio dealer in sections of the south and west where broadcasting is still imperfect.

RADIO WILL BRANCH OUT INTO ALLIED LINES

THIS marriage of the radio and phonograph has also opened up the rich new field of theatre music where multi-turntable devices are introducing improved musical background for moving pictures direct from the records by audio amplification. These records are being cued to suit the score. The sale, installation and servicing of this theatre equipment and probably the providing of many records not supplied by the motion picture exchanges, should naturally fall to the radio trade, if the radio dealer seizes this new born opportunity and makes the market his own. Thousands of theatres will be installing this apparatus this year as a welcome substitute for more expensive and less satisfactory music. It will provide a large volume of profitable business for some one.

Talking motion picture machines for the home are already a commercial actuality. Undoubtedly this instrument will be included in the same cabinet with the radio receiver, as both will use the same type of audio amplifier. And television is making such rapid strides that there is little doubt as to its future importance.

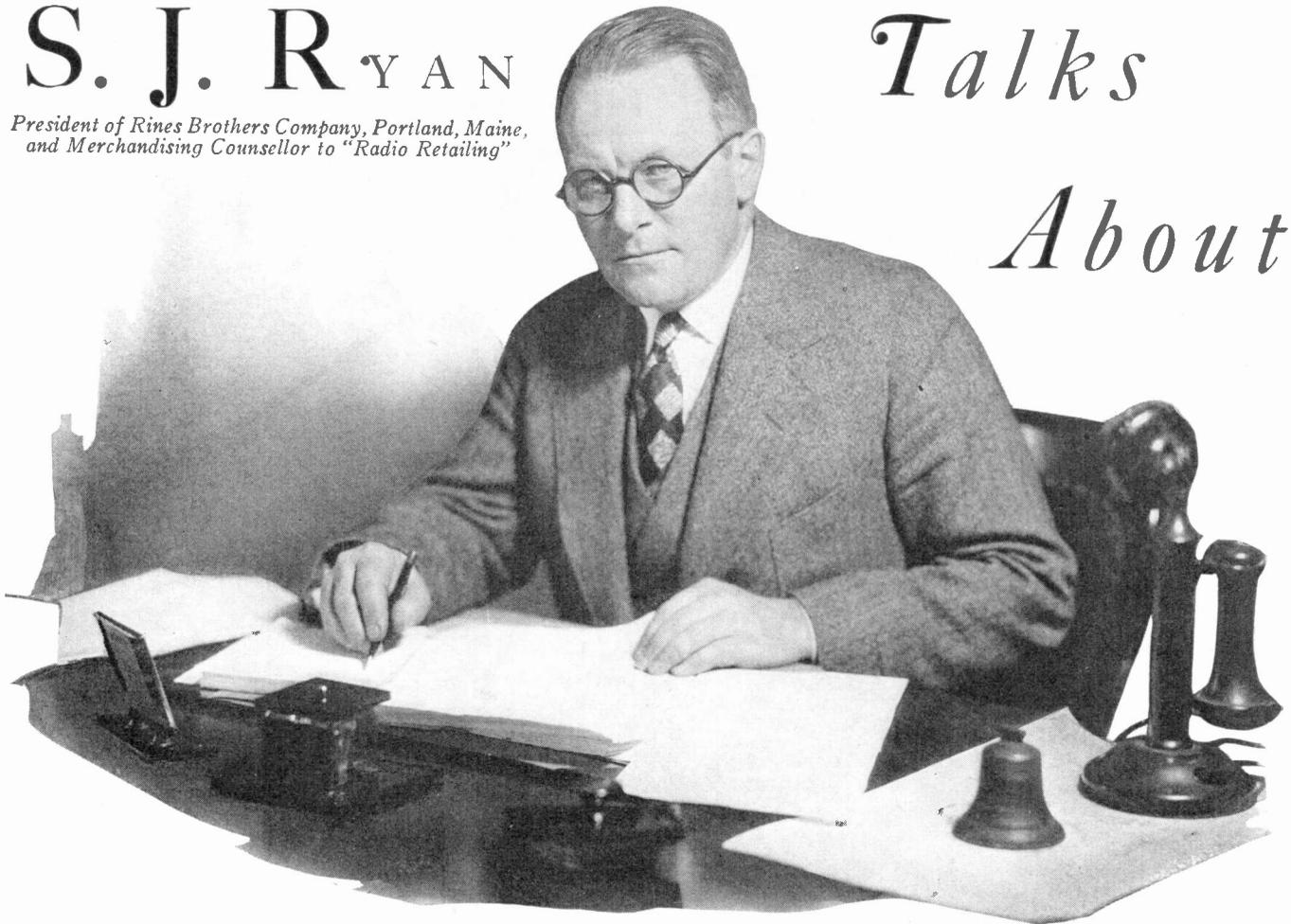
In short, radio is apparently destined to develop into a "home entertainment industry" embracing a variety of allied services. The first expression of this trend is seen in the practical absorption of the music industry by the radio industry that is now taking place before our eyes. Much progress along this line can be expected this year, and the radio trade is to be congratulated that its future is so bright and its opportunity so broad and so progressive.

S. J. RYAN

President of Rines Brothers Company, Portland, Maine,
and Merchandising Counsellor to "Radio Retailing"

Talks

About



IN THESE days of such intensive competition in every line of retailing, it is not until after the holiday rush that the average merchant is enabled to settle down to real work on his inventories. Of course, we all *plan* our inventories two or three months in advance of the first of the year. But these plans have a habit of not working out just exactly as we figured they would.

Fortunately retailing will never be such an exact science because the consumer's demands vary so greatly and their purchasing habits change so quickly. I for one am glad that this is so. If the day ever comes to pass that retailing is reduced to the exactitude of a mathematical formula there will be no "kick" left in it.

Therefore, in the stores with which I am associated, when Christmas has passed and we have had a chance to catch our breath, we find all sorts of things wrong with the inventory. If business has been as good, or a little better than our expectations, we have in all probability avoided the very grave problem of too large an inventory. But that is not the most important problem in inventory control.

The most important element in an inventory is **BALANCE**. Balance means having "what they want, when they want it." And this is not easy. For it not only can happen but it usually does happen that even when the dollars and cents of your total inventory seems entirely satisfactory, it is still unbalanced. There is a danger here which every merchant has to face and fight every day of the business year.

The most effective method that I know of for keeping your stocks as nearly as possible in balance with demand is what is popularly known as *unit control*. This method requires records, analyses, and a certain amount of

business judgment. But beyond all this the most important element in unit control is *common sense*!

For example, let us say that a man's inventory, at retail prices, on the first of January or February is \$10,000 and that his prospective sales for the following three months will also be \$10,000. This would be a very fair inventory for that amount of business in a line such as radio. But chances would be about ten to one that in his \$10,000 stock not over half would be the merchandise which would be required to meet the coming demand and to make up the \$10,000 sales in these subsequent three months.

OF COURSE, if he had only \$10,000 inventory and sold \$10,000 worth of merchandise within the next ninety days, he would naturally be "open to buy" an equivalent amount of goods in order to leave him with approximately \$10,000 stock at the end of the three months' period. In this particular instance, this merchant would still be compelled to buy \$10,000, at retail values, in order to sell \$10,000. But in his case, we will say that at least 50 per cent of his inventory at the end of the three months would consist of the same stuff he had at the beginning of the year. He would have bought as much. He would have sold as much. But half of this original stock would still be on hand, but much older and less desirable to the customer and less salable.

If, on the other hand, he could start out with a \$10,000 stock that was well balanced, he could sell \$10,000 within the next three months and perhaps end up with an inventory of, let us say, \$7,500. Certainly he would be much better off.

Now, of course, that is what every merchant tries to

INVENTORIES

Some straightforward counsel to radio retailers from the head of a chain of small department stores in New England.

do. But only a few succeed in accomplishing it. Altogether too many merchants accept the unbalanced inventory as something that *has to be*, but it need not be. Naturally I am not going to claim that you can have an inventory in perfect balance at all times nor even at any time. But I do claim—and I do know this from personal experience and from the experience of more than one hundred other merchants—that you can bring your inventory more nearly in balance if you will apply some method of unit control to your stock keeping. This will positively reduce your stocks. It will positively increase your sales. It will positively increase your profits. It will positively reduce loss through depreciation.

EVERY merchant reader of this article who is not utilizing unit control in his business today will be interested. I believe in what I have been saying. But one point I want to make clear, I can tell you how to go about this. But I can't do it for you.

Of course, in a business as complicated as that of a department store, we have to use what may appear to be complicated forms and systems in order to operate unit control. Naturally, we try to make them as simple as possible because of the time and money thereby saved in their operations. But the form that you see or the method you pursue is of no particular moment, insofar as the efficiency of the system is concerned. All that is required of the system is that it quickly and accurately show you *in units* your present stock on hand and also any incoming units which you may have contracted for in advance. Also it must show you in units what you have sold week by week in the course of the year or years past.

Of course, no system has ever been devised to tell you in advance what you are going to sell in units for a given period. That is where the business judgment and common sense come in and the retailer who hasn't these essentials ought to get out of the business and go into one where they are not required. It is surprising, however, in actual practice to find with what a high degree of accuracy a history of the past foretells the future demand.

Unit control is nothing more or less than a perpetual inventory of your stock. But it reaches far beyond that point, because in unit control this information is used as

a basis for your *future operations*. It is not maintained merely to show you in dollars and cents, or in units, what you have in stock. Its principal purpose is to indicate from past experience what the future demand is apt to be.

IN PRACTICE, we find that it is not worthwhile to attempt to use the unit control on small items of merchandise; nor is it important to do so, because as a rule the investment involved is small. I mean by small items those that are sold in units where the sale is up to 50c., for example. In our business, we operate unit control in all of our departments with the exception of the notion department, where we carry more than 1,000 items, the individual value of which is not very high.

The operation of this unit control system has done great things for us in stock control and the guidance of our buying. I personally know that it has proven no less effective for dozens of other retailers. It has reduced our inventory more than two-thirds, and at the same time increased our volume and enabled us to more intelligently meet the demands of our customers and to more quickly cope with changing demands of fashion without excessive loss.

The installation of the system is simplicity itself. All that is required is an inventory record, set up under the headings of merchandise ordered and merchandise sold. The operation of the system is not quite so simple, however, because judgment has to be used. But the most perfect merchandise judgment in the world would be still more perfect if it was backed up by a record of past sales and present stocks such as unit control furnishes.

I sincerely and earnestly recommend this system to every radio retailer. I will be very glad to furnish more detailed information to any merchant who is a reader of *Radio Retailing* who is seriously interested in the installation of the unit control system in his business. Just write to me on your letterhead, in care of *Radio Retailing*.

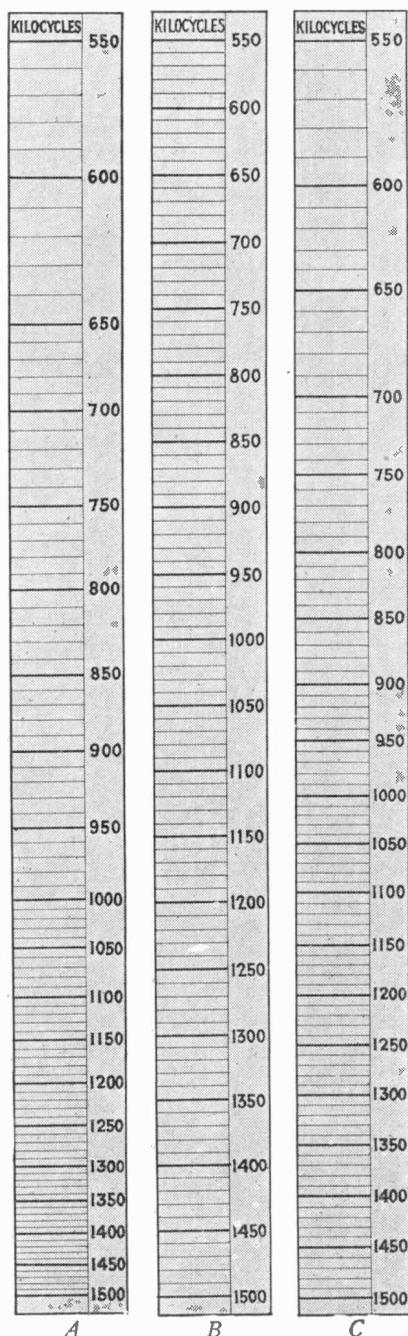
THIS is the first of a series of articles in which S. J. Ryan will discuss various merchandising subjects with particular application to the problems of the radio merchant. Mr. Ryan is president of Rines Brothers Company, Portland, Maine. He was formerly merchandise manager of the Nugent Company of St. Louis and also of the J. L. Hudson Company, Detroit.

The most effective method for keeping your stocks as nearly as possible in balance with demand is what is popularly known as "unit control." This method requires records, analyses, and a certain amount of business judgment. But beyond all this the most important element in unit control is common sense!

Is Straight-Line-Frequency

Now an OBLIGATION?

Industry asks whether new allocations require even selectivity across the dial—shall dials be spaced in kilocycles? What manufacturers think.



HOW DIAL READINGS COMPARE WITH THE SPECTRUM

(A)—Dial reading of the average set now in use, without S-L-F condensers, showing congestion of stations in lower half of dial.
 (B)—The new broadcasting set-up of the Radio Commission, with the stations separated in even tens of kilocycles.
 (C)—Dial reading of up-to-date receiver using modified S-L-F condensers, showing how this principle more nearly parallels the broadcast spectrum.

WILL the new broadcasting allocations force the radio industry to adopt the straight-line-frequency principle of tuning as standard for all radio receiving sets? This question has been brought sharply into prominence since the new broadcast station set-up went into effect November 11.

Shortly after the reallocations were made, a storm of protest swept the country. Radical differences of opinion developed as to the efficiency of the Radio Commission's plan. A great many listeners reported improvement in reception, but almost as many reported that heterodyning continued and that the lower wavebands were as congested and confused as they ever were.

In the succeeding weeks, however, it became increasingly apparent that the allocations were right, from an engineering standpoint. Receiving sets using some form of the straight-line-frequency principle were found to receive stations better than ever before. Receivers with the ordinary tuning condensers, however, developed a serious state of congestion in the lower wavelengths.

The facts are that straight-line-frequency is more nearly in accord with the correct engineering principles of the reallocation, and that much of the benefits of the reallocation are being lost because many sets now in use—even those of the most selective type—are unable to receive the stations in even kilocycle separations over the whole dial.

BBROADCASTING stations operating between 550 and 1,500 kilocycles are now definitely separated by ten kilocycles. However, many of the present day sets do not make this apparent. The reason is that, in the past, the "high quality" transmitters, like WEAF, WOR or KYW, were all located at the low frequency end of the dial. This was the section marked from, say, 40 to 100. Sets were then designed to give good sep-

aration between these stations and little or no attention was paid to that section of the dial between zero and 40.

Under the new allocations there has been more equal distribution of the more powerful stations over the entire broadcast band. It no longer serves a good purpose to crowd the stations at one end of the dial. It would therefore seem reasonable for set manufacturers to make receivers selective enough to give actual separation, and then use a straight-line-frequency tuning condenser—or a modified form of straight-line-frequency—together with a dial marked off in kilocycles. Even the use of meters instead of numbers is now very confusing as the progression of meters and kilocycles occurs in the opposite order, 200 meters being 1,500 kilocycles and 500 meters being 600 kilocycles.

This brings the industry immediately to consideration of the straight-line-frequency principle, or a modification of it, as standard practice for all receiving sets, if the full benefits of the new broadcasting spectrum are to be enjoyed by those who purchase sets in the future. In its purely moral aspect alone, the question arises as to whether the industry is or is not obligated to give the public a type of receiver which will perfectly receive broadcast stations as they are now placed—in even tens-of-kilocycle separations across the dial.

To get at the correct answer to this question, *Radio Retailing* has sought the viewpoint of many of the industry's leading executives and engineers. What they have to say, in condensed form, is indicated in the following statements:

Believes Even-Kilocycle Separation Is Essential

The straight-line-frequency condenser has so many desirable features that it is difficult to understand why set manufacturers are not making greater use of it. When we say "straight-line-frequency con-

denser," we mean one the shape of which is designed to give a uniform frequency separation on the dial. Such a condenser has to take into account the residual capacity of the circuit, and is, therefore, not strictly a straight-line-frequency condenser by itself.

The outstanding objection is that such a condenser requires roughly 50 per cent more cubic space than the straight-line-wavelength types. This objection must, in my opinion, be overruled by the necessity of better separation of stations.

With the original line-up, the so-called high quality stations were largely at the upper end of the dial. It was the smaller and less important stations that were at the lower end. In spite of any ideas that these small stations may have had of their own relative importance, the public at large was interested in the upper dial stations. It, therefore, was only natural for set manufacturers to arrange their sets so as to feature these stations.

Under the new allocation, the stations are divided more uniformly throughout the whole dial; therefore, the original argument no longer holds, and we believe set manufacturers will appreciate the necessity for giving uniform separation based on frequency throughout the whole dial.

H. B. RICHMOND,
Chief Engineer,
Cambridge, Mass. General Radio Co.

Reallocations Necessitate Dial Readings in Frequencies

The shape or plate necessary to produce the straight-line-frequency relationship is so irregular that it is extremely difficult to build such a condenser in such a way that three of them can be ganged and made to track. Such condensers also take up considerably more space than the conventional type and present other manufacturing difficulties.

It is not possible for the condenser manufacturer to design a straight-line-frequency condenser which will actually give the straight-line-frequency result in anybody's receiver. Each manufacturer must determine accurately the constants of the circuits in his particular design and determine the shape of the condenser plate accurately.

Even with straight-line-frequency condensers it is not possible to build receivers calibrated in frequency unless each receiver is calibrated at the factory as it is built. This would mean a very considerable increase in cost which the manufacturer has not felt would be justified.

The reallocation which became effective on November 11 is the first systematic arrangement of broadcasting stations. It has again brought the attention of manufacturers to the desirability for showing the frequencies or the channel numbers on the receiver dial and it is probable that the coming season will see several sets so arranged.

R. H. LANGLEY,
Director of Engineering,
The Crosley Radio Corporation,
Cincinnati, O.

Two Technical Objections to Use of S-L-F Condensers

We have only two technical objections to the use of straight-line-frequency condensers for tuning radio receivers.

The plates of a condenser must be very carefully shaped in order to produce accurate straight-line-frequency tuning. The shaping can be done only when the stray capacities of the stages are known and a condenser which will give straight-line-frequency tuning for one receiver will not

necessarily give straight-line-frequency tuning for another. The plates are somewhat unwieldy in shape and are not as easily supported mechanically as types which are more nearly straight-line-capacity.

In the past the broadcasting stations in the lower wavelength end of the broadcast band have been inferior and most listeners have preferred the stations above 300 meters. For this reason it has not seemed wise to give the stations below 300 meters the same relative importance as those which were giving better service. We have therefore used about twice the separation on the dial for the long wave stations as for the short wave stations.

L. F. CURTIS, Chief Engineer,
American Bosch Magneto Corp.
Springfield, Mass.

Considers It Good Practice to Calibrate Dials in Kilocycles

We have been using wavelength markings on our dials but after January first all of our receivers will have kilocycle settings marked on the dials.

At present we use a straight-line-capacity condenser for tuning. We find that the condenser has nothing to do with the sharpness of tuning. The only thing that it has to do with is the closeness of the markings on the dial of the receiver. We are still in doubt as to the advisability of going to a straight-line-frequency condenser because such a straight-line-frequency characteristic holds for one part of the dial and then it wanders off from the straight-line characteristic at a different part of the dial. The selling features of a straight-line-frequency dial has not caused enough commotion to warrant the additional expense which is involved in the adoption of this type of condenser.

We, however, believe that it is good practice to calibrate the dials in kilocycles and to put enough markings on the dial so that a person can readily make an adjustment to obtain an approximate setting for his desired station.

A. CROSSLEY,
Steinite Radio Company,
Atchison, Kan.

"Straight-Line-Frequency Is the Ideal Condenser"

The straight-line-frequency condenser is the ideal one and in the writer's opinion will come into universal use, barring patent difficulties. As you know, there is some murmur that the straight-line-frequency, or in fact any type condenser not using semi-circular plates, infringes somebody's patent.

There are some fundamental difficulties, however, with present types of sets, namely, those using tuned radio frequency, and it is these difficulties which will cause opposition to the straight-line-frequency condenser. One of the main defects with the popular type of tuned radio frequency set using fixed coupling in the transformer, is that the selectivity at the low frequency end of the dials is many times sharper than at the high frequency end. This means that a straight-line-frequency condenser shows up this apparent broad tuning disastrously at the high frequency end of the dial. It has therefore been the habit of set manufacturers to use a condenser which tunes faster at the high frequency end and therefore tends to lessen this broadness in tuning. At the same time, the illusion is to give better separation of stations at the low frequency end of the dial. This practice may or may not be wise, but certainly from the sales point of view it has helped the tuned radio frequency set a great deal.

Whenever sets are developed (and the writer has reason to believe this is not very far off) which have uniform selectivity for both the high and low frequency channels, the straight-line-frequency condenser will come into popularity for purely common sense reasons.

So far as calibration of the dial is concerned, the writer sees no reason why dials should not be calibrated directly in kilocycles and meters, or in kilocycles only. The arbitrary figures of 0 to 100 are getting to mean less and less because of the wide variety of tuning condenser calibrations which various manufacturers use.

D. D. ISRAEL,
The Cleartone Radio Company,
Division of
The Cincinnati Time Recorder Co.
Cincinnati, O.

Thinks S-L-F Will Become Universally Used

We believe straight-line-frequency condensers should be standard jobs and that all will eventually try coming to this type. At present our sets use a modification of straight-line-frequency, due to the small space allowable in our sets, but we are endeavoring to shift over to straight-line-frequency types.

ROBERT H. SHOTWELL,
Chief Engineer,
Operadio Manufacturing Company,
St. Charles, Ill.

"S-L-F Condenser Would Take Up Too Much Room"

We believe that the awkward shaped plate that is necessary for the straight-line-frequency condenser results in a marked increase in the amount of space taken up by variable condensers of this type and is the principal objection. As an illustration, the variable condenser we use in a current model is 4 in. wide closed, 4½ in. wide with plates entirely out of mesh, and 3½ in. high with the rotor plates in their highest position.

In order to utilize a variable condenser with a straight-line-frequency variation, it will be necessary to allow 6½ in. for the width with the blades open, 4½ in. with the plates in mesh, and 5 in. with the rotor plates in the position of extreme height. From a comparison of these figures you can see that any effort on the part of a manufacturer to make a compact and neat appearing receiver would be thwarted, if it was necessary to use straight-line-frequency condensers.

C. H. STONE,
Stewart-Warner Speedometer Corp.
Chicago, Ill.

ANALYZING these statements, the majority of opinion seems to indicate the desirability of uniform selectivity for both the high and low frequency channels. The use of a modified form of straight-line-frequency is apparently necessary, if patent and constructional difficulties can be overcome, and it is also desirable and practical that dials be evenly divided in kilocycles.

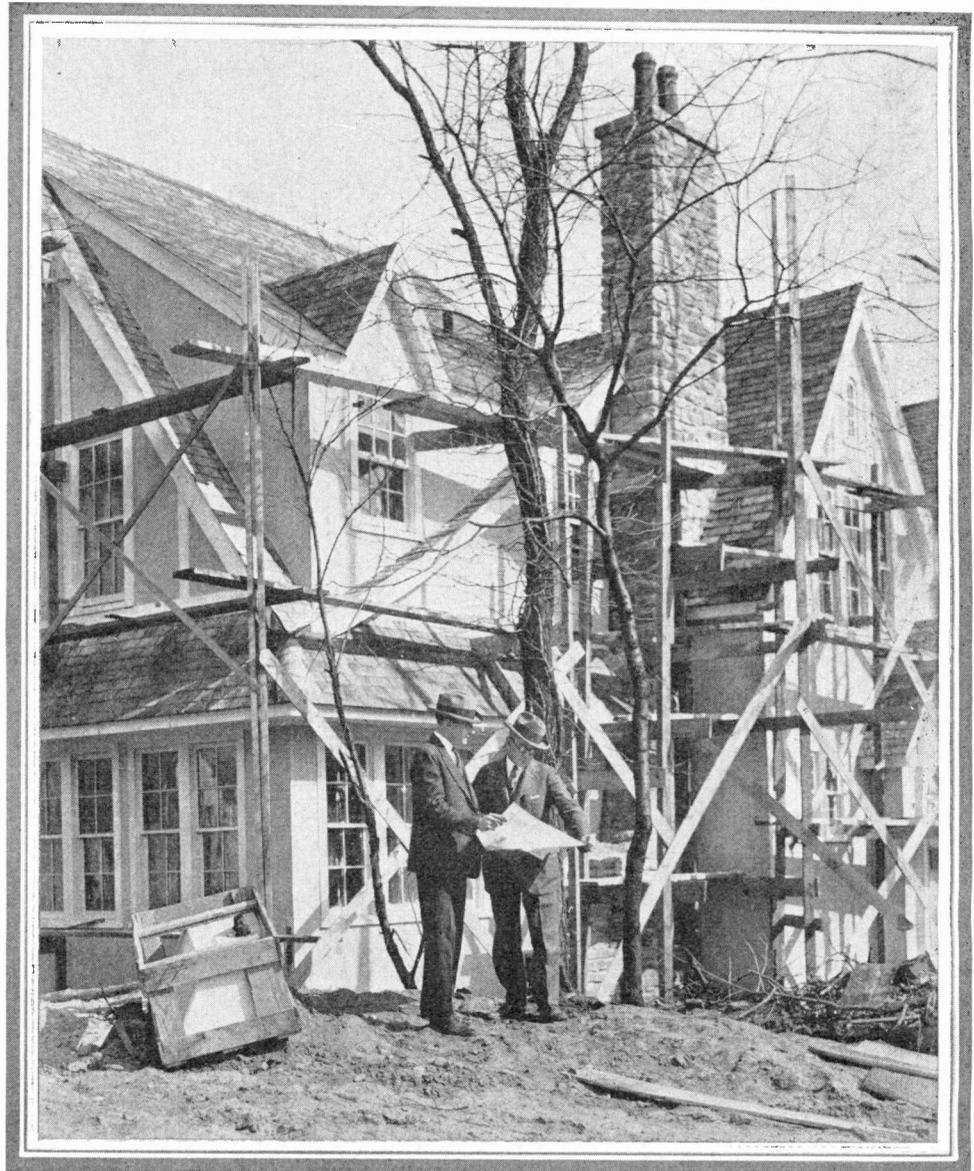
The question, therefore, still confronts the industry—"Does this procedure assume the proportions of an obligation if the public is to receive the full benefits of the broadcasting spectrum as it is now set up?"

FIRST *Sell the*

McCoy-Roberton goes after the new home-builder and gets \$5,700 extra business.

By
Ray V.
Sutcliffe

Merchants Who
Have Made Radio
Pay—No. 23



THERE'S profit in selling extra reproducers, but the best way to sell them is first to sell the extension wiring job—when the prospect's home is in the process of construction.

"The reason why this is necessary," declares L. T. Robertson, of the McCoy-Roberton Company, Milwaukee, Wisconsin, "is that a concealed circuit is an integral part of any multi-speaker installation. By seeing that the house is properly wired for radio, you have laid the necessary foundation for selling extra reproducers. Orders for them naturally follow. Few persons, these days, are going to stand for a lot of loose wires all over the house—hence reproducer outlets must

be provided. Houses thus equipped, according to our records, average 3.5 extra reproducers each."

Robertson's company, in 1928, did a gross radio business in excess of \$95,000. Six per cent of this volume, or \$5,700, is attributed to its wiring and extra-reproducer activities. Net profit was increased one per cent for the same reason. Billings for modern installation jobs are seldom for less than \$20—and frequently exceed \$70. These homes average four reproducer outlets and fifty per cent of them are also provided with two or more wall plates for the receiver.

The builder of a new home is a prime prospect for the live radio dealer, according to Robertson. Seventy-

WIRING Job

—then sell extra *REPRODUCERS*

five per cent of his radio wiring jobs are sold to new home owners or speculative builders.

He points out to them the economy and convenience of having the house wired for radio before it is sheathed and plastered. The installation is guaranteed for five years.

CULTIVATES CO-OPERATION OF BUILDING FIELD

IT IS very desirable that the radio dealer have proper liaison with the building, architectural and electrical fraternity. Friendly relations with them mean advance information and actual assistance in selling radio wiring jobs. Sometimes, it is even good policy to let the man who has the wiring contract run the reproducer circuits on a time-and-material basis, but under the supervision of the radio dealer. Robertson has found it worth while to circularize and contact personally all three groups. He emphasizes the enhanced value of the new home if it is adequately wired for radio.

A series of two-column advertisements on the builders' page of the local newspapers supplements these efforts. Each insertion brings from one to six inquiries. Naturally, the appeal of radio wiring finds its greatest response among the well-to-do.

HELPS SELL SETS AND ACCESSORIES

BY DEVELOPING its radio-wiring business, the McCoy-Robertson Company has, as a matter of course, helped the sale of sets and accessories. Naturally, extra reproducers are sold as a result of the wiring job.

"We get so firmly entrenched with a customer that he invariably buys his new set from us," Robertson says. "Also, the wiring job brings us a great deal of favorable publicity which ultimately results in set and reproducer sales."

Robertson's own home is a model of adequate radio wiring. He takes many prospects to it and points out the advantages of such an installation.

Although the main purpose of this wiring activity is that of increasing set and reproducer sales, it is a profitable department. Robertson's gross revenue from the wiring business exceeds 40 per cent. This is because the dealer, not the manufacturer, determines the mark-up when the customer buys wiring service.

ROBERTON Puts It Over

by Calling on owners of houses in process of construction

by Contacting architects and speculative builders

by Cultivating electrical contractors

by Advertising once a week on builders' page of local newspapers

by Taking Prospects to his own properly wired home

by Displaying radio wiring supplies in his store

THE typical cost sheet below, of a four-outlet job, using magnetic-type reproducers, illustrates the character of the material involved, and the profit possibilities in an activity of this nature. In this instance, the gross margin was \$58.60, or 43.6 per cent.

Samples of the materials itemized in this cost sheet are displayed on a special table in the main aisle of the McCoy-Robertson store. This collection of extension wiring supplies is grouped under a sign which reads:

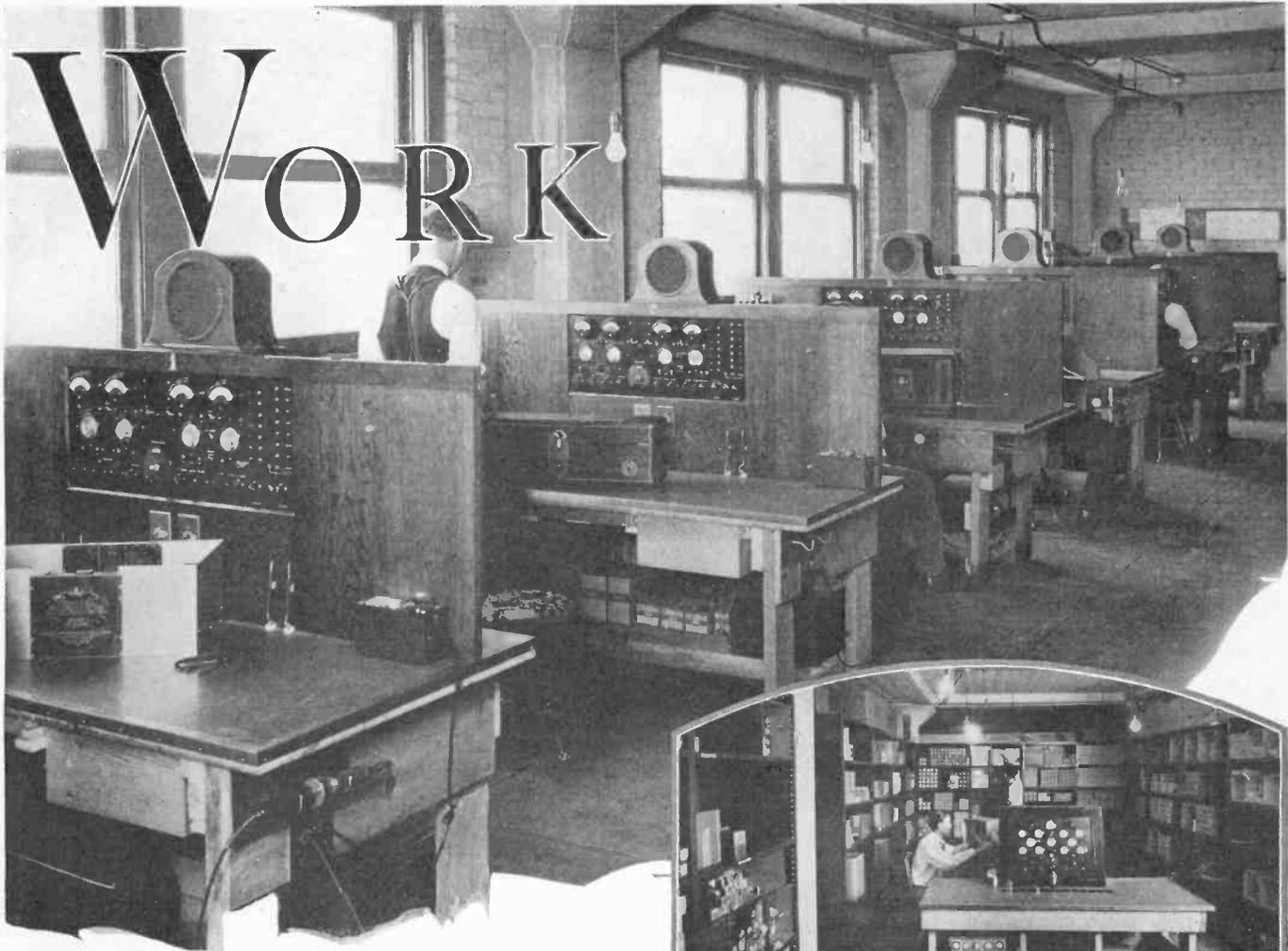
"To get the most out of your radio set have your home wired for extension reproducers. Ask us how these materials are used."

Attention is thus focused on a phase of radio which otherwise would seldom be mentioned. This display also includes two or three suitable reproducers, a ground and antenna plate and a flat wire outfit for running a single-reproducer circuit under a rug. Thus, by developing proper contacts and with suitable advertising and display, Robertson sells the radio wiring idea and extra reproducers.

Typical Radio Wiring Cost Sheet

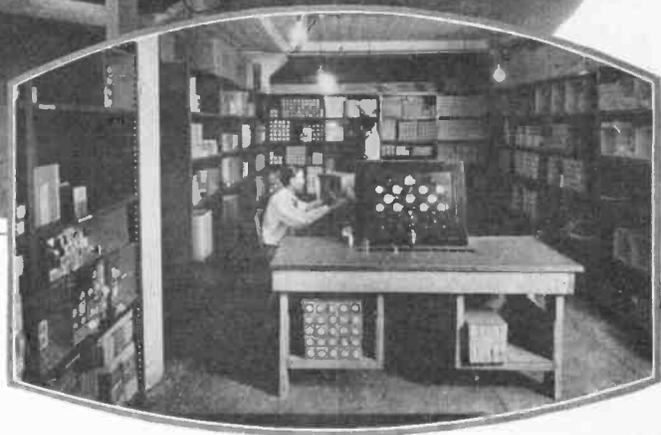
Material	Cost	List
Four magnetic-type reproducers.....	\$48.00	\$80.00
160 ft. No. 16 lamp cord.....	1.44	3.00
Four reproducer-outlet plates, with impedance units.....	4.80	8.00
Five reproducer plugs.....	1.50	3.00
One antenna, ground and reproducer plate.....	1.80	2.50
Four single-outlet boxes.....	.60	1.50
One double-outlet box.....	.25	.60
Two midget plugs.....	.36	.80
Aerial and ground installation.....	2.65	6.00
Loom, insulators and miscellaneous.....	2.40	5.00
Labor, ten hours, @ \$1.20.....	12.00	24.00
	\$75.80	\$134.40

WORK



Above: Six elaborate test benches of the California Radio Service Company, on which every circuit in a set is tested before installation.

Right: Tube replacements are kept down to a minimum by giving them every possible test on this twelve-meter checking board.



Take, for instance, the matter of tubes. When A.C. sets first were placed on the market, the California Radio Service Company shared with other dealers a tremendous amount of "grief." They were bewildering days. For a time, fifty per cent of the California organization's outside calls were traced directly to tube troubles. But that was not for long. Troubles from this source were soon cut down to the present low level of approximately 20 per cent, hardly any more than in battery-operated set days.

In tackling the tube problem, Mr. Buehler instructed the tube-testing department to be more rigid than ever in checking tubes. Every possible test was given tubes on a board containing twelve meters, so that it was fairly certain that if any trouble showed up later it would be due to abuse of some sort.

Careful tests were then made of the effects produced on tubes by the voltages ordinarily delivered by B eliminators that came with A.C. sets. In most cases, it was found that the power voltages ran so high they eventually paralyzed the last audio tubes, so proper resistances were introduced to cut B plus power down to approximately 155 volts. This saved the tubes, with no noticeable sacrifice of tone quality.

Installation men in turn were instructed to make careful tests of line voltages. It was found that with few

exceptions, voltages were fairly constant, but were either constantly low or constantly high,—usually constantly high. Fixed resistances were then inserted in the secondary leads of the A.C. filament transformers, so that voltages at the tube terminals would read: 2.3 volts for a '27 type tube; 1.3 volts for a '26, and 4.6 volts for a '71A. Such voltages allowed a reasonable margin of safety for fluctuations, and were found to be generally satisfactory for operation.

The tube situation was thus brought well under control. A glance over the remaining sources of trouble shows that customers themselves are largely at fault. Now, to cope with a situation in which we cannot fairly say, "The customer is always right," requires the earnest and intelligent co-operation of all branches of a dealer's organization.

Why does a customer expect his set effectively to cut through a local station whose towers are almost directly overhead? Why does he complain about this, that and the other thing when the only real trouble is that after his first flight of enthusiasm, the monthly payments begin to look too big?

This carries us back to the sales department. While a salesman is not expected to have technical knowledge, he can do much to cut down service calls if he will avoid overselling—if he will sell a set that is most suited to a

customer's needs and pocketbook, and represent it honestly as to what it will actually do in performance.

UPON the man who installs the set rests the greatest responsibility—that of consummating the deal. If the customer is going to “kick,” he will usually start kicking now. If he has grown cold since he signed the contract, the installation man must resell him. It is a job that requires diplomacy as well as technical proficiency—salesmanship as well as ability to set up the instrument. Before he leaves, he must make sure that the customer is satisfied.

Upon this man also rests the responsibility of instructing a customer in the operation of the set. In the days of battery-operated sets, this item was of great importance. Most of us well remember when more than half of the service calls were caused by customer-ignorance or carelessness in caring for accessories.

But those days are gone forever, and the owner now has practically no “care” of the set. The installation man's educational work is entirely along the line of instructing the customer and his family in how to “operate” it. As an aid, he leaves a manufacturer's instruction book with certain paragraphs marked for particular attention.

Three days later, a service man goes back on a goodwill call, to answer questions that have arisen in the customer's mind, review the instructions, and take care of any trouble that may have developed. This unexpected call has done much to eliminate “grief” for the California organization, and has been a great factor in building good will for the service company and the ten stores it represents.

VARIOUS electrical and mechanical failures that account for approximately 15 per cent of the outside calls have been kept at this low figure by the practice of testing every piece of merchandise before it is delivered.

To carry on this work, the California company maintains six complete test benches on which are checked every circuit of a set, even down to the fine points of determining the actual impedance of transformers. Sets are tested by both meters and broadcast programs.

The efficiency made possible by a completely equipped radio set test board is shown by the fact that although business has doubled since the present six boards were installed, no new men have been added to this department.

From the test bench, a set goes to the refinishing department where it is polished or refinished, as advisable. Before delivery, the set and equipment are checked as to completeness and physical appearance.

Another cause of service calls is lack of selectivity. Although every set is carefully balanced with an oscillator before it is installed, there are many localities in which the average set will not work at all satisfactorily. Salesmen are expected to know the conditions in the neighborhood of the customers' homes sell sets that will work most satisfactorily, and tell them frankly what to expect in the way of difficulties.

Installation men in turn are expected to sell customers on the idea of special aerial and ground installations if the territories are exceptionally bad. A truck is maintained particularly to care for this work.

The failure of customers to be at home at appointed times results in another 15 per cent of the service men's calls,—this in spite of the fact that definite appointments are made when customers request service.

When a set owner fails to keep an appointment, a card is left at the door, reading: “In compliance with your order, our representative called to day at — but found no one at home. Kindly phone Metropolitan 1441 and advise us when he may call again.”

WHEN an outside call is made the service man completely checks all circuits of the set, regardless of the original source of trouble. Meter readings are noted on a “certificate of inspection,” one copy of which is left with the customer and another returned to the office where it is filed by serial number. A duplicate card made out in brief is filed alphabetically according to the customer's name.

The time required in making a complete check is short, since each service man is equipped with the latest type A.C.-D.C. set tester. The instrument is his own property and is sold to him at the company's cost. Payment is taken out of his semi-monthly pay check at the rate of \$10 a month.

In addition to testing equipment and a small stock of accessories, each outside man is supplied with replacement parts that are most in demand. Fixed resistances, transformers and condensers can usually be replaced without bringing sets into the shop.

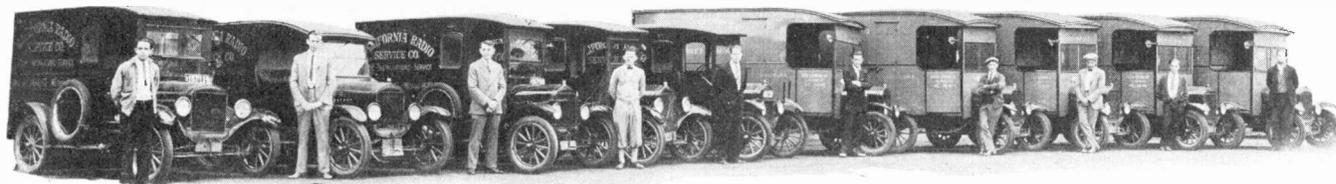
When a careful check of a set shows that the trouble is caused by outside interference, that fact is reported to the office, and a colored pin is stuck into the corresponding location on a large wall map. When a number of pins indicate an “interference area” in a neighborhood, the matter is taken up with the interference committee of the Radio Trades Association of Southern California and steps are taken to clean up the district.

THE California organization consists of a force of 59 men, 22 of whom are outside service men, eleven in company trucks and eleven in their own cars. Salaries for service men range between \$125 and \$150 a month, with a bonus for accessory sales.

The efficiency with which the men work is shown in the small number of free service calls required. They make an average of only three calls per set, two of which are the original installation and goodwill calls.

The experience of the California organization shows that an outside man can successfully complete nine calls a day. At one time the men were expected to make fifteen calls, but it was found that many jobs were slighted, and the number of “repeats” was too high.

There are few organizations as large as that of the California Radio Service Company, but many radio dealers may be able to cut down their service costs and give their customers greater satisfaction by considering some of the methods of this Western radio service company.



Selling COMBINATIONS

—an ART Unto Itself

Specially trained man needed for this job; but worth the effort

SELLING combinations is an art unto itself. The reason so many dealers fall down on the job is because they treat it too casually. They do not realize half the advantages of a combination unit. They know practically nothing about the beauty and scope of modern record selections. But unless the salesman knows phonograph selling and is enthusiastic about recorded music, four out of five possible "combination" customers will be lost to his firm.

More than ever, since radio's advent, prospects must be "warmed up" to the fact that there's still a great big place in the domestic picture for phonograph music. That the dealer who knows his groceries can do business at the same old stand—or, conversely stated, that lack of combination orders is to some degree his own fault—is borne out by the recent experience of the Kipp Music Store, Manhattan, Kan., a farming and education center of 15,000 inhabitants. The preceding observations reflect the sentiment of "Jerry" Taylor, manager of Kipp's radio department.

"To succeed with combinations first realize the need for a specially trained salesman. Tom, Dick and Harry won't do. You must pick a man who knows records or who is willing to master the subject. If it is a small establishment the dealer himself should first school himself, by putting a combination in his own home, acquiring a little first hand enthusiasm and studying the record catalog," says Taylor.

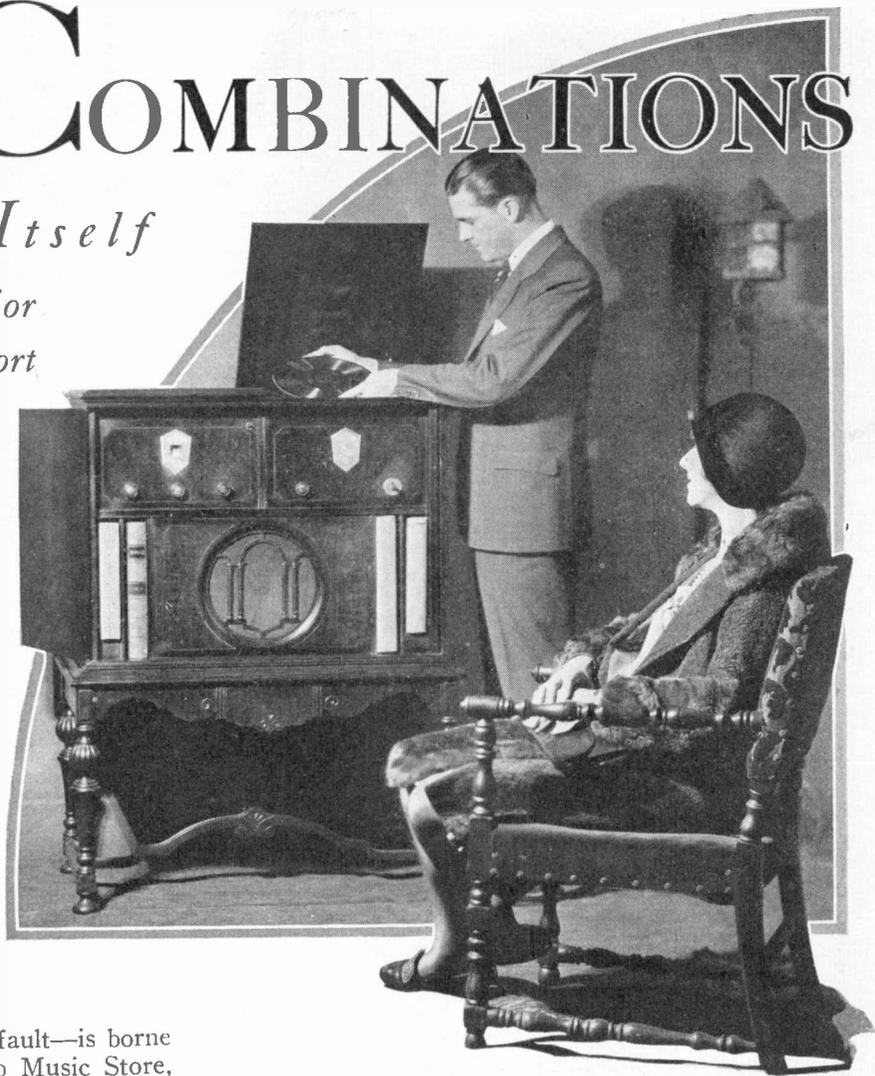
THE second factor is product. Two numbers should be carried in the popular priced range. One for about \$280 and a model at approximately \$400.

Kipp's combination specialist sold eight duo-outfits at \$400 and ten at \$285 within a recent 60-day period. Over half of this \$6,050 volume went into homes of well-to-do cash buyers.

Eighty per cent of this concern's leads are received through store contacts or because of its favorable reputation. Practically all orders for combinations are closed without the necessity of a home demonstration.

The final factor of this activity is that of a well rounded sales talk. The following arguments are given in the order in which they generally are presented to the prospect:

1. The alluring tonal quality obtainable from electrically cut and reproduced records. The salesman places



his customer in a receptive frame of mind by first playing one or two outstanding selections. He explains that the machine he is demonstrating will even bring out unsuspected notes in the older type of records.

2. It provides what you want in music, when you want it.

3. When static is particularly troublesome or station programs are unsuited to the listeners' mood—pick your own program. The availability of phonograph music is especially appreciated when entertaining guests.

4. The desirability and satisfaction of a well chosen record library. To have at one's command Schubert's Unfinished Symphony or his Winterreise song cycle is to possess something of as much value as a rare first edition of some old classic.

5. The practical economic angle. A fine piece of furniture and two musical instruments cost little more than the price of one.

6. It helps the children with their musical studies. Many parents duplicate the educational records played in the class room and thus make it possible for son or daughter to "review" his or her lesson at home. The salesman plays one of these numbers.

7. The educational features for adults of well chosen records.

"Combinations," concludes Mr. Taylor, "appeal to the quality trade. They materially raise the average unit price per sale without increasing, in like proportion, the selling cost."

Radio Retailing

A McGraw-Hill Publication

JANUARY, 1929

Vol. 9, No. 1

Markdowns

Markdown—a Devastator

A CERTAIN dealer of our acquaintance bought ten radio sets at \$100 each. His operating expense was 30 per cent. Seven of these sets he sold for \$150 each; two went for \$140 each and one he sold at cost. How much money did he make?

The answer is just *one dollar*.

Markdown is a devastator. It kills net profits.

When tempted to cut prices below legitimate markup first take another look at the above-mentioned example:

	Total Selling Price	Cost	Gross Margin	Selling Cost	Net Profit
7 sold at \$150.....	\$1,050	\$700	\$350	\$315	\$35
2 sold at 140.....	280	200	80	84	Loss 4
1 sold at 100.....	100	100	00	30	Loss 30
<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
10	\$1,430	\$1,000	\$430	\$429	Profit \$1

Seven were sold at full price, two at a reduction of only \$10 each and on one the dealer got back his investment—yet he cleared but \$1 when the smoke had rolled away. *Markdowns kill net profits.*

Concentrate Your Sales Efforts

IF YOUR store is in the right location the majority of your customers and prospects should be within a comparatively small area. There is no fixed rule that can be quoted as to the territory to be taken in by a dealer, but it cannot be too strongly stressed that all the prospects nearest the store should be thoroughly ferreted out before any expansion of sales activities is considered.

Business will prove more profitable if you are well known to a group of people in your own locality rather than to a greater number of people spread over a large area. It costs money to send salesmen and service men around and it also reduces your profits when goods have to be delivered too far. So, before you attempt to sell a set to a customer located some distance away, try and estimate just how much the sales effort and delivery will eat into your profits.

"It Is Time to Scrap All Receivers More Than a Year Old"

THE new broadcast allocations as made by the Federal Radio Commission have provided at least one merchandising opportunity for the radio trade—and that is, apparently, that the new set-up has made practically obsolete many receivers purchased prior to 1928.

The radio industry has before it, therefore, a brand new sales idea to present to the public—namely, in order to enjoy perfect reception under the Commission's plan, the latest models of selective receivers must be used. Perhaps it is opportune for the industry to tell the public that the time has come to scrap all receivers more than a year old.

Do the New Allocations Require S-L-F Tuning?

WHETHER the industry will be forced to the universal adoption of some form of straight-line-frequency tuning because of the Federal Radio Commission's broadcasting plan is a question that is receiving unusual attention at this time.

Certainly it has been proven that sets using the old type of semi-circular plate condensers do not efficiently receive the stations in the lower half of the dial. And it is equally true that up-to-date sets using some form of the straight-line principle are making reception so good that their owners are enthusiastically approving of the reallocations.

The Radio Commission has received no little unjust condemnation from owners of old style sets which are unable to straighten out the tangle of stations located "down below." This condition naturally gives rise to the question of the radio industry's responsibility to give the public radio sets which will receive stations in their even tens-of-kilocycle separation as planned out by the Commission.

An article elsewhere in this issue takes up the question in some detail. The industry is apparently unanimous as to the desirability of straight-line tuning with the dials marked off in kilocycles, but is divided as to the practicability of using such condensers. It is a problem which should receive serious consideration in order that a satisfactory solution may be found.

Another Entertainment Device for Dealers to Sell

CHICAGO concern has marketed a home talking movie machine. Here is a logical supplementary line for the radio and music dealer. There is no other outlet that is more naturally fitted to merchandise this new development, since its tubes and amplifiers are best known to the radio dealer. Certainly most of the present outlets for cameras and film supplies know nothing about them. And the service department of the radio outlet is best equipped to take responsibility for the service problems that will undoubtedly follow in the wake of public acceptance of this new home entertainment instrument.

It will probably not be long before the home talking movie outfit will be combined with the radio receiver in a compact console so that one amplifier will serve both purposes. This will bring it more than ever within the scope of the radio trade. There is every reason to believe that this development will prove to be a most profitable line and radio merchants should see the wisdom of taking early advantage of the opportunity for increased business which it offers.

KILL *Net* PROFITS

Wanted—A 32-Volt Receiver

RURAL dealers want a radio receiver which operates from a 32-volt farm lighting plant. There are 6,000,000 farms in this country, of which it is estimated that 175,000 are equipped with farm-lighting plants. Unfortunately, there is no receiver on the market at the present time to fill this need.

A reasonably priced, 6-tube receiver could be made

which would use the 201-B tube, as this highly developed D.C. tube uses but $\frac{1}{2}$ ampere. The 32-volt system could be used for the A-supply, the C-supply, and part of the B-supply. The receiver could be provided with two terminals in the rear so that additional dry B-batteries could be connected in order to give the proper voltage for satisfactory operation.

Here is a worthwhile market which is just begging for merchandise and is being entirely neglected.

Optimism Prevails in American Business

*By Robert M. Davis, Statistical Editor
McGraw-Hill Publishing Company, Inc.
New York*

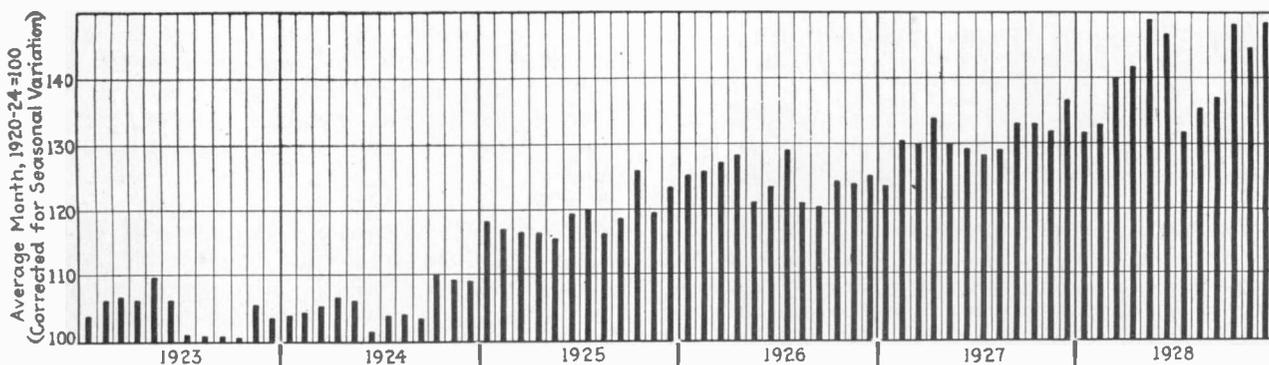
AMERICAN business faces the new year with a normally high degree of confidence and optimism. At the center of this favorable sentiment is the personality of Mr. Hoover. The forthcoming administration promises to be essentially sound from a business standpoint, and this mental state of the nation gives to business a hope and an optimism which foretells advancement and prosperity.

In line with expectations, retail sales volume during the last quarter of the year exceeded that of the same period a year ago by comparatively wide margins. Merchandising concerns throughout the country handled the largest volume of Christmas business on record. Sales of leading chain-store systems have apparently exceeded those of 1927 by a margin of about 20 per cent for the year as a whole, and virtually as large an increase was recorded by each of the two major mail-order concerns. Department store Christmas sales were greatly enhanced by reason of the extraordinary pre-Christmas business, and have apparently exceeded those of last year by

about 5 or 7 per cent on the average. While profits have probably not expanded in direct ratio to the increase in sales, 1928 earnings, in the cases of almost all the larger companies, will materially exceed those of 1927. This gives the new year an auspicious start.

Business in the radio trade during the final quarter of the year was of unprecedentedly large volume, the sales exceeding those of any other three-month period in the industry's history. While radio sales doubtless will experience some contraction immediately following the holiday season, it is probable that the recession will be less severe than that normally witnessed.

Favorable factors unquestionably dominate the outlook for the future. Public confidence is prevalent, the domestic field is far from exhausted and radio exports have crossed the \$10,000,000 mark for the first time with further foreign expansion in sight. Television, talking movies, and other developments make the future trend of the radio industry one of expansion into similar home entertainment products.



Tracing the Growth of Check Payments from 1923 to 1928

Practical Service Methods



Socket or Dry Battery C-Supply?

WITH the advent of the power tube, necessitating the use of high-plate voltages, the matter of correct grid bias has become one of major importance, both on the grounds of economy in operation and quality in reproduction.

In some of the factory-built B-power units, no provision is made for providing the necessary C-voltages, and the set owner must, perforce, use dry batteries for biasing the grids of his amplifier tubes. He is inclined, perhaps, to regard this as a hardship and to feel that the manufacturer of the particular eliminator he is using, has been a bit remiss in his duty to the radio public.

Now, as a matter of fact, the manufacturer of his B-power device could, without greatly increasing the cost of his product, provide C-voltage taps. But he prefers not to do this for he knows that in the case of the average non-technical set owner, results would damage rather than enhance his prestige. As it is, the majority of complaints he receives, relative to the operation of his power unit, are due to "motor boating." Now, if he were to provide C-voltage taps, the complaints of this score would be enormously increased.

Furthermore, the incorporation of a C supply in B-power device, drags down its overall voltage, thus reducing its effectiveness where power tubes, particularly, are employed. And last, should there be the slightest trace of a.c. hum in the power unit output, this would become greatly exaggerated, for the reason that the a.c. component would be fed directly into the grids of the amplifier tubes and amplified along with the signal.

Tests recently made by engineers of the Diamond Electric Corporation indicate that any residual a.c. hum in the output of a power unit has a tendency to modulate the incoming signals, an effect that frequently accounts for the nerve-wracking and sepulchral depths of some speakers operating from rectified a.c. For these reasons, manufacturers are more than justified in building their B-power units without C-voltage taps.

Considered from all angles, it is preferable for the set owner to use C-batteries even when the necessary C-voltage taps are provided, especially as their initial cost is slight. It should be remembered that no current whatever is drawn from a battery used in the grid circuit of a tube and, consequently, it will last as long as it stands idle.

Take Along a Testing Set and Sell While Servicing

The sales opportunity which presents itself during practically every service call is a well-known fact, but does the average dealer appreciate how really golden this opportunity is when worked to the utmost of its possibilities? One way of working it is with a testing outfit, according to Harold

Conducted by
HENRY W. BAUKAT
Technical Editor

Snow of Seldon, Ill., because it creates that feeling of confidence in the dealer's ability—so necessary as a basis for suggesting a new power tube, a special detector tube, new batteries, or other parts.

"I sold at least twenty modern speakers so far this year," he states, "by always making it a point to take one into the house with me on every service call. The use of such a simple instrument as the "compara switch," which permits me to make a quick change from the customer's speaker to my sample, has proved invaluable in this activity.

"I allow \$2 for the old speaker and scrap it," he continues, "or better still I sell an extension installation to the kitchen, bedroom or veranda, on the strength of the suggestion that he or she use the original speaker in this auxiliary location."

Snow sells on an average one new speaker to every nine service calls and disposes of one or more tubes, by explaining to the customer the meaning of the instrument readings, on practically every visit.

Standard Forms for W.R.T.A. Members

The Wisconsin Radio Trade Association, Milwaukee, Wis., is supplying its dealer members with three interesting sales and service forms. They are an interference service report and questionnaire; a radio installation receipt and guarantee; and a guarantee coupon slip. The latter form has three service coupons attached, each good

The forms shown are:

- Radio Installation Receipt and Guarantee:** A form with fields for Date, Radio Service, Make, Model, Serial No., and a section for Radio Tubes. It includes a statement: "A satisfactory installation has been made at the customer's home according to the specifications of the manufacturer." and a signature line for the technician.
- Standard Radio Apparatus Guarantee:** A form with fields for Name, Address, and a section for Guarantee details.
- THREE SERVICE CALLS FREE:** A coupon form with fields for Name, Address, and a section for service call details.

for one service call if requested within 60 days from the date of the installation. Practically every radio merchant in Milwaukee is endorsing standard customer relation principles which has eliminated many costly service calls and misunderstandings.

Curing Interference from Farm Lighting Plants

Reduction of interference from farm lighting and isolated gasoline electric generating stations is the subject of discussion in an article in Fada-Sales. The disturbances which may cause difficulty and several means of reducing the interference are detailed.

On farms and other isolated points, electricity is often generated by Delco or gasoline generating plants. Such generators will occasionally cause serious interference with radio reception.

What these causes are and how they may be corrected are of interest to owners of sets on farms, to radio fans in general and to the trade. Dealers are often called in when such trouble arises and to them and their servicemen the following advice will be of especial benefit.

Five causes of possible disturbances are:

1. Spark at spark plug of engine.
2. Spark at distributor.
3. Sparks in relays and governing mechanisms.
4. Sparking at commutator of generator.
5. Motors or other appliances connected to the load.

That these disturbances affect the receiver by producing noises of one kind or another is the explanation given and the following are the routes by which the noises reach the receiver: (a) Conduction along the light wiring. (b) Radiation from the light wiring which acts as a transmitting antenna. (c) Radiation of the disturbance caused by the spark from the high tension wiring or from the distributor wiring.

HOW TO CURB INTERFERENCE

Here are the ways as to the general methods of preventing the interference referred to in the receiver:

1. Prevent the disturbances themselves.
2. Confine the disturbances and thus prevent radiation.
3. Convert them into a frequency which will not be in the broadcast band.

"In the case of relay contacts or switch buzzer contacts or the like, disturbances can be prevented by shunting the contacts with a 1-mfd. condenser and 50-ohm resistance. This prevents the formation of the disturbance.

"In the case of generator commutators, if two condensers are connected across the terminals of the brushes, and the center point is grounded, it will tend to prevent the disturbance and any high frequency current generated will be shunted to ground and so prevent radiation from the electric wiring.

"In the case of the high voltage wiring, radiation of the disturbance will be reduced by shielding all of the high voltage wiring and similarly the low tension wiring.

"By installing drainage condenser on the power wiring a path to ground for high frequency current will be provided and the system will be made a poorer radiator. This will reduce the interference which would be radiated from the power wiring.

"If the disturbance from the spark plug still exists and it apparently is more severe

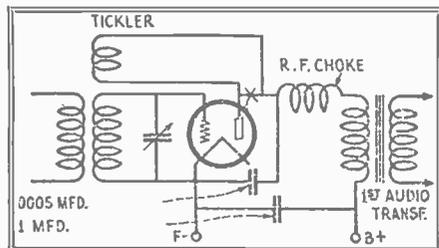
on some wave lengths than others, the wave length or frequency of the disturbance can be changed by adding a shielded choke coil in series with the shielded spark plug lead at the spark plug. This coil may consist of a few turns of No. 16 wire wound on a 1½-inch form with a small tin can mounted over it. In many cases a 20,000 ohm carbon resistor can be used to replace the choke coil—in which case the shielding may be omitted. This scheme prevents the formation of the high frequency currents.

"Some or all of the schemes may have to be employed in order to eliminate the disturbance sufficiently for the particular installation and requirement."

Why and Where to Use By-Pass Condensers

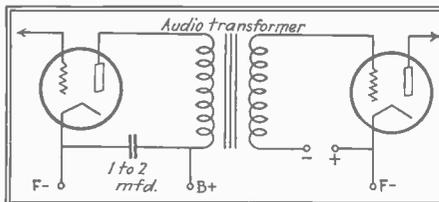
Although the better grade manufactured receivers today are including more and still more by-pass condensers as a means of obtaining maximum efficiency, the value of this practice is not fully appreciated. It is not realized that both radio-frequency and audio-frequency energy should be provided with the shortest possible path in all cases, avoiding circuitous and high-resistance detours through batteries, B-power units, transformer windings and so on; and, furthermore, that audio frequency should be kept out of the r.f. end, and radio frequency should be kept out of the a.f. end.

The accompanying diagrams represent typical cases of good by-pass practice for



those seeking utmost efficiency in reception and amplification.

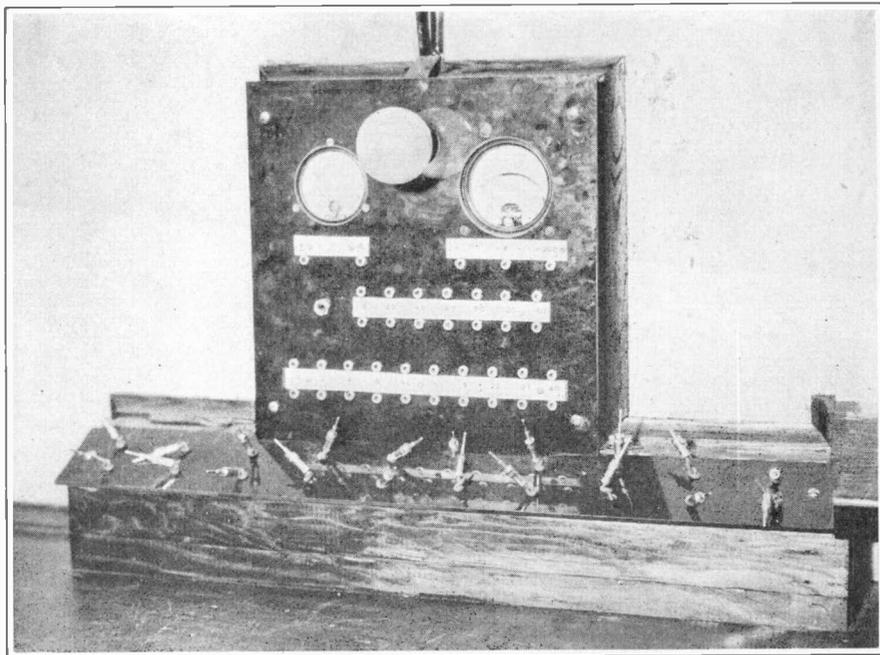
To begin with, we have a detector and first audio stage, showing a means of keeping the radio-frequency component out of the transformer primary, and keeping the audio-frequency component out of the high resistance B-battery or B-power unit. A suitable r.f. choke coil is inserted between the plate of the detector tube and the



transformer primary, together with a small by-pass condenser or micadon on the plate side of the r.f. choke, connecting with the minus filament. The audio frequency energy is by-passed by a 1 mfd. condenser between the plus B and the minus filament, as shown, which improves tone quality and usually the volume. The by-pass micadon for the r.f. end invariably provides greater sensitivity and volume, particularly with a regenerative detector which may sometimes fail to oscillate freely in the absence of such by-passing.

Next we have by-passing for the audio transformer, comprising a 1 or 2 mfd. filter condenser between the B plus and the

(Continued at foot of next column)



The above test panel used by the Rowley Electric Company does away with all messy cords. Its construction is explained in the item below.

A Neat and Handy Test Panel

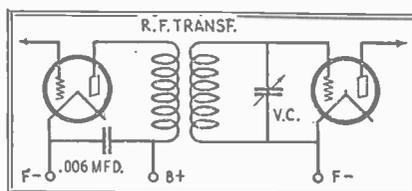
In order to do away with the usual tangle of cords and odds and ends of wires which are usually found about a test bench, the Rowley Electric Company of Pasadena, California has worked out a simple test panel in which no cords are visible at all.

It is equipped with a number of pin jacks which are connected on the back of the bakelite panel to a 6-volt Philco power supply, supplemented by dry B-batteries in such a manner that it is possible to get 2, 4 or 6 volts A-battery, 22½, 45, 67½, 90, 135 or 180 volts of B-battery and 4½, 9, 16½ and 22½ volts of C-battery merely by plugging into the proper jacks as indicated by the labels on the front of the panel.

For the purpose of setting up connections between the power supply and a radio set under test, a number of cords are provided, equipped with Yaxley Junior cord tips at both ends. These cords are about six feet long and are looped from the bakelite strip shown just beneath the panel down back of the test bench, being kept tight by means of a No. 500 strain insulator hanging in the

minus filament leads. This by-pass practice is standard in the best types of amplifier and results in better tone quality and a reduction of background noises whether with B-power unit or run-down B-batteries. Any amplifier not so equipped may be materially improved by by-passing all B plus connections to the minus filament.

Lastly, we have a r.f. by-pass arrangement which is rarely employed, yet which will increase sensitivity and volume to a considerable degree in most cases, especially when B-battery or B-power unit offers considerable resistance. Here a micadon of 0.006 mfd. should be employed as shown.



loop of each cord, very much like the weight on a PBX telephone cord.

In setting up connections, the plug on one end of the cord is inserted into the proper jack on the board, the plug on the other end being connected with the proper terminal of the radio set. After this connection is made, the insulator weight is raised, but still keeps the cord straight and tight. All A, B and C connections are set up, in this way, the test is completed and the connections are "knocked down" by pulling out the plugs and allowing the cords to go back to their normal position, no loose cords being in the way at any time. The confusion as to which cord is which and the common tangle of wires are completely done away with.

The meter shown at the left of the panel is a 10-volt A.C. voltmeter, the terminals of which are brought out to the pin jacks immediately below. The meter on the right hand side of the board is a double scale 0-8 v. and 0-200 v. D.C. voltmeter with a resistance of about 750 ohms per volt. This meter is used to test B battery eliminators and the like. The lamp in the middle furnishes resistance in the B-battery circuit.

At each end of the test bench there is a separate aerial and ground connection. One of these is 100 ft. long, with a regular water pipe ground. The other aerial is about 50-ft. in length and was installed in conjunction with a Preston DX ground, buried under the floor. This equipment makes it possible to test sets under various operating conditions.

Supplementing the equipment is a Jewell improved portable tube tester capable of testing both the D.C. filament tubes and the new A.C. type tubes.

In practice, the equipment has proved most satisfactory and quite a labor saver.

Testing Speaker Windings

Some service men have been making it a practice to test speaker windings by connecting them directly to 110 volts A.C. and listening to the A.C. hum. This is not such a good idea as it puts an unnecessary strain on the windings. If you must use this system place a 10-watt carbon lamp in series.

Radiola Sales
by

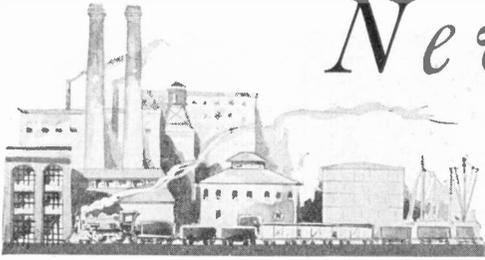
RCA dealers
made a new high
record in 1928

—and 1929
will be a still
bigger year... ♦♦♦

RADIO CORPORATION OF AMERICA
New York Chicago Atlanta Dallas San Francisco

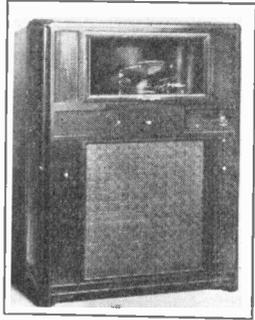
RCA RADIOLA

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.



Coin Operated Victrolas

The Victor Talking Machine Company, Camden, N. J. has announced two new reproducing instruments, especially designed for commercial use and completely equipped for coin-in-the-slot operation.

One is an Orthophonic model, with a full sized Orthophonic tone chamber. The other is an Electrola, which reproduces records electrically, and can produce sufficient volume for a large café or dance hall. Additional speakers can be attached to this instrument. The coin-operated Electrola may also be used as a power speaker for an independent radio set.

Both instruments contain the new Victor automatic record changing mechanism which plays twelve records, either ten inch or twelve inch, without operating attention. They are housed in cabinets of walnut veneer. The playing compartment is illuminated.

The Orthophonic model lists at \$550 and the Electrola model at \$950.—*Radio Retailing*, January, 1929.

Dry A-Condensers

The Dubilier Condenser Corporation, 4377 Bronx Boulevard, New York City, announces dry A-condensers designed for use in A-power circuits. These polarized condensers are designed for use in all circuits employing unidirectional or direct currents up to 15 volts, where high capacities are required. The PL 917-A dry A-condenser units are rated at 2,000 mfd., and are especially designed for use in A-battery elimination work. They are available in three sizes of 2,000, 4,000 and 6,000 mfd. capacity.—*Radio Retailing*, January, 1929.

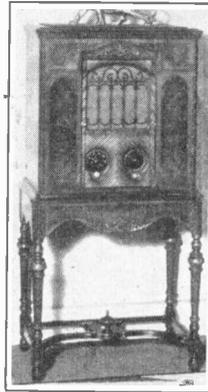
Pick-Up

An improved model of the "Merola," a radio-phonograph pick-up, has been brought out by the Crosley Radio Corporation, Cincinnati, Ohio. It is furnished with a switch for change-over from radio to phonograph and has the necessary adapters and volume control. The intended retail price is \$15.—*Radio Retailing*, January, 1929.

Reproducers

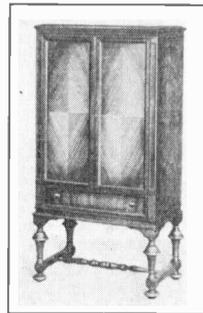
Three new reproducers have been introduced by the Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y. Models 16 and 17 are magnetic cones with diaphragms of the central suspension type. The 16 is a pedestal model of mahogany and lists at \$40, and the 17 is the wall type, selling for \$35.

Model 18, illustrated, is a dynamic reproducer. It has field excitation of from 15 to 18 watts. A wire for connection to the rear panel of receivers Nos. 734 and 735, allows control of the speaker from the set. The cabinet is of American walnut and it lists at \$150.—*Radio Retailing*, January, 1929.



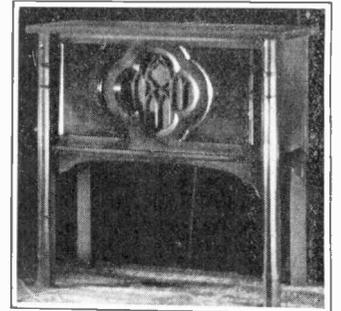
Dynamic Reproducer

A dynamic reproducer in the table cabinet style has been placed on the market by the United Reproducers Corp., Rochester, N. Y. It is of Gothic design, finished in walnut tones, and is 30 in. high by 30 in. wide by 14 in. deep. The diameter of the cone is 9 in. The intended retail price for either 25-40 or 50-60 cycle, 110 volt A.C. operation, is \$90; for 6-8½ volt, 32 watt farm lighting current or 110-volt D.C. operation. The price is \$75.—*Radio Retailing*, January, 1929.



Cabinet

A cabinet of the chest type, known as model 155, has been announced by the Red Lion Cabinet Company, Red Lion, Pa. It is designed for Atwater Kent sets 40, 42 and 46 and is equipped with a five-ply baffle board for use with the A-K dynamic and E speakers. The sliding doors are made of angle-matched wood with a panel on either side in contrasting tones. The intended retail price is \$47.50.—*Radio Retailing*, January, 1929.



Radio Time Clock

The "radio switchman," an automatic control clock for radio sets, has been placed on the market by the R-V Manufacturing Company, Marshfield, Mass. It is a small spring driven clock into which an electric switch has been incorporated. It may set manually or by means of an automatic feature. The case is octagonal in shape and finished in dark brown. The electrical rating of the switch is set at 200 watts on 110 volts. Special types may be obtained to handle up to 660 watts. The intended retail price is \$7.50.—*Radio Retailing*, January, 1929.

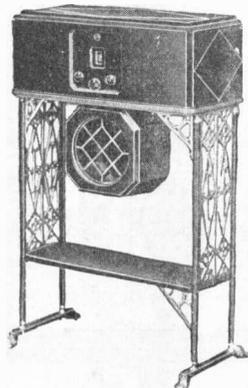
Radio Table for Eveready Sets

Radio tables especially designed to accommodate the Eveready A.C. sets have been placed on the market by the Robert Findlay Manufacturing Company, Inc., Brooklyn, N. Y.

Model 21-2, of modernistic design, accommodates the metal set No. 2. It is finished in green and dull silver to harmonize with the receiver. The intended retail price is \$20.

Model 21-1 is designed to accommodate wooden sets, Nos. 1 and 3. The intended retail price is \$20.

By a mechanical arrangement the Eveready speaker can be placed in an underslung position in the console of the table.—*Radio Retailing*, January, 1929.



Electric Phonograph Motors and Pickups

The Signal Electric Manufacturing Company, Menominee, Mich., is now making the following products: an electric phonograph pick-up, equipped with volume control and both A.C. and D.C. adapters. This has a retail price of \$13.

An electric phonograph motor on the induction type, equipped with a speed control, automatic stop and turntable. It retails for \$40.

An electric graphomotor which consists of the electric motor and pick-up, installed in a walnut cabinet and equipped with speed control, automatic stop and phono-radio switch, is also made. It is a table model and sells for \$70. The graphomotor may also be had ready for installation in a console. It is equipped with slides so that it may be pulled out of the cabinet when in use. The intended retail price is \$65.—*Radio Retailing*, January, 1929.



Plug Connectors

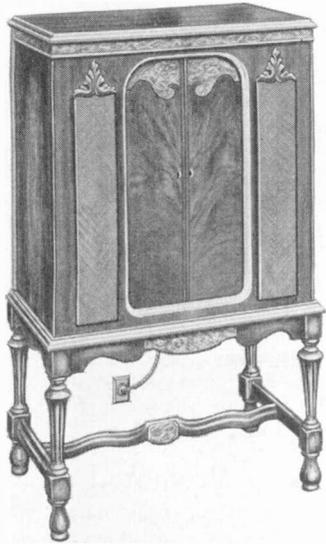
The heavy duty "multi-plug" made by Howard B. Jones, 2300 Wabansia Avenue, Chicago, is convenient to use where it is desired to run all connections to the set in one cable. Each connector forms contact over an area of ½ in. x ½ in. It may be had in multiples of two contacts up to sixteen.—*Radio Retailing*, January, 1929.

Power Amplifier

A power amplifier combining a National heavy duty B-power supply with three stages of resistance coupled amplification, with a 210 power tube in the last stage, has been added to the line of the National Company, Malden, Mass. A 281 rectifying tube is also employed. The intended retail price is \$85, without tubes.—*Radio Retailing*, January, 1929.

Dealers to SELL

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



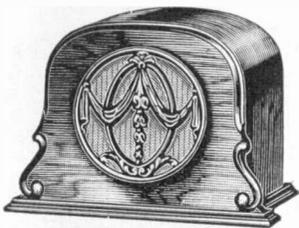
A.C. Receivers

Two new console models have been added to the line of the Gulbransen Company, 3232 West Chicago Ave., Chicago.

Model 270 utilizes eight tubes including the power tube. It stands 48½ in. high and is 25½ in. wide. The intended retail price with magnetic speaker, but less tubes, is \$245; with dynamic speaker, \$280.

Model 360, above, has seven tubes including power tube. The height of this cabinet is 44½ in. and it is 26 in. wide. The intended retail price with magnetic speaker, but less tubes, is \$192.50; with dynamic speaker, \$222.50.

Both models have sliding doors, the bottoms of which are slotted and felted and ride on iron rails, so that they open quietly and smoothly.—*Radio Retailing*, January, 1929.



Dynamic Reproducer

A dynamic reproducer has been announced by the Thorola Radio Products, 110 East 21st Street, Chicago. A heavy baffle board of solid walnut is used for tone and depth. The cabinet is of solid walnut. For the 110-volt A.C. model the intended retail price is \$55; for 6-volt battery operation, \$50.—*Radio Retailing*, January, 1929.

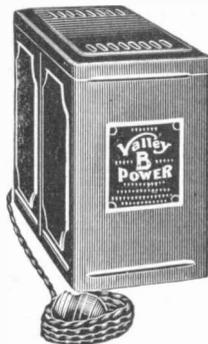
Reproducers

Both dynamic and magnetic reproducers are among the new products announced by the Empire Electrical Products Company, 141 Wooster Street, New York. Model 666, called the "Futurist," is a magnetic cone, 24 inches in diameter. It retails for \$22.50.

Model 20, also a magnetic cone, is incased in a cabinet of walnut with a carved grille. The intended retail price is \$25. The same speaker in a smaller cabinet is \$19. The complete unit assembly chassis as used in these models is \$14.75.

Model 40, for 110-volt A.C. operation is \$61; for 6-volt D.C., \$48.50; and for 90-110-volt D.C., \$51.

Model 50, for use on 110-volt A.C. and in a slightly larger cabinet, is \$55; \$42.50 for the 6-volt D.C. type, and \$45 for the 90-110-volt D.C. model. The chassis only is \$42.50 for A.C., \$30 for 6-volt D.C. and \$32.50 for 90-110-volt D.C. operation.—*Radio Retailing*, January, 1929.

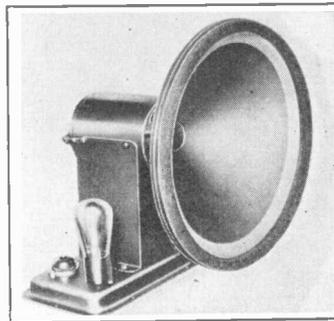


B-Power Unit

The model 828 B-power unit made by the Valley Electric Company, 4221 Forest Park Boulevard, St. Louis, Mo., delivers 135 to 180 volts to any receiver up to a ten tube set. A Raytheon BH tube is employed. The unit has two C-battery taps; a 9-volt tap for use with the 112-A power tube, and a 40-volt tap for the 171-A power tube. The case measures 9½ in. x 5½ in. x 11 in. The intended retail price, with tube, is \$35.—*Radio Retailing*, January, 1929.

Portable Electric Phonograph

A portable phonograph, operated by an electric motor carried in the case, has been brought out by the Q. R. S. Company, 333 N. Michigan Avenue, Chicago. The motor is run by three 1½ volt dry cells contained in the case. The exponential tone chamber produces tone which compares favorably that of the cabinet style phonograph, according to the manufacturer. The case is strong and the record album will accommodate both 10 in. and 12 in. records. The intended retail price is \$50.—*Radio Retailing*, January, 1929.



Auditorium Dynamic Speaker

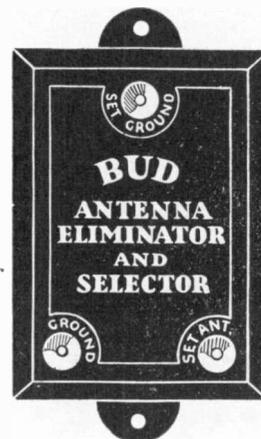
The Jensen Radio Manufacturing Co., 4250 Hollis St., Oakland, Cal., has announced an auditorium dynamic speaker.

In the 110-volt A.C. model a full wave rectifying tube is used in place of a mechanical rectifier. The sensitivity has also been increased. It will handle, the manufacturer claims, the full output of the most powerful type of amplifier employing 250 type tubes in push-pull.

The power required for field excitation is approximately 18 watts. This speaker may be had in the three following models; DA-4 for 110-volt D.C. operation, DA-5 for 220-volt D.C. operation, DAAC for 110-volt A.C. operation, varying in price from \$55 to \$70.—*Radio Retailing*, January, 1929.

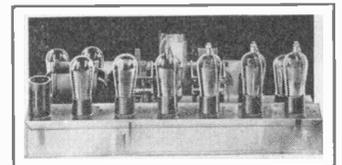
Antenna Eliminator and Selector

The erection of an aerial is not essential, according to the maker, when the antenna eliminator and selector made by the Bud Radio, Inc., 362 Erie Building, Cleveland, Ohio, is used. It is easily connected to the set, and, according to the manufacturer, is equal to a fifty-foot outside aerial in volume. The intended retail price is \$3.50.—*Radio Retailing*, January, 1929.



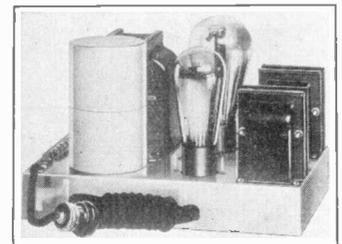
A.C. Set Kit

The High Frequency Laboratories, 28 N. Sheldon Street, Chicago, has brought out a new receiver called the "H. F. L. Special Nine." This is a custom chassis, entirely assembled and partially wired. It is designed for single dial control. Two different models are available. One, an all electric, uses A.C. heater type tubes throughout, with the 250 operating in the power amplifier. The other is designed for battery operation, and uses a 171A output tube. Four screen grid tubes are employed in each receiver. The screen grid amplifier catacomb houses the oscillator circuits. This amplifier is assembled and wired, and bolts onto the rear of the chassis.—*Radio Retailing*, January, 1929.



Power Amplifier

The 250 power amplifier placed on the market by the High Frequency Laboratories, 28 N. Sheldon Street, Chicago, operates with a rectifier tube of the 280 type, and a Mershon condenser of 36 mfd. in the filter circuit. It furnishes all B, C and heater voltages to the A.C. receiver, and can also be used as a last stage amplifier with the "D.C. Special Nine" kit made by this company, furnishing plate current to that model.—*Radio Retailing*, January, 1929.



Line Voltage Control

A heavy duty line voltage control (capacity 100 watts), especially adapted for use on sets with a built-in dynamic speaker which draw from 80 to 100 watts, is being made by the Master Engineering Company, 122 S. Michigan Avenue, Chicago. It is easily installed by plugging the A.C. set into the outlet on the control corresponding to the line voltage. It is 4 inches long, 1½ in. wide and 1½ in. high. It is so built that various voltage of from 110 to 125 or over can be controlled for best operation of the receiving set. Price, \$3.—*Radio Retailing*, January, 1929.

What the Trade is Talking About

F.R.T.A. to Hold Convention in Buffalo

The annual convention of the Federated Radio Trade Association will be held this year at the Statler Hotel, Buffalo, N. Y., on February 18 and 19. The former plans for a three-day convention are no longer in effect. It is anticipated that at least 500 radio men from the United States and Canada will attend.

The Manufacturers Representatives section, headed by George Riebeth, will discuss plans for its organization. The Radio Retailers Association, headed by Julian Sampson, will place committees in operation to increase the value of the association to the radio dealers. The Radio Wholesalers Association, of which Peter Sampson is president, will hear talks on wholesaler problems. Special consideration will be given to dealer deferred payments, better insurance, and credits and collections.

Elmer C. Metzger, president of the Buffalo Radio Trade Association, will welcome the delegates to Buffalo, and there will be addresses by Harold J. Wrape, president of Federated; Herbert H. Frost, president of the Radio Manufacturers Association; William Hedges, president of the National Association of Broadcasters; Judge Van Allen, legal counsellor of the Radio Manufacturers Association, and Honorable Frank D. Scott of Washington, D. C.

Cleveland Dealer Holds Radio Exposition

A radio exhibit, planned along the lines of the larger radio shows, was recently given by H. Lesser and Company, radio retailers of Cleveland, Ohio. It was held at the Hotel Winton, where each set had the proper home surroundings. The display, to which admission was free, lasted four days and drew many thousands.

Entertainment was furnished by broadcast entertainers and the program was put on the air twice daily. A commercial radio compass outfit and a demonstration of television were among the features of the show and proved to be two of the most popular attractions.

Colonial Expands Territory

Recently increased production facilities at the Long Island City, N. Y., plant of the Colonial Radio Corporation, have made possible wider distribution. Dealer franchises will be granted in Boston, Chicago, Cleveland, Pittsburgh, Detroit, Baltimore, and Washington, D. C.

THE LEIPZIG TRADE FAIR will be held this year from March 3 to 13, at Leipzig, Germany. This fair is the largest goods exchange in the world, and will have about seventy American exhibits this year. Information concerning the Fair may be obtained by addressing the headquarters at 11 West 42nd Street, New York, N. Y.

STATION KSL, Salt Lake City, Utah, has joined the network of the National Broadcasting Company, receiving, by direct contact, programs on both the WEA and WJZ systems.



Happy!

A. B. Ayers, general manager of the Amrad Corporation, Medford, Mass., seems to be pleased with something. And, why not? With several promotions and a new LaSalle, who wouldn't be happy?

New Television Company to Make Jenkins Receivers

Negotiations have been concluded for the formation of the Jenkins Television Corporation, Jersey City, N. J. The company will manufacture for home use television transmitters and receivers as developed by C. Francis Jenkins of the Jenkins Laboratories, Washington, D. C. The capital stock of the Jenkins Laboratories has been purchased by the new organization, which has a capitalization of \$10,000,000.

James W. Garside, president of the De Forest Radio Corporation, is president; A. J. Drexel Biddle, Jr., chairman of the board; C. Francis Jenkins, vice-president in charge of research, Donald S. Rogers, secretary, and Philip H. Diehl, treasurer.

THE KOLSTER RADIO CORPORATION, New York, plans to establish a laboratory in the East for radio research and development purposes, with Lewis M. Clement, formerly chief engineer of F. A. D. Andrea, Inc., New York, in charge. A market research division under the direction of Stuart C. Mahanay, formerly radio editor of the Curtis Publishing Company, is now in operation.

THE ROLA COMPANY, Oakland, Calif., held a meeting in Cleveland, Ohio, of its jobbers and dealers of that city to demonstrate a pre-production model of the new Rola auditorium type reproducer. Henry S. Tenny, president, addressed the group on the company's sales and advertising plans. The same evening an installation was made in the Cleveland Auditorium, where fifty thousand people assembled to hear the program.

THE TECHNIDYNE CORPORATION, New York City, has moved into its new and enlarged offices at 644 Broadway.

Combined Radio and Music Convention Being Planned

Preliminary plans for the combined conventions of the radio and music industries in Chicago the week of June 3 were made at a meeting of the officials of both industries. The radio men will convene at the Hotel Stevens while the meeting of the music men will be held at the Drake Hotel.

The meetings and banquets of each section are being scheduled so as to avoid conflicts. Plans to hold a joint meeting of the two industries on June 4 were discussed and an invitation from the music trade to the radio men to join in holding this meeting was accepted by the R.M.A. A similar invitation will be extended to the other branches of the radio industry.

Separate banquets of the two divisions will be held, the annual banquet of the Radio Manufacturers' Association being scheduled for June 5, and that of the National Association of Music Merchants, on June 6. The music men accepted an invitation to take one period during the broadcast of the program from the radio banquet.

Joseph L. Ray Promoted

Joseph L. Ray has been made vice-president of the Radio Corporation of America. Mr. Ray joined the company in October, 1927, as general sales manager, which position he will continue to hold.

Other promotions at this time include David Sarnoff who has been made executive vice-president, Alfred N. Goldsmith who becomes vice-president and chief broadcast engineer, and Manton Davis, who has been appointed vice-president and general attorney.

Columbus Association Meets

The Columbus Radio Trades Association, Columbus, Ohio, recently held its annual meeting at the Fort Hayes Hotel. A report on the radio show, given by the association, revealed that the exhibit was a success from an attendance, sales and financial standpoint.

Charles T. Naddy was elected president; Marion A. Bridge, Jr., vice-president; F. W. Dickinson, treasurer, and Henry A. Reinhart was re-elected secretary.

CHAS. FRESHMAN COMPANY, New York, now has three branch offices and warehouses on the West Coast. The Los Angeles branch has been retained; a branch office and warehouse has been installed at San Francisco; and a branch office and warehouse will soon be opened at Seattle, Wash. Walter J. Epstein, who is in charge of the far west territory, will appoint branch managers for each office.

THE HANDEL-DAVIES COMPANY, 202 Chester-Twelfth Building, Cleveland, Ohio, manufacturers' agent for the state of Ohio, would like to hear from radio manufacturers who desire representation in this territory.

GROSS-BRENNAN, INC., New York representative of the Stromberg-Carlson Telephone Manufacturing Company, is now located in its new offices at 205 East 42nd Street, New York.

N.E.M.A. Reports on New Allocations

A review of the present broadcasting situation and broadcasting problems has been released by the Committee on Broadcast Allocation of the Radio Division, National Electrical Manufacturers' Association.

The abridged report of the committee, included the following opinions:

1. While the committee commends the Federal Radio Commission for having reduced the number of stations broadcasting simultaneously with the effect of lessening the prevalence of heterodyne whistles and cross-talk, it feels that the commission has failed to accomplish the prime purpose for which it was organized—namely, the reduction of the actual number of stations licensed.

2. The commission is urged to adopt a standard basis for rating of broadcasting stations for the purpose of deciding the relative service of two or more stations.

3. The committee reiterates its support of the engineers' plan of broadcast allocation which calls for fifty cleared channels (and originally for sixty). The adoption of forty cleared channels is a step in the right direction but does not go far enough in making possible complete geographical coverage of the United States by high grade program service.

4. Only the complete repeal of the Davis amendment will be helpful in the present emergency. Modifying zone boundaries and the number of zones, no matter how skillfully done, cannot be a fair basis for equalization, because any zoning plan is certain to discriminate against one zone or another in one or more of the fundamental factors such as total population, density of population, area, type of terrain, geometric shape and economic conditions, each of which have an important bearing upon equitable broadcasting service and differing ratios of national, regional and local services required in each zone, whatever its boundaries.

5. Maximum power should be used on all cleared channels in order that the greatest number of listeners may be served.

6. Having as an infallible barometer of broadcasting popularity the sale of radio receiving sets in all territories, the committee condemns any unwarranted restriction of wire syndicated or "chain" programs.

7. The committee is opposed to the publicity given by the commission to mere experiments in station synchronization in advance of the time that the technical and practical problems of such synchronization are solved.

Reorganize Slagle Company

The organization of the Continental Radio Corporation to take over and continue the business of the Slagle Radio Company, Fort Wayne, Ind., has been completed. The Slagle plant, which in the past has turned out both radio receivers and electric ironers, will now be devoted exclusively to the making of sets, which will still bear the Slagle name.

Charles M. Niezer, president of the First National Bank of Fort Wayne, is chairman of the board, which consists of Fort Wayne bankers and business men. Carl D. Boyd is president. Mr. Boyd has been connected with both the electrical and radio industries for many years, and served as director of sales of the Slagle company. The other officers are: B. Paul Mossman, vice-president and John A. Thieme, secretary-treasurer.

THE ACME ELECTRIC AND MFG. COMPANY, Cleveland, Ohio, has appointed the following sales representatives: Lawrence LeVoie, Pittsburgh, Pa., for central and western Pennsylvania and West Virginia; John Redell, Chicago, for northern Illinois; John L. Wellman, Detroit, for Michigan and the A. K. Sales Co., Buffalo, N. Y., for New York State, except metropolitan New York.

Government Issues Free Booklet for Dealers

A PAMPHLET outlining briefly the different ways in which the Department of Commerce can be of practical assistance to the independent business man is ready for distribution.

It tells of the many and varied facilities of the Department to help the dealer in solving his business problems. It may be obtained, free, by writing to the Bureau of Foreign and Domestic Commerce, Washington, D. C.

Over fifty other booklets, many of especial interest to radio dealers, are listed in this leaflet. Such subjects are covered as: retail store planning, analyzing retail selling costs and the distribution of markets for radio apparatus.

THE CECo MANUFACTURING COMPANY, Providence, R. I., plans to erect a new plant having a floor-space of 50,000 square feet on each floor, to take care of its increased production which was 101 per cent higher in October than in September. This company has also contracted for 52 weeks of continuous broadcasting over the Columbia broadcasting system.

THE SONORA PHONOGRAPH COMPANY, New York, has acquired the full rights and interests of the William H. Bristol Talking Picture Corp., the Asher, Small & Rogers Corp., the Gotham Bristolphone Service Corp., and the Lesser-Warner Productions in the world-wide Bristolphone patents.

Inspects New Building



The new factory recently purchased by the Philadelphia Storage Battery Company, Philadelphia, was pressed into service at Christmas time as a temporary shipping point to take care of the demand. Edward Davis, president, is shown above walking through the plant.

Edison Acquires Financial Interest in Splitdorf

Thomas A. Edison, Inc., Orange, N. J., has acquired a substantial financial interest in the Splitdorf Radio Corporation, Newark, N. J. The marketing of Splitdorf radio apparatus has been discontinued and the facilities of this company will now be employed in conjunction with those of the Edison plant, primarily in the manufacture of radio apparatus for Thomas A. Edison, Inc.

The Splitdorf company will have these new officers: Charles Edison will be chairman of the board. Walter Rautenstrauch will continue as president and Donald Ross will continue as vice-president and secretary. Arthur L. Walsh and Ralph H. Allen, both officers of the Edison company, become vice-president in charge of sales and vice-president in charge of finance and operation, respectively. H. F. Miller, treasurer of Thomas A. Edison, Inc., becomes treasurer, and Henry Lanahan, general counsel of all Edison industries, becomes general counsel.

Charles Edison, Ralph Allen and Donald Ross will comprise the newly created finance committee to supervise the finances of both the Splitdorf Radio Corporation and the Splitdorf Bethlehem Electrical Company, the parent company of all Splitdorf interests.

Form New Dealers' Association

Marinette and Menominee, Wis., radio dealers have formed the Twin City Radio Dealers' Association. Meetings are held alternately in the two cities on the last Tuesday of each month, with a dinner preceding the regular business meeting. There are sixteen charter members, eight from Marinette and eight from Menominee. The following officers have been elected: Fred H. Jaeger, president; Charles Cherney, vice-president; R. A. Gadbois, secretary; and Walter Kirmse, treasurer.

THE HARTMAN FURNITURE COMPANY, Chicago, plans to operate 200 furniture stores throughout the country within the next four years. These retail outlets will be opened at the rate of one a week and will handle Hartman's own line of radio sets, the Heritage, as well as two nationally known makes.

THE MARSHALL-HOLMES RADIO COMPANY recently opened at Madison, Wis., carrying Federal, Kennedy and Grebe sets, as well as Peerless, Jensen and Magnavox speakers.

THE GRIGSBY-GRUNOW COMPANY, Chicago, announces that shipments for the month of November amounted to \$5,275,000 as compared with \$5,140,000 in October. Three thousand five hundred radio sets per day are being manufactured and extensions to the plants are in course of construction to increase this to a capacity of 5,000 sets daily.

THE KOST FURNITURE COMPANY, Houston, Tex., recently opened a new department, under the management of Harry Ernstrom, to be devoted to the Majestic line, which has just been added.

HENTON AND KNECHT, music dealers of Philadelphia, Pa., have added a radio and phonograph department, featuring the Sonora line.

Four A.C. Sets Sold to One Battery Set

That 6,766 radio dealers in the United States did \$20,508,666 worth of business, or approximately \$3,030 apiece, during the months of July, August and September, was indicated by a recent study just made of the stocks in the hands of radio dealers.

According to returns from these 6,766 dealers, 23,599 battery sets and almost 100,000 A.C. sets were sold during this period. Of battery sets in the hands of these dealers on October 1, there were 32,224, and of A.C. sets, 58,262, as compared with 28,311 and 24,566, respectively, in the possession of 5,737 dealers on July 1.

On October 1, there were on hand with these dealers 53,180 speakers of the magnetic type and 14,085 of the dynamic type, as compared with 39,675 and 2,483, respectively, in the hands of 5,737 dealers on July 1.

The number of receiving tubes of the A.C. type in dealers' hands October 1, was 295,448, or more than double the 122,722 on hand July 1.

This survey of stocks in the hands of radio dealers and of the volume of business done by them during the three-month period is made at the end of each quarter by the Commerce Department, with the cooperation of the Radio Division of the National Electrical Manufacturers Association.

Canada Appoints Radio Commission

A royal commission has been appointed to investigate the radio situation in Canada, with Sir John Aird, president of the Canadian Bank of Commerce, as chairman, and Charles A. Bowman and Augustin Frigon, as commissioners. A study of conditions not only in Canada but in the United Kingdom, the United States and Europe as well will be made by this governmental body and the findings reported to Parliament.

THE SYLVANIA TUBE COMPANY, Emporium, Pa., sponsor of the Sylvania Forsters radio hour each Wednesday night, has added six new stations to its chain. The complete list now includes stations WJZ, WBZ, WBZA, KDKA, KYW, WBAL, WHAM, WJR, WLW, KWK, and WREN.



Inventor of New Speaker

Professor Hans Vogt with his "Oscilloplane," a static sound-reproducing device for radio use which is known as the "electro-static" speaker.

Columbus Hotel Equips Rooms with Reproducers

A reproducer has been installed in every room of the new Hotel Francis, Columbus, Ohio, the first hotel in this city to be so equipped. Each speaker is connected to a radio receiver, which is controlled by the manager. This installation is one of the few with reproducers, the majority having only earphones.

When reception is unsatisfactory, programs are supplied by phonograph records by means of a special attachment which permits a phonograph to be substituted for the receiver.

Free Factory Course

A two week's factory training course is offered free of charge to Atwater Kent distributors, dealers and their employees by the Atwater Kent Manufacturing Company, Philadelphia, Pa. For those who can spare the time, a third week of training is recommended.

Personnel Changes

L. T. BRECK has been promoted to the position of sales manager for Kolster. Before joining the company a few months ago as assistant to the vice-president in charge of merchandising, he was western sales manager of the Yale Electric Corporation.

LOUIS G. CALDWELL, general counsel for the Federal Radio Commission, has resigned to return to his law practice in Chicago.

WALTER A. SCHILLING, for the past six years managing editor of *Radio Dealer*, has established his own offices at 10 East 39th Street, where he is serving as public relations counsellor.

LEE WICHELS, who has been assistant advertising manager of Kolster for several years, is now advertising manager.

LEROY WILLIAMS has joined Raytheon's staff to supervise the newly established patent and legal department. He has also been elected secretary of the company and a member of the board of directors.

ELMER E. BUCHER has been made executive vice-president of the RCA Telephone Company.

J. WARREN HORTON has joined the General Radio Company, Cambridge, Mass., as chief engineer. He has been associated with the Bell Telephone Laboratories for twelve years.

M. S. TINSLEY has been made southwestern district sales manager for R. C. A., with headquarters at the new branch sales office in Dallas, Tex.

ROBERT B. ROSE is now manufacturer's representative for A. H. Grebe & Company, Inc., in the New York area.

FRANK W. WATTS is with Dubilier as sales manager of the Industrial Division.

R. W. MOUNTEER of the Kellogg Switchboard and Supply Company has been placed in charge of the company's central station sales.

WILLIAM E. BEATTY is now with Kolster as general patent attorney. For many years he was patent attorney for the Western Electric Company.

W. T. KIRTON has joined the industrial sales division of the Kellogg Switchboard and Supply Company, Chicago, where he will devote his efforts to the sale of condensers, parts and supplies.

A. ALLEN WOODS is now with the All-American Mohawk Corp. as chief engineer.

L. LAWRENCE, who has held a position in the export department of Kellogg for three years, has been made service engineer.

E. X. RETTENMEYER has been promoted to the position of chief engineer of Fada and J. W. DeHaas has been made export manager.

WILLIAM C. STONER is now with the Cary Cabinet Corporation as sales manager. He was formerly eastern division manager of the Apex Electrical Manufacturing Company, Cleveland.

THOMAS M. WILLIAMS has accepted a position on Steinite's executive staff and J. L. Leban has been made district sales manager for western Pennsylvania and West Virginia in addition to Ohio.



Radio Stock Quotations for 1928

This table shows the highest and lowest prices quoted on the various radio stocks during the year 1928, together with the dividend rate in dollars.

NEW YORK STOCK EXCHANGE			
	1928 High	1928 Low	Dividend Rate in \$
American Bosch.....	44½	15½	....
Columbia Graph. Ltd.....	84½	61	....
Cutler-Hammer.....	65½	52	3.50
General Electric.....	221½	124	6.00 (partly extra)
General Electric, special....	11½	11	.60
Kolster.....	95½	51½	....
Radio-Keith-Orph.....	51½	34½	....
Radio Corporation.....	420	85½	....
Radio Corporation (pf. A) ..	60	54½	3.50
Stewart-Warner.....	125½	77½	6.00
Trico.....	44½	32½	2.50
Union Carb. & Carb.....	209	136½	6.00
Victor.....	158½	52½	4.00
Victor (prior pf.).....	112½	101½	7.00
Westinghouse.....	144	88½	4.00
Westinghouse, (1st pf.).....	139	95½	4.00
Weston Elec. Inst.....	28½	12½	....
Weston Elec. Inst. "A".....	36½	30½	2.00

NEW YORK CURB MARKET			
Acoustic Products.....	26	17	....
De Forest Radio.....	34½	8½	....
Dubilier Cond.....	19	2	....
Fansteel Prod.....	35	9½	....
Freed-Eisemann.....	7½	1	....
Freshman, Chas.....	17½	5½	....
Hazeltine.....	56½	8½	1.00
Sparks-Withington.....	185	30	3.00 (partly extra)
Stromberg-Carlson.....	35	24½	1.12½ (partly extra)
Zenith (new).....	58½	40	....

CHICAGO STOCK EXCHANGE			
All-Amer. Mohawk.....	55½	13½	....
Atlas Stores.....	69½	27	1.75
CeCo Mfg.....	72½	42	1.75
Chicago Jeff. Fuse.....	48	30	2.50
Erla Corp.....	42½	2½	....
Grigsby-Grunow (new-common) ..	140½	108	4.00
Kellogg Switchboard.....	29½	7½	....
Kellogg Switchboard pfd.....	96	74	....
Potter Co.....	46	24½	1.75
Raytheon Mfg.....	67	58	2.00
Sonatron Tube.....	31½	26½	1.00
Steinrite Radio.....	61½	32	....
Stewart-Warner.....	124½	77½	6.00
United Reprad.....	56½	33½	2.50
U. S. Radio and Television..	50	36	....
Utah Radio Prod.....	69	21	1.20
Zenith.....	58	38	....

CHICAGO CURB MARKET			
Polymet.....	Figures not available		
Temple, Inc.....	Figures not available		

CINCINNATI EXCHANGE			
Crosley Radio.....	101	25	....
Kodel Mfg.....	55½	13	....
Formica Insul.....	26½	20½	....

SAN FRANCISCO EXCHANGE			
Kolster.....	95½	30	....
Magnavox.....	16½	30c.	....

BOSTON EXCHANGE			
Columbia Graphophone ..	84½	61½	....
Tower Mfg.....	9	90c.	....

Federal Trade Commission Dismisses Complaints

Dismissal of its complaint against General Electric Company, Radio Corporation of America and others charging unfair competition in monopolizing the manufacture and sale of radio devices and monopolizing radio communication, has been announced by the Federal Trade Commission.

The complaint charged that the respondents combined and conspired with the effect of restraining competition and creating monopoly in the manufacture, purchase and sale of radio apparatus and other electrical devices and monopolizing radio communication.

THE NEONLITE CORPORATION, Irvington, N. J., formerly the United Radio and Electric Company, is making television tubes to supplement its line of radio tubes. F. A. Schiller is president.

Complete Merger of R C A and Victor Called for in Approved Plans

A plan calling for the unification of the Victor Talking Machine Company with the Radio Corporation of America was approved January 5 at meetings of the boards of the two companies. The unification includes the holdings of Victor Talking Machine Company in subsidiary and associated companies throughout the world.

It is reported that the plan approved by the two companies calls for a complete merger of the properties, and not for the creation of a holding company. This will be advantageous to Victor as it will give the phonograph concern wireless communication privileges and right to valuable patents. It will also prove favorable to the Radio Corporation which will be able to supply every kind of popular entertainment, owing to a series of transactions during the past year.

The Radio Corporation controls the National Broadcasting Company and RCA Photophone, Inc., and is allied with the Radio-Keith-Orpheum Corporation. As a result of this latest consolidation, the many Victor recording artists will now be available for broadcasting and sound pictures.

The board of directors of the Radio Corporation, subject to approval of its

stockholders, voted the issuance of approximately 6,590,000 shares of new common stock of the Radio Corporation, of which 5,777,000 shares will be exchanged for present outstanding RCA common stock at the rate of five shares of new for one of the present. In addition, an issue of approximately 813,000 shares cumulative "B" preferred stock entitled to dividends at the rate of five dollars annually will be created, junior to the \$19,780,000 of 7 per cent "A" preferred stock of the Radio Corporation now outstanding.

In a statement, David Sarnoff, executive vice-president of the Radio Corporation, said: "Insofar as radio has extended its activities to broadcasting, to the new art of talking motion pictures, and to the theater, the high artistic achievements of the Victor Talking Machine Company and its associations for many years with the leading artists of the world will enable it, through the present unification, to make distinct contributions to the development of the highest type of entertainment effort. At the same time it opens a new vista for the artist who will have the phonograph, broadcasting and talking pictures as further fields of expression."

Combination Set Feature of Majestic Convention

In addition to a new line of radio sets, which will be ready for the trade early in February, the Grigsby-Grunow Company, Chicago, is about to market a combination radio-phonograph set to retail at a price substantially under \$300. This outstanding announcement was made at Majestic's First Annual Distributors' Convention held at the Stevens and Blackstone Hotels, December 10, 11, 12, 1928. Its entire roster of fifty-eight distributors, together with their sales managers and chief salesmen, greeted this news enthusiastically.

Although it has not been officially announced, it is rumored that this concern will also enter the tube manufacturing field in the very near future.

A sales program, based on anticipated factory billings of \$120,000,000 for this coming year and an advertising expenditure in excess of \$2,000,000, was also presented to the distributors during the second day's session. Sales quotas practically triple those of 1928 are contemplated for all parts of the country. A national advertising campaign which will employ, in addition to local newspapers, billboards, radio broadcasting, national magazines and Neon signs, was explained by advertising manager, Duane Wanamaker. Over \$220,000 for the latter item has been contracted for.

The meetings were addressed by H. E. Young, sales manager; W. C. Grunow and B. J. Grigsby. The lighter touches were supplied by a clever little skit, written by Duane Wanamaker, entitled: "Majestic Rumors," and by a banquet Wednesday evening, December 12.

Moves to New Plant

With the removal of the Transformer Corporation of America, Chicago, to its new factory, the company will have at its disposal facilities for mass production

in the manufacture of radio and neon transformers. The factory has 40,000 square feet of floor space where scientific conveyors have been installed so that production will be systematized.

Radio Allied Manufacturers, Case, and Apex Combine

The United States Radio and Television Company, Chicago, has been organized to acquire the assets and business of the Case Electric Corporation and the Radio Allied Manufacturers Corporation, both of Chicago, and the Apex Electric Manufacturing Company, Marion, Ind.

The company plans to take out licenses from the Radio Corporation of America and the Hazeltine Corporation as a producer of sets. Complete radio sets will be made and the speakers purchased from outside sources. The manufacturing divisions have a combined capacity of 1,600 sets per day.

The corporation's policy with respect to television will be announced at a later date.

Temple Absorbs Sleeper

A complete line of radio receivers, under the Temple trade mark, will shortly be marketed by Temple, Inc., Chicago, following the merger of this company with the Sleeper Radio and Manufacturing Company, Long Island City, N. Y.

A license, effective for both companies, has been issued to Temple by the Radio Corporation of America. The Sleeper Company will continue to make receiving sets under its own name and Temple will manufacture reproducers, as usual, both concerns retaining their separate identities and factories.

Alfred Marchev, president of Temple, becomes president of Sleeper, and Gordon C. Sleeper, formerly president of the company which bears his name, will be vice-president and general sales manager of Temple.

News of Jobbers and Distributors

Philadelphia Jobbers Form Radio Trade Board

A movement was recently launched by the radio distributors of Philadelphia looking toward the abolishment of certain trade abuses and alleged unfair practices. This action was taken in the formation of the Radio Distributors Board of Trade, at a dinner at the Penn Athletic Club, attended by fourteen leading jobbers.

Charles Gomprecht, of Trilling & Montague, presided. He was elected temporary chairman and will serve as chairman of the board of directors, composed of the following: Harry Gansman, H. C. Roberts Electrical Supply Company; Raymond Rosen, Raymond Rosen Company; David Weiss, Philadelphia Motor Accessories; August Wilkening, Wilkening, Inc.; J. V. Kane, J. V. Kane Company; George Dickel, Dickel Distributing Company; Samuel Schimmel, Schimmel Electric Supply Company, and Joseph B. Suess, Stewart-Warner Sales Company.

Boston Distributor Expands

Due to the growth of its wholesale radio business, the George H. Wahn Company, Boston, Mass., distributor of Zenith radio and electrical supplies, has organized a separate division for this department, the Wahn Radio Company. A new showroom, for the use of its dealers, has been opened at 737 Boylston Street, where H. B. Vaughan is in charge, assisted by D. Gordon Jerauld.

All Ready for 1929



Mark Smith, ensconced in his new office, seems to be contemplating which New Year's resolution he'll break first. Mr. Smith is general manager of Ray Thomas, Inc., Los Angeles, Atwater Kent distributor for southern California.

SAMUEL SCHIMMEL, president of the Schimmel Electric Supply Company, Philadelphia, Pa., Steinite and Temple distributor, delivered the keynote address at the annual conference of electrical and radio dealers recently held at the Hotel Adelphia, Philadelphia. About five hundred radio and electrical dealers, together with representatives of the department stores of Philadelphia and the neighboring cities, were present.

D. W. MAY, INC., Newark, N. J., is now in its new home at 393 New Street. The building is two stories high and contains 120,000 square feet of floor space.



Manages New Branch

E. E. Hyde, who is in charge of the recently opened Memphis, Tennessee, branch of the Braid Electric Company, Nashville, Tennessee, the largest Atwater Kent distributor in Dixie.

Zenith Opens New Branch

A new branch and warehouse for the distribution of Zenith products in the state of Oklahoma, the pan-handle section of Texas and the western part of Arkansas, has been opened by the Zenith Radio Corporation, Chicago. It will be used as a distributing unit only.

The offices are located at 203 Perrine Building, Oklahoma City, Okla., where Fred R. Roterberg is in charge. Mr. Roterberg was formerly assistant sales manager of the Chicago office.

THE NORTH WARD RADIO COMPANY, Newark, N. J., Majestic distributor, has inaugurated a policy of supplying regular window display service to its dealers at a nominal cost. A window trimmer from the company is sent to the dealer to set up the display. For dealers who wish to trim their own windows, a photo of the display for the month is furnished, together with complete details.

THE PEASLEE-GAULBERT CORPORATION, Dallas, Tex., Steinite distributor, recently held a dealer get-together meeting. Robert Peake, manager, made the address of welcome. C. C. Baines, a radio engineer of Louisville, Ky., described to the dealers the various steps a set goes through before it is ready for the consumer. Following the meeting dinner was served.

THE R. S. PROUDFIT COMPANY, Lincoln, Neb., distributor for the Grigsby-Grunow Company, Chicago, and the Bond Electric Corporation, Brooklyn, N. Y., recently held a sales meeting at which factory representatives of the above companies contributed many helpful merchandising ideas.

THE SPLITDORF RADIO CORPORATION, Newark, N. J., has appointed the Sprague Electrical Company, Waterbury, Conn., as distributor in that section. The Sprague company recently purchased the Park City Electric Company, Bridgeport, Conn.

THE CONDON COMPANY, Portland, Ore., Fada wholesaler, is now broadcasting a program of concert music each Saturday night over station KFJR.

Publishes New House Organ

The first number of the "Broadcaster," published by Peirce-Phelps, Inc., Philadelphia, Pa., made its initial bow last month. It is a four-page miniature newspaper made up of merchandising ideas, news items on the activities of the company and general information, together with a liberal number of news photos and pictures of staff members. According to the masthead it is "published in the interest of Majestic dealers" and the price is two rubles.

THE KELLOGG SWITCHBOARD AND SUPPLY COMPANY, Chicago, has appointed thirteen new distributors during the last few weeks. They are: Williamsport Auto Parts Company, Williamsport, Pa.; Harvey Motor, Inc., Huntington, W. Va.; Corlaer Radio Corporation, Schenectady, N. Y.; Pittsburgh Radio Corporation, Pittsburgh, Pa.; Rupert Electric Company, Rupert, Idaho; United States Radio Corporation, Springfield, Mass.; Motor Power Equipment Company, St. Paul, Minn.; York Auto Supply Company, York, Pa.; S. A. Blewett, Dallas, Tex.; Ed. S. Hughes Company, Abilene, Tex.; Henkle and Joyce Hardware Company, Lincoln, Neb.; Stewart Sales Company, Indianapolis, Ind., and the M. A. Hartley Company, Staunton, Va.

THE JOSEPH L. STRAUSS COMPANY, Buffalo, N. Y., held a dinner and sales meeting for the Zenith dealers in western Pennsylvania, at which Thomas Endicott, general sales manager of the Zenith Radio Corporation, Chicago, spoke. He was followed by J. V. Duncombe, Zenith representative in western Pennsylvania. Edward Ball, sales manager of the Strauss company, acted as toastmaster.

THE ROYCRAFT COMPANY, Minneapolis, Minn., is enlarging its sales staff in a concerted effort to work more closely with its dealers. The first appointments include R. A. Roberts, who will devote his time to sales promotion work in the field, and M. F. Hegerle, who has been placed in charge of the sales promotion department at the home office.

THE FEDERAL RADIO CORPORATION, Buffalo, N. Y., during the past month has added the following distributors: Swank Hardware Company, Johnstown, Pa.; Standard Drug Company, Elizabeth City, N. C.; Anderson-Seward Company, Dayton, Ohio; Jordan Music House, Charleston, S. C., and the Archibald Motor Company, Inc., Halifax, Nova Scotia.

THE AFRICAN BROADCASTING COMPANY, with headquarters at Johannesburg and branches throughout the Union of South Africa, has been appointed distributor in that area by F. A. D. Andrea, Inc., New York. This company also has representatives covering the territory between Kimberley and Cape Town.

THOMAS A. EDISON, INC., Orange, N. J., has just added the H. R. Curtiss Company, Los Angeles, Calif., to its list of distributors. This company will cover southern California and Arizona.

THE HARTMAN FURNITURE COMPANY, Chicago, is now distributor for the All-American Mohawk Corporation, Chicago.

Latest Phonograph Records

Issued by the leading manufacturers

Latest BRUNSWICK Records

Brunswick-Balke-Collender Company
629 So. Wabash Avenue,
Chicago, Illinois

- | Record No. | Title and Recorder |
|------------|---|
| 218 | Gambling Blues
A Married Girl's Troubles— <i>Buell Kazee</i> |
| 268 | Budded Roses
What Is Home Without Love— <i>The North Carolina Ramblers</i> |
| 269 | Jesse James
Little Joe, the Wrangler— <i>Marc Williams</i> |
| 270 | Yes, I Know
Ring the Bells of Freedom— <i>Rev. Calbert Holstein and Sister Billie Holstein</i> |
| 271 | Old Joe
My Wife Died Saturday Night— <i>Dr. Humphrey Bate and His Possum Hunters</i> |
| 272 | I Am Coming Home
Have Thine Own Way, Lord— <i>J. L. McGee and Frank Welling</i> |
| 277 | The Sinking of the Vestris
The Heroes of the Vestris— <i>Frank Luther</i> |
| 3847 | Elijah (If With All Your Hearts)
Elijah (Then Shall The Righteous Shine Forth)— <i>Dan Beddoe</i> |
| 4005 | High School Cadets
Washington Post March— <i>U. S. Military Academy Band</i> |
| 4065 | Stay Out of the South
I Can't Do Without You— <i>Randolph's Royal Hawaiians</i> |
| 4077 | Anything You Say
If I Have You— <i>Ray Miller and His Orchestra</i> |
| 4081 | Forever
I Can't Make Her Happy— <i>William F. Wignes and His Orchestra</i> |
| 4083 | Querida
My Blackbirds Are Bluebirds Now— <i>Bernie Cummins and His Hotel Biltmore Orchestra</i> |
| 4088 | Then Came the Dawn
Lonesome in the Moonlight— <i>Colonial Club Orchestra</i> |
| 4089 | Ten Little Miles From Town
That's What Puts the Sweet in Home Sweet Home— <i>Edith Evans</i> |
| 4090 | Oh! Is She Mad At Me?
She's Wonderful— <i>Dick Robertson</i> |
| 4096 | March of the Tin Soldiers
Funeral March of a Marionet— <i>Brunswick Concert Orchestra</i> |
| 4097 | Valse Bluette
Orientale— <i>Fred Fradkin</i> |
| 4098 | Love's Delight
Music Box— <i>Ignace Hilsberg</i> |
| 4099 | I Wanna Be Loved By You
Take Your Tomorrow— <i>Grace Johnston</i> |
| 4102 | Roses of Yesterday
Jeannine, I Dream of Lilac Time— <i>Lew White</i> |
| 4104 | Happy
Sally of My Dreams— <i>Earl Burnett and His Los Angeles Biltmore Hotel Orchestra</i> |
| 4106 | Marie
Sally Of My Dreams— <i>Glen Wick</i> |
| 4107 | Is It a Sin?
Remember Me— <i>Freddie Rose</i> |
| 4108 | Mia Bella Rosa
I'm Sorry Sally— <i>Ray Miller and His Orchestra</i> |
| 4109 | Dusky Stevedore
Guess Who's in Town— <i>The Clevelanders</i> |
| 4110 | Louisiana
Awful Sad— <i>Duke Ellington and His Cotton Club Orchestra</i> |
| 4111 | Forever
Roses of Yesterday— <i>Glen Wick</i> |
| 4112 | My Old Girl's My New Girl Now— <i>Meyer Davis' Swanee Syncopators</i>
I Couldn't If I Wanted to— <i>Hotsy Totsy Gang</i> |
| 4113 | I Love That Girl— <i>Jay C. Flippen</i>
Do You? That's All I Want to Know!— <i>The Yacht Club Boys</i> |

- | | |
|-------|--|
| 4114 | Put On Your Old Gray Bonnet
Down By the Old Mill Stream— <i>Dixieland Four</i> |
| 4117 | My Suppressed Desire
Sweethearts On Parade— <i>Abe Lyman's California Orchestra</i> |
| 4119 | I Must Have That Man— <i>Broadway Broadcasters</i>
Hop Off— <i>Fletcher Henderson and His Orchestra</i> |
| 4124 | Pompanola
Maybe This Is Love— <i>The Broadway Broadcasters</i> |
| 15154 | Serenade to Zanetto
Open Your Blue Eyes— <i>Sigrid Onegin</i> |
| 15191 | The Rosary
Calm as the Night— <i>Marie Morrissey</i> |
| 15192 | Tosca (Strange Harmony)
La Giaconda (Heaven and Ocean)— <i>Mario Chamlee</i> |
| 15193 | Indian Love Call
Kiss Me Again— <i>Florence Easton</i> |

- | | |
|--------------|---|
| 50149 | March—Entrance of the Boyards
Valse Triste— <i>Cleveland Orchestra</i> |
| 50154 | Freischutz-Gebet
Otello—Ave Maria— <i>Elisabeth Rethberg</i> |
| 50155 | Ave Maria—Gounod
Elegie— <i>Mario Chamlee</i> |
| Album No. 13 | The Mikado, Parts 1 to 6, Records 20072, 20073, 20074 |
| | Patience, Parts 1 to 4, Records 20078, 20079 |
| | Iolanthe, Parts 1 to 4, Records 20080, 20081— <i>Brunswick Light Opera Company</i> |
| Album No. 14 | Pinafore, Parts 1 to 6, Records 20075, 20076, 20077 |
| | Pirates of Penzance, Parts 1 to 3, Records 20084, 20085A |
| | The Gondoliers, Parts 1 to 3, Records 20085B, 20086— <i>Brunswick Light Opera Company</i> |

Latest COLUMBIA Records

Columbia Phonograph Company
1819 Broadway, New York City

- | Record No. | Title and Recorder |
|------------|---|
| 171-M | When Dull Care
Some Rival Has Stolen My True Love Away— <i>Alexander Kisselburgh</i> |
| 172-M | Seit Ich Ihn Geschen (Schumann; Op. 42, No. 1)
Du Ring on Meinem Finger (Schumann; Op. 42, No. 4)— <i>Elsa Alsen</i> |
| 173-M | Ye Banks and Braes O' Bonnie Doon
Comin' Thro' the Rye— <i>Martha Attwood</i> |
| 174-M | A Pleading (Tschaikovsky)
The Blackbirds (Tertis)— <i>Lionel Tertis</i> |
| 1627-D | By the Waters of Minnetonka
La Rosita— <i>Emil Velazoo</i> |
| 1628-D | Sweethearts on Parade
That's How I Feel About You— <i>Guy Lombardo and His Royal Canadians</i> |
| 1629-D | My Suppressed Desire
Rhythm King— <i>Paul Whiteman's Rhythm Boys</i> |
| 1630-D | Just a Sweetheart
Where Is the Song of Songs for Me?— <i>Paul Whiteman and His Orchestra</i> |
| 1631-D | My Hawaiian—Song of Love
Down in Waikiki— <i>Eddy's Hawaiian Serenaders</i> |
| 1632-D | Melancholy Sally
Why Can't You Care?— <i>Kitty O'Connor</i> |
| 1633-D | Ups-A-Daisy!
Not (Piano Duets)— <i>Constance Mering and Muriel Pollock</i> |
| 1634-D | Querida
Chalita— <i>Leo Reisman and His Orchestra</i> |
| 1635-D | My Inspiration Is You
Carmen— <i>Den Selvin and His Orchestra</i> |
| 1636-D | My Old Girl's My New Girl Now
My Blackbirds Are Bluebirds Now— <i>Guy Lombardo and His Royal Canadians</i> |
| 1637-D | Oh! By Jingo
Has Anybody Here Seen Kelly— <i>Dan Hornsby Novelty Quartet</i> |
| 1638-D | Do You? That's All I Want to Know!
Glorianna— <i>Ipana Troubadours</i> |
| 1639-D | My Old Girl's My New Girl Now
I Can't Make Her Happy— <i>Nukulele Ike</i> |
| 1640-D | Where Is the Song of Songs for Me?
Ceasing to Care— <i>James Melton</i> |
| 1641-D | Come on and Make Whoopee
Oh! You Sweet Old Watcha May Call It— <i>The Diplomats</i> |
| 1642-D | The Pay-Off— <i>California Ramblers</i>
Tin Ear— <i>Jan Carber and His Orchestra</i> |

- | | |
|---------|---|
| 1643-D | Asleep in Jesus
Beyond the Smiling and the Weeping— <i>Shannon Quartet</i> |
| 1644-D | Hail to the Flag
Friends Forever— <i>Columbia Band</i> |
| 1645-D | 'Tis an Irish Girl I Love and She's Just Like You
The Old Fashioned Mother— <i>William A. Kennedy</i> |
| 1646-D | Stairway of Dreams— <i>The Knickerbockers</i>
Finders Keepers Losers Weepers— <i>The Columbians</i> |
| 1647-D | Pals, Just Pals
Blue Shadows— <i>Goodrich Silverton Quartet</i> |
| 1648-D | To Know You Is to Love You
Maybe This Is Love— <i>The Benson All-Star Orchestra</i> |
| 1649-D | Cross Roads
Love Dreams— <i>Henry Burr</i> |
| 1650-D | Sonny Boy— <i>Organ Solos</i>
There's a Rainbow 'Round My Shoulder— <i>Milton Charles</i> |
| 1651-D | My Suppressed Desire
What a Girl! What a Night!— <i>Verne Buck and His Orchestra</i> |
| 1652-D | Two Black Crows in Hades—Parts 1 and 2— <i>Moran and Mack</i> |
| 1653-D | The Spell of the Blues
High Up on a Hill-Top— <i>Guy Lombardo and His Royal Canadians</i> |
| 1654-D | Mia Bella Rosa
Sally of My Dreams— <i>The Benson All-Star Orchestra</i> |
| 1655-D | When the Right One Comes Along
When Summer Is Gone— <i>Charles Lawman</i> |
| 1656-D | I Got a Woman, Crazy for Me
Wear a Hat with a Silver Lining— <i>Ted Lewis and His Band</i> |
| 1657-D | Chopinata
Wagnereake (Airs from Wagner)— <i>Piano, Clement Doucet</i> |
| 1658-D | Scarf Dance
The Flatterer— <i>Columbia Symphony Orchestra</i> |
| 1659-D | Let's Do It
If You Want the Rainbow— <i>Lee Morse and Her Blue Grass Boys</i> |
| 1660-D | My Mother's Eyes
Just Another Night— <i>Ed Lowry</i> |
| 1661-D | Buy, Buy for Baby— <i>The Columbians</i>
I'm Walking Between the Raindrops— <i>The Knickerbockers</i> |
| 1662-D | Phi Delta Kappa Sweetheart
I'm Away from the World When I'm Away from You— <i>Eddie Thomas' Collegians</i> |
| 38006-F | Reverie
A Memory of Chopin— <i>Le Maire French String Orchestra</i> |
| 38007-F | The Sexton
Perfidy— <i>Guatemala Marimba Orchestra</i> |
| 50108-D | La Boheme: Che Gelida Manina— <i>Louis Graveure</i>
Carmen: Air de la Fleur— <i>Louis Graveure</i> |
| 50109-D | Cavalleria Rusticana: Voi Lo Sapete
Aida: O Patria Mia— <i>Eva Turner</i> |
| 50110-D | An Old Melody
Melodie in E (Rachmaninoff) Violoncello— <i>W. H. Squire</i> |

- 50111-D O Sleep, Why Dost Thou Leave Me? (Handel)
Mignon: Connais-tu le pays?—*Anna Case*
- 50112-D Romance (Wieniawski)
Legende Naive (Jongen)—*Yovanovitch Brataz*
- 50113-D Tschaiakowskiana—Parts 1 and 2—*Paul Whiteman and His Orchestra*
- 67467-D Die Meistersinger: Prelude—Parts 1 and 2—*By Arthur Bodanzky and Symphony Orchestra*
- 67468-D Die Meistersinger: Prelude—Part 3
Lohengrin: Introduction to Third Act—*By Arthur Bodanzky and Symphony Orchestra*
- 67480-D Le Rouet D'Omphale, Saint Saens—*Paris Conservatory Orchestra*
- Set No. 100 Quartet in G Minor, Op. 10, Debussy (4 records)—*By Lener String Quartet of Budapest*

Latest EDISON Records

Thomas A. Edison, Inc.,
Orange, N. J.

- | Record No. | Title and Recorder |
|-----------------|--|
| 52434 | Ohio River Blues— <i>Vernon Dalhart & Co.</i> |
| | Sing Hallelujah— <i>Vernon Dalhart and Adelyn Hood</i> |
| 52408 | There Ain't No Sweet Man That's Worth the Salt of My Tears
I Ain't Got Nobody— <i>Vaughn De Leath</i> |
| 52442 | Think of Me Thinking of You
I'm Sorry, Salley— <i>Piccadilly Players</i> |
| 52443 | Where Is the Song of Songs for Me?
My Heart's Longing for you— <i>J. Donald Parker</i> |
| 52444 | You're the Cream in My Coffee
Don't Wait Until the Lights Are Low— <i>Al Friedman and His Golden Gate Orchestra</i> |
| 52446 | Alice in Wonderland
Little Yaller Dog— <i>Vaughn De Leath</i> |
| 52447 | Indian Summer
Carillon— <i>Edison Concert Orchestra</i> |
| 52448 | Doin' the Raccoon— <i>Billy Murray and the 7 Blue Babies</i> |
| | Ho-Ho-Ho-Hogan— <i>Billy Murray</i> |
| 52449 | My Heart Belongs to You— <i>Pala-tiko's Hawaiian Orchestra</i> |
| | My Sweet Hawaiian Baby— <i>Aloha-Land Serenaders</i> |
| 52451 | Barber's Blues
Watermelon Smilin' on the Vine— <i>Frankie Marvin</i> |
| 52450 | S. J. Raftery Reel
Ginger Ridge Quadrille— <i>John Baltzell</i> |
| 52452 | The City Unseen
Where the Gates Swing Outward Never— <i>Homer Rodeheaver and Thomas Muir</i> |
| 52453 | The Sinking of the Vestris
An Old Man's Story— <i>Frank Luther</i> |
| 52454 | Don't Be Like That?— <i>Billy Murray and Walter Scanlan</i> |
| | Don't Do That to the Poor Pussy-Cat!— <i>Billy Murray and the 7 Blue Babies</i> |
| 52455 | Gypsy
Blue Night— <i>B. A. Rolfe and His Orchestra</i> |
| 52456 | Motherhood
Love Dreams— <i>Frank Munn</i> |
| 52458 | Love Me All the Time
Bashful Baby— <i>The Dennis Sisters</i> |
| 52459 | My Window of Dreams
Dear, When I Met You— <i>Waldo Mayo</i> |
| 80903 and 80904 | Quartette in C Major (Haydn), Op. 33—Parts 1 to 4— <i>Roth String Quartette</i> |
| 52461 | Fallen by the Wayside
The Prisoner's Lament— <i>Ernest V. Stoneman and His Dixie Mountaineers</i> |
| 52462 | Dance, Little Lady
A Room with a View— <i>B. A. Rolfe and His Orchestra</i> |
| 52463 | Diga Diga Doo
Somebody Stole My Gal— <i>The Siz-zlers</i> |
| 52464 | 'Round Evening— <i>Billy Murray and Walter Scanlan</i> |
| | I Love Vanilla— <i>Bob Pierce ("Old King Cole")</i> |
| 52465 | Sonny Boy
Love's First Kiss— <i>Charles Harrison</i> |
| 52466 | Pompanola— <i>Leo Dreyer and His Orchestra</i> |
| | Cross Roads— <i>Oreste and His Queensland Orchestra</i> |

Latest VICTOR Records

Victor Talking Machine Co.,
Camden, N. J.

- | Record No. | Title and Recorder |
|------------|---|
| 1353 | Serenade a la Poupee (No. 3 from "The Children's Corner") Capriccio (Scarlati)— <i>Vladimir Horowitz</i> |
| 1354 | Souvenir (Franz Drdla)
Orientale— <i>Mitscha Elman</i> |
| 1355 | Home, Sweet Home
Last Rome of Summer— <i>Amelita Galli-Curci</i> |
| 1356 | Carmen Suite—Habanera
Carmen Suite—Prelude to Act I— <i>Philadelphia Orchestra</i> |
| 1360 | Sonny Boy
Jeannine, I Dream of Lilac Time— <i>John McCormack</i> |
| 6835 | Valse-Serenade (Tschaiakowsky)
1. Russian Soldier's Song (Altschuler). 2. Marche Miniature (Tschaiakowsky)— <i>Detroit Symphony Orchestra</i> |
| 6873 | Carmen Suite—Gypsy Dance
Carmen Suite—Intermezzo to Act 3 and Les Dragons d'Alcala (Act 2)— <i>Philadelphia Orchestra</i> |
| 6874 | Carmen Suite—March of the Smugglers
Carmen Suite—Soldiers Changing the Guard— <i>Philadelphia Orchestra</i> |
| 6875 | Forza del Destino—Pace, Pace Mio Dio
Ernani-Ernani Involami— <i>Rosa Ponselle</i> |
| 6876 | Traviata—Dei miei bollenti spiriti
Lucia—Tombe degl'avi miei— <i>Ben-tamino Gigli</i> |
| 8105 | Trovatore—Al nostri monti
Trovatore—Mal reggendo all' aspro assaio— <i>Louise Homer-Giovanni Martinelli</i> |
| 21574 | My Little Old Home Down in New Orleans
Dear Old Sunny South, by the Sea— <i>Jimmie Rodgers</i> |
| 21658 | Shreveport
Shoe Shiner's Drag— <i>Jelly-Roll Morton's Red Hot Peppers</i> |
| 21787 | Cross Roads
Marie— <i>Franklyn Baur</i> |
| 21783 | Say That You Love Me
I Want the World to Know— <i>Waring's Pennsylvanians</i> |
| 21786 | I'll Get by As Long as I Have You— <i>Irving Aaronson's Commanders</i> |
| | Sleep, Baby, Sleep— <i>McEnelly's Orchestra</i> |
| 21788 | Pompanola
Maybe This Is Love— <i>Waring's Pennsylvanians</i> |
| 21791 | Don't Hold Everything
To Know You Is to Love You— <i>The High Hatters</i> |
| 21792 | How About Me?— <i>Waring's Pennsylvanians</i> |
| | Sweet Dreams— <i>Nat Shilkret and the Victor Orchestra</i> |
| 21793 | Freshman Hop
A Bag of Blues— <i>Jack Pettis and His Pets</i> |
| 21794 | My Blackbirds Are Bluebirds Now
The Song I Love— <i>National Cavaliers</i> |
| 21795 | Feeling I'm Falling
Got a Rainbow— <i>Victor Arden-Phil Ohman and Their Orchestra</i> |
| 21798 | I Can't Give You Anything But Love
I Wonder If You Miss Me Tonight?— <i>Gene Austin</i> |
| 21799 | Where Were You—Where Was I? (Exactly Where We Are) (from the Musical Comedy, "Billie")
Billie (from Musical Comedy, "Billie")— <i>Polly Walker</i> |
| 21800 | Sweethearts on Parade
That's What Puts the "Sweet" in Home, Sweet Home— <i>Jean Gold-kette's Orchestra</i> |
| 21802 | Love Dreams
Jimmy Valentine— <i>Nat Shilkret and the Victor Orchestra</i> |
| 21806 | How About Me?
I'm Sorry, Sally— <i>Morton Downey</i> |
| 21807 | Evenin'
Comin' Home— <i>The Revelers</i> |
| 21809 | Me and the Man in the Moon
My Troubles Are Over— <i>Ted Weems and His Orchestra</i> |
| 21805 | My Blackbirds Are Bluebirds Now
Don't Be Like That— <i>Jean Gold-kette's Orchestra</i> |
| 21801 | A Room with a View
Dance Little Lady— <i>Roger Wolfe Kahn and His Orchestra</i> |
| V-29003 | Green Grow the Rushes—O
1. Blackberry Blossom
2. Bonnie Kate— <i>Irish Reels—Dan Sullivan's Shamrock Band</i> |

- | | |
|-------------------------|---|
| V-29000 | 1. Boys of the Lough. 2. Teetotal-ers— <i>Irish Reels</i>
1. Floggin'. 2. Miss McCloud— <i>Irish Reels—Neil Nolan</i> |
| V-29001 | Little Johnny Dugan
The Boys from Home— <i>Larry Griffin-Dinny Doyle</i> |
| V-29002 | My Old Dudeen
Off to Ireland— <i>Larry Griffin</i> |
| V-29004 | The Maid Behind the Barrel—Reel
The Frost Is All Over— <i>John Sheridan and His Boys</i> |
| V-29005 | The Lady of the House— <i>Irish Reel One, Two, Three—Packie Dolan</i> |
| 35951 | Prelude in C Sharp Minor
Prelude in G Minor (Rachmaninoff)— <i>Victor Concert Orchestra</i> |
| 35952 | Three Shades of Blue—Part 1
Three Shades of Blue—Part 2— <i>Paul Whiteman and His Concert Orchestra</i> (Ferdie Grofe) |
| 35953 | Twisting the Dials—Part 1
Twisting the Dials—Part 2 |
| 36000 | Two American Sketches (First Prize Award)— <i>Victor Concert Orchestra</i>
Song of the Bayou (Second Prize Award)— <i>Victor Salon Group</i> |
| V-38001 | Three Women Blues
Statesboro Blues— <i>Blind Willie McTell</i> |
| V-38002 | Forty Drops
Georgia Stomp— <i>Andrew and Jim Baxter</i> |
| V-38003 | This Morning She Was Gone
This Ain't No Place for Me— <i>Jim Jackson</i> |
| V-38004 | Wearly City
Bucktown Stomp— <i>Johnny Dodd's Washboard Band</i> |
| V-38005 | A City of Pure Gold
The Love of God— <i>Rev. F. W. McGee</i> |
| V-38006 | Bugle Call Rag
Pig Ankle Strut— <i>Cannon's Jug Stompers</i> |
| V-38000 | Crying and Sighing
Nobody's Sweetheart— <i>McKinney's Cotton Pickers</i> |
| V-38007 | I Must Have That Man
Bandanna Babies— <i>Duke Ellington and His Cotton Club Orchestra</i> |
| V-38008 | I Can't Give You Anything But Love
Diga Diga Do— <i>Duke Ellington and His Cotton Club Orchestra</i> |
| V38009 | Jogo Rhythm
Stuttering Blues—"Tiny" Parham and His Musicians |
| V-38010 | Kansas City Stomps
Boogaboogie— <i>Jelly-Roll Morton's Red Hot Peppers</i> |
| V-40000 | Wildwood Flower
Forsaken Love— <i>Carter Family</i> |
| V-40001 | A Married Man in Trouble
Chicken— <i>Vaughan Happy Two</i> |
| V-40002 | God Is Love
Life's Railway to Heaven— <i>Southern Railroad Quartet</i> |
| V-40003 | Triple Blues
Frisco Blues— <i>Allen Brothers</i> |
| V-40004 | The Deacon's Calf
Warhorse Game— <i>Georgia Yellow Hammers</i> |
| V-40005 | I'm Crazy Over Daisy
My Castle of Never Can Be— <i>Slim Lamar's Southerners</i> |
| 6844 | Thais—Meditation
Tambourin Chinois— <i>Fritz Kreisler</i> |
| 6857 | Troika en Traineaux
Polka de W. R.— <i>Sergei Rachmaninoff</i> |
| 6849 to 6852 | Quintet in F Minor (Franck)
<i>Alfred Cortot and the International String Quartet</i> |
| 6853 to 6862 | (Album M-37) Die Meistersinger (Overture), Gotterdam-erung, (Siegfried's Journey and Funeral March) Parsifal (Prelude)— <i>Berlin State Opera Orchestra</i> |
| 6863 and 6864 | Les Preludes (Symphonic Poem No. 3)— <i>Liszt—Parts 1 to 4—Alfred Hertz and San Francisco Symphony Orchestra</i> |
| 6867 | Song of the Viking Guest
Prince Igor—How Goes It Prince?— <i>Feodor Chaliapin</i> |
| 8104 | Forza del Destino—Finale—Part 1
Forza del Destino—Finale—Part 2— <i>Rosa Ponselle-Giovanni Martinelli-Ezio Pinza</i> |
| 9212 to 9217 | Symphony No. 4 in E Minor (Album M-31) Brahms in four movements— <i>London Symphony Orchestra</i> |
| Album M-40 6863 to 6872 | (Symphonies Under the Stars) Conducted by Goossens—On Five Double-Faced Records— <i>Hollywood Bowl Orchestra</i> |
| Album M-41 9265 to 9269 | Tristan und Isolde (Wagner) Act 3— <i>World Famous Wagnerian Singers and Orchestra</i> |

FRESHMAN *and* FREED-EISEMANN DEALERS *Only!*

EACH month this page will be here in the same place in this magazine, immediately preceding the Broadcasting Section.

You will find it good business to read it regularly.

It will carry a personal message to Freshman and Freed-Eisemann dealers only.

It will tell the dealers what the Freshman and Freed-Eisemann Divisions are doing to help them sell more receivers and sell them more easily.

It will be the *Official Organ* of our Comprehensive Dealer Co-operation Campaign. It will give you the latest information regarding our merchandising, selling and advertising plans.

Read this page regularly and you will know what we are doing to make 1929 the most prosperous year you have ever enjoyed.

NOTICE

See pages 12 and 13 for the announcement of the Freshman Freed-Eisemann Orchestradians, the largest dance orchestra ever put regularly on the air.

CHAS. FRESHMAN CO., INC.
NEW YORK CHICAGO SAN FRANCISCO LOS ANGELES KANSAS CITY
FREED-EISEMANN RADIO CORPORATION
BROOKLYN, N. Y.



FRESHMAN
YOUR ULTIMATE RADIO

WHAT'S ON *the* Radio?

Coming Broadcasting Features That Will Help You Sell

How Dealers Are Selling the Damrosch Concerts

Educational series makes ideal opportunity for sale of sets to schools.

BROADCASTING is the foundation upon which the radio industry is built. People buy radio sets in order to receive the splendid programs being broadcast every minute of the day. Chain programs, also, are providing entertainment, dance and orchestra music, and a variety of amusement of a very high order.

Some of these programs especially lend themselves to exploitation by the radio merchant. By giving them publicity and by bringing them to the attention of the people to whom they appeal, the dealer will find them a very effective aid to sales. Many dealers have found it profitable to take full advantage of the sales help thus afforded, as demonstrated by the dealers who are availing themselves of the opportunity provided by the broadcasting of the Damrosch concerts.

The special series of concerts for school children being broadcast by Dr. Walter Damrosch and his symphony orchestra is being enthusiastically received by listeners throughout the country. The concerts, which are sponsored by the Radio Corporation of America, are broadcast every Friday morning over a National Broadcasting Company chain of twenty-six stations.



Public schools throughout the country have installed radio sets to receive the Damrosch concerts.

To assist dealers to make the most of this sales opportunity, the Radio Corporation has organized a division of education under Alice Keith, who was formerly supervisor of music appreciation in the Cleveland schools and a member of the educational staff of the Victor Talking Machine Company.

Under the impulse of this new educational service in many communities, dealers report that they have been very successful in selling radio equipment to the schools, school superintendents, teachers, music

directors, parents and parent-teacher associations.

In Nashville, Tennessee, the Braid Electric Company and H. G. Weber, superintendent of schools, contracted for the installation of sets in all the city schools. To date, sixty-eight sets have been permanently installed. Receiver and speaker are contained in an all-metal, floor-model console. In those schools where the halls are not large enough to accommodate the entire body of pupils, additional speakers have been provided.

The programs are received from station WSM.

Radio dealers in many other cities and towns are also capitalizing these special school programs. J. L. Ray, vice-president and general sales manager of the Radio Corporation, estimates that thus far, 102,000 schoolrooms have been equipped with radio.

Dallas, Texas, has its entire school system equipped with radio sets; in Kansas City, the children listen to speakers in their own classrooms. New Orleans reports that 30 per cent of its schools are listening in and in Omaha, Nebraska, the Ed Patton Music Company has been equipping the schoolrooms with radio apparatus. In Fort Bend County, Texas, every rural school has a set and the district has installed its own station. Belleville, Illinois, has an excellent installation in the Signal Hill school.

But in addition to the R.C.A. educational hour broadcasts, there are many other programs which can be used by dealers in selling school boards and other educational bodies on the necessity for radio equipment in their schools. For example, during the past year, some excellent programs available for school purposes were: The Pan-American Conference, Havana, Cuba, at which President Coolidge and President Machado spoke; memorial services at Gettysburg at which President Coolidge spoke; the Republican and Democratic national conventions; speeches by prominent local and national political candidates, and the New York Symphony Orchestra children's concerts. (Please turn to next page)

"Dealers Are Making the School Concert Series a Success"

—DR. WALTER DAMROSCH

RADIO dealers are lending invaluable aid to Walter Damrosch in his work of musical education, Mr. Damrosch said in a recent exclusive interview with a representative of *Radio Retailing*. The dean of American conductors is now broadcasting through the National Broadcasting Company system two series of concerts—the RCA Educational Hour for school children Friday mornings and his Saturday evening concerts for adults with the National Orchestra of the NBC.

"As a consequence of the concerts for boys and girls, literally thousands of schools have installed radio sets in order that their pupils may listen in and thereby lay a foundation for musical culture," he said. "Radio dealers can greatly help this movement by urging the proper authorities to install radios in all of the public grade and high schools of their respective communities. Many of them have already done so—often at a sacrifice to themselves. They have been loaning sets or selling them at a considerable discount to schools and classrooms which otherwise might not have been able to afford them.

"We have had scores of letters from teachers and pupils revealing that they owe their opportunity to hear these programs to some local representative of the trade. I should like to thank these public-spirited citizens for what they are doing to help make the series a success.

"The radio is, I believe, the most remarkable force for the dissemination of musical culture that the world has ever known. It should not be many more years before this country can qualify as a really musically appreciative nation."

The Damrosch school concerts are being broadcast as follows:

For grades 3 and 4:

Friday, 11 o'clock. January 4 and 18, February 1 and 15, March 1 and 15, April 5 and 19 and May 3.

For grades 5 and 6:

Friday, 11 o'clock. January 11 and 25, February 8 and 22, March 8 and 22, April 12 and 26, and May 10.

For grades 7, 8 and 9:

Friday, 11:30 o'clock. On the same dates as the grade 3 and 4 broadcasts.

For high schools and colleges:

Friday, 11:30 o'clock. On the same dates as the grade 5 and 6 broadcasts.

Columbia Chain Now Has 49 Stations

The opening of a radio network of forty-nine broadcasting stations and the purchase of WABC to be the eventual key station of the Columbia chain were approved recently at a meeting of the directors of the United Independent Broadcasters, Inc., which owns and operates the Columbia system.

The board also passed a recommendation for the change of name of the United Independent Broadcasters, Inc., to the Columbia Broadcasting System, Inc.

William S. Paley, who recently became president of the United Independent Broadcasters, Inc., will continue in that capacity for the new network. Major J. Andrew White, Columbia president, becomes managing director.

Steps will be taken to increase the power of WABC, as well as the standard of its programs. New studios will be built.

WABC will not serve as the sole key station of the Columbia Broadcasting System until after September, 1929, when contracts with WOR as a part time key for the Columbia system will have expired.

The new stations are arranged in four groups covering the South, Southwest, Rocky Mountain and Pacific Coast districts, and will be added to the present system, with which twenty-seven stations located in the East, the Middle West and Northwestern areas are already affiliated. Operation of the chain was started with an elaborate program on January 8.

The stations of the system, arranged in their respective groups follow:

Basic: WABC, WOR, 2XE (short wave), WEAN, WNAC, WCAU, WFAN, WCAO, WEBL, WMAK, WKBW, WLBW, WJAS, WHK, WADC, WAIU, WSPD, WKRC, WGHP, WOWO, WGL, WMAQ, WBBM, KMOX, KMBC, KOIL and WMAL.

Southern 1: WRVA, WTAR and WWNC.

Southern 2: WLAC, WODD, WBRC and WREC.

Southern 3: KFJF, KFH, KRLD, KTSA and KTHS.

Far West: KLZ, KDYL, KYA, KMTR, KTR, KEX and KGA.

Supplementary: WCCO, WISN and WML.

Belle Baker to Broadcast on January 13

Belle Baker, well-known vaudeville headliner, will be the featured artist in the program that the Majestic Theatre of the Air will present on Sunday night, January 13, at 9 o'clock E.S.T., over a Columbia network of 42 stations.

Miss Baker, "the Incomparable," has played on the Keith circuit for twelve years

and is one of its biggest headliners. At her last appearance at the Palace Theatre in Cleveland, thousands of people were unable to gain admission. This popular singing comedienne has starred in both Ziegfeld's "Betsy" and in Shubert's "Artists and Models." Arnold Johnson's orchestra, now featured in George White's "Scandals," will provide the dance music for the program.

Entire Country Now Covered by 58 N.B.C. Stations

The Pacific Coast was permanently linked to the nation-wide radio network of the National Broadcasting Company December 24, when a 24-hour program circuit from Denver to San Francisco was hooked up for coast to coast distribution of programs. This is the final link connecting the fifty-eight stations associated with the N.B.C., and the maintenance of the complete national circuit will cost \$220,000 annually.

The new Pacific Coast circuit serves two intermediate transmitters: KSL, Salt Lake City, and KOA, Denver. Amplifiers or "repeater" points in five states check the transmission of each program as it passes along the 1,600 mile line. According to a recent survey, the company's eastern circuits serve 69.4 per cent of the radio audience in the United States and the Pacific Coast system reaches 12.1 per cent.

"Radio Wagon" Demonstrates Quality Programs

Lyon and King, Atlanta, Georgia, have a very flexible method for bringing programs where they will be most effective. They have mounted a radio set, together with the necessary accessories, on a small hand wagon which is clearly marked with the name and address of the company.

When there is anything important on the air, such as the returns from the "Georgia Tech" football game, or the Dempsey-Tunney fight, a uniformed boy tows the wagon out and parks on some main corner.

The outfit invariably collects a crowd, and on many occasions, when the program



was especially interesting, it has been shooed away by police because it obstructed traffic.

When the set is not being towed around town, it was parked in front of the Lyon and King store. The "set on the wagon" has become familiar to all downtown Atlantans.

Features of the Air

The Freshman Orchestrians, one of the largest dance orchestras on the air, started a series of broadcasts through the NBC system on Tuesday, January 1. On alternate weeks the big orchestra, sponsored by the Charles Freshman Company, Inc., makers of Freshman and Freed-Eisemann sets, will appear as the *Freed-Eisemann Orchestrians*. Beginning January 15, the broadcast will be nation-wide.

* * * *

The headliners of the January 13 Atwater Kent Hour will be *Nina Morgana*, the operatic soprano, and *John Powell*, pianist and composer. The Atwater Kent Hour goes on at 9:15 p.m.

* * * *

Station KSTP, St. Paul, Minnesota, announces a number of features for the week of January 7. On Monday, January 7, the *Seegers Melody Musketeers* will go on at 7:30 (Mountain Time) with trio, quartette and orchestra numbers. On Friday, January 11, at 9:30, the "Dusk in Dixie" program is offered. *The Perculators* will feature the Saturday, January 12, program with a series of orchestra numbers. They go on at 6 p.m.

* * * *

The *Wrigley* weekly program is now on both the NBC and the Columbia networks. For some time, it has been going through WJZ and its affiliated stations on Friday nights and it has now also been placed on the Columbia chain.

* * * *

A "Guess Who" matinee is being featured by station KOA, Denver, Colorado, on Thursday, January 9, from 4 to 5 p.m. Listeners will be given the opportunity to check their memory of voices and technique for all the soloists will be well-known radio performers. The names of the artists will be announced in the last half of the program. On Monday, January 14, at 10:30 p.m., KOA will broadcast "Nonsense," a dark-town farce by the *Koa Koons*, black-face comedians. Old college songs are to be featured on Wednesday, January 16, at 10:30 p.m.

* * * *

Starting with Friday, January 4, at 10 p.m., the Hudson-Essex organization has begun a six-months' series of weekly broadcasts over the WJZ national network.

* * * *

Eddie Cantor, Julius Tannen and Ruth Etting began the new series of "Majestic Theater of the Air" performances over the Columbia chain on January 6. They were the first of a long list of famous operatic and dramatic stars who have been engaged by the Grigsby-Grunow Company to replace the *Two Black Crows, Moran and Mack*. The Majestic program will be broadcast every Sunday night at 9 p.m., over a network of 43 stations.

* * * *

The thirtieth annual convention of the New Jersey Mason Material Dealers' Association at the Hotel Chelsea Convention Hall announces the engagement of the popular WPG *Sea Memories Entertainers* headed by *Captain Smith Elmore*, basso profundo of musical comedy and Keith headliner fame. *Ellen Kannard*, soprano, has been added to the group, which includes *Ethel Rattay* as accompanist. The performance of this unique trio, in nautical costumes, will offer an admirable diversion. They will broadcast from WPG on Friday, January 11, at 8:45 p.m.

Timetable of Principal Chain Broadcasting Programs

Use this chart in tuning in for demonstrations—A timetable of morning and afternoon programs will be published next month

		6.00	6.30	7.00	7.30	8.00	8.30	9.00	9.30	10.00	10.30
SUNDAY	NBC-WEAF	Stetson Parade	Acousticon Hour	Old Co.	Capitol Theatre Family	Capitol, Continued	Capitol, Continued	9.15-Atwater Kent Hour	Atwater Kent Continued	10.15-National Light Opera	Light Opera, Continued
	NBC-WJZ		Whittall Anglo-Persians			8.15-Collier's Hour	Collier's Hr., Continued	9.15-Utica Jubilee Singers	9.45-El-tango-Romantic	El-tango-Romantic, Continued	
	COLUMBIA					Around the Samovar	La Palina Hour	Majestic Hour	Majestic, Continued	De Forest Hour	Souvenirs
	NBC-PACIFIC COAST	6.15-Atwater Kent Hour	Atwater Kent, Continued	7.15-Enna Jettick Melodies	Whittall Anglo-Persians						
MONDAY	NBC-WEAF				James G. MacDonald	Voice of Firestone	A. & P. Gypsies	A. & P., Continued	General Motors	G. M., Continued	National Grand Opera
	NBC-WJZ			South Sea Islanders	Roxy's Gang	Roxy's Gang, Continued	Automatic Duo-disc	Neapolitan Nights	Chesebrough Real Folks		
	COLUMBIA					Music Room	CeCo Couriers	Phys. Culture Magazine Hour	Vitaphone Hour	United Light Opera	United Light Opera, Continued
	NBC-PACIFIC COAST		General Motors	G. M., Continued		Seiger's Symphonists	Symphonists, Continued	Voice of Firestone			
TUESDAY	NBC-WEAF			Voters' Service	Soconyland Sketches		Prophylactic Hour	Eveready Hour	Eveready Hr., Continued	Clicquot Club Eskimos	Los Sevillanos
	NBC-WJZ		Savannah Liners Orchestra		Memory's Garden	Stromberg-Carlson	Michelin Men	3-in-1 Theatre	Dutch Master's Minstrels	16 Singers	Freshman-Freed-Eisemann
	COLUMBIA					School Days	Beautiful Lady	Hank Simmon's Showboat	Hank Simmon's Showboat, Continued	Voice of Columbia	11-Wrigley's Royal Canadians
	NBC-PACIFIC COAST	Eveready Hour	Eveready Hour, Continued	Clicquot Club Eskimos	Los Sevillanos		Amazo's Gitanos			Trocadereans	Trocadereans, Continued
WEDNESDAY	NBC-WEAF		Fox Fur Trappers		La Touraine Tableaux	Mediterranean	Mediterranean, Continued	Ipana Troubadors	Palmolive Hour	Palmolive Hour, Continued	
	NBC-WJZ			Jeddo Highlanders			Sylvania Foresters	Smith Brothers		Balkite Hour	Balkite Hour, Continued
	COLUMBIA					Musical Episode	Merry-makers	Daguerro-types	La Palina Smoker	Kolster Hour	Night Club Romances
	NBC-PACIFIC COAST		Palmolive Hour	Palmolive, Continued	Yellow Cab Gayeties		Hill Billies	Associated Motormates		10-12 Trocadereans	
THURSDAY	NBC-WEAF				Coward Shoe Hour	Forhan's Song Shop	Hoover Sentinels	Seiberling Singers	Contra-tones	Halsey-Stuart Hour	
	NBC-WJZ		Selbert's Furville			Lehn & Fink Serenade	Champion Sparkers	My Lady's Musicians	Maxwell House Hour	Wayside Inn	Fortune Teller
	COLUMBIA					United Opera	United Opera, Continued	Columbians	Sonora Hour	Close-Ups	Merry-makers
	NBC-PACIFIC COAST	Seiberling Singers			Standard Symphony Hour	Standard Symphony, Continued	Memory Lane	Memory Lane, Continued		10-12 Trocadereans	
FRIDAY	NBC-WEAF		Raybestos Twins	Happy Wonder Bakers	Happiness Boys	Cities Service Orchestra and Cavaliers	Cities Service Orchestra, Continued	Evening in Paris	Rapid Transit	N.B.C. Hour	N.B.C. Hour, Continued
	NBC-WJZ		Chopin Eight		Dixie's Circus		Armstrong Quakers	Wrigley Review	Phileo Hour	Hudson-Essex hour	
	COLUMBIA		6.45-Enna Jettick Melodies			Crystal Gazer	Then and Now	True Story Magazine Hour	True Story Hour, Continued	United Choral Singers	30-Minute Men
	NBC-PACIFIC COAST	Wrigley Review	Phileo Hour			RCA Hour	RCA Hour, Continued		Moon Magic	10-12 Trocadereans	Trocadereans, Continued
SATURDAY	NBC-WEAF		White House Dinner Music			National Orchestra	National Orchestra, Continued	Lew White, Organist	Miramba Orchestra	Lucky Strike Orchestra	Lucky Strike Orchestra, Continued
	NBC-WJZ				7.45-Dr. Julius Klein	Godfrey Ludlow Violinist	Sam Herman's Xylophonist	Great Composers	Great Composers, Continued	10.15-Among Ourselves Series	
	COLUMBIA										
	NBC-PACIFIC COAST			Lucky Strike Orchestra	Lucky Strike Orchestra, Continued			Golden Legend	Golden Legend, Continued	The Big Show	The Big Show, Continued to 12

In first column at left, NBC-WEAF indicates the National Broadcasting Company chain with WEAF as key station. NBC-WJZ indicates the chain of which WJZ is the key station.

This chart is copyrighted by *Radio Retailing*. Permission to reproduce is granted only if proper credit is given.

Note—Time figures are for Eastern Standard Time, except for Pacific Coast programs. Time figures then indicate Pacific Coast Standard Time.



EVEREADY LAYERBILTS

GIVE 25% TO 30% LONGER SERVICE, YET COST YOU ONLY A FEW CENTS MORE

IF YOU have been buying the Medium Size Eveready "B" Battery No. 772, at \$2.75, add only 20 cents to what you have been paying, and get the Medium Size Eveready Layerbilt "B" Battery No. 485. For these few extra cents you get a genuine Eveready Layerbilt, made of flat cells. It will last 25% longer than the cylindrical cell battery of the same size.

If you have been using the cylindrical cell Heavy Duty Eveready "B" Battery No. 770, at \$4, next time add just 25 cents to its price, and get the Eveready Layerbilt "B" Battery No. 486. This is the

Eveready Layerbilt, the longest lasting, most economical and convenient of all Evereadys. It contains much more active materials than the cylindrical cell Eveready of the same size, and lasts 30% longer.

It is possible to pack more active materials inside an Eveready Layerbilt because it is built of flat cells. These pack together tightly, occupying all available space inside the battery case.

is why it lasts so much longer. Next time you buy "B" batteries, get Eveready Layerbilts.

Layerbilt construction is a patented Eveready feature. Only Eveready makes Layerbilt batteries. National Carbon Co., Inc., New York, San Francisco. **UCC** Unit of Union Carbide and Carbon Corporation.

TUESDAY NIGHT IS EVEREADY HOUR NIGHT—East of the Rockies, 9 P. M. Eastern Standard Time, through WEAF and associated N. B. C. stations. On the Pacific Coast, 8 P. M. Pacific Standard through N. B. C. Pacific Coast network.

FOR THE NEW RADIO SETS

This is the Eveready Layerbilt story being told to your customers during January in national magazines and farm papers

Keeping in Touch with

RADIO MANUFACTURING



Automatic Volume Control For Receiving Sets

The automatic volume control has now been placed on the market. As far as is known two companies have been at work on the development of this device, one being the Hazeltine Corporation, the other the Radio Corporation of America. In order to inform our readers as to the details of this development there follows a complete description of the Hazeltine method.

"Automatic volume control in a radio receiver, as the name implies, performs automatically most of the functions of the ordinary "volume control" knob. This accomplished, the receiver becomes a true unicontrol set, with only the tuning adjustment to select any desired station.

"The ordinary volume control has to perform three functions, namely: adjust the reproduce output to any desired intensity, compensate for differences in signal strength of stations at various distances, and compensate for signal variations caused by "fading." Automatic volume control accomplishes the last two objectives in a very satisfactory manner. The received signal is amplified by a radio-frequency amplifier and applied to a detector. By means of an automatic volume-control circuit, the amplified signal automatically reduces the radio-frequency amplification by an amount which is directly related to the received signal intensity. As a result, the amplified signal intensity is held at a constant level, even though the received signal may be very strong or very weak.

"While automatic volume control can compensate almost perfectly for differences in signal intensity, even when caused by "fading," the operator must adjust the audio-frequency power amplifier to deliver the desired volume of sound at the reproducer. With automatic volume control this "volume level" adjustment is made only once, and thereafter all stations within the receiving range of the set are reproduced with the same loudness. Since the automatic control operates on the radio-frequency amplifier alone, music and speech are not in any way distorted by its action.

"At the November 5, 1927, meeting of the Institute of Radio Engineers, a paper entitled "Automatic Volume Control for Radio Receiving Sets" was presented by Harold A. Wheeler, engineer of the Hazeltine Corporation in charge of automatic volume control developments. This paper appeared in the "Proceedings" of January, 1928, and constitutes the first publication dealing with automatic volume control adapted to radio broadcast receivers.

"The idea of tuning by eye with the aid of a panel meter was incorporated in the Howard Radio Co. receivers, and was described in the above paper, as an accessory to automatic volume control. Since the

reproducer volume does not fluctuate in the customary manner while the operator is tuning the set, it becomes difficult to tune the receiver accurately by ear. With automatic volume control, however, the plate current consumed by the radio-frequency amplifier is *smallest* when the receiver is exactly in tune with any given signal. An arrangement had been devised for utilizing this feature, as follows: A panel milliammeter for the radio-frequency amplifier was inverted so that the pointer moved to the right with *decreasing* plate current, and therefore moved farthest to the right when the receiver was exactly in tune with the signal."

A complete description of the method used by the Radio Corporation will also be published as soon as it is made available.

Dynamic Speaker Defined

A definition of "dynamic" speakers was adopted by the Board of Directors of the R.M.A. recently. The definition is designed to aid the public in its purchases of speakers and to assist radio manufacturers and distributors in their advertising. It is as follows:

"A Dynamic Speaker is one in which a portion of the conductor carrying the alternating signal current is a part of the moving system, the force producing the motion being due to the location of this conductor in a magnetic field."

Four Way Mounting Needed for Condensers

A survey recently carried out among radio receiver manufacturers and custom set builders, by the DeJur Amsco Corp. brought to light a few interesting points pertaining to variable condensers.

First, that manufacturers of variable condensers limit their scope of operation by designing the mounting of the condenser in a manner which will permit just one arrangement. Second, that in very few instances, are condensers mounted directly upon the receiver front panel, with the shaft protruding through the panel. That practice so popular in days gone by is now taboo, since it necessitates a front panel dial and consequently disfigures the panel appearance. Third, that mounting requirements for drum dials differ in practically all receivers and a single or a multiple section tuning condenser which can be mounted in but one position finds very little general utility. Space requirements in many receivers necessitates the location of the tuning condenser in a position which does not align with the mounting holes. It is therefore of great advantage to produce condensers which are equipped so that they can be mounted in any position.

Use Net Prices Instead of Trade Discounts

The Radio Corporation of America in a recent message to its distributors says, "There is a rapid growing tendency on the part of manufacturers in industries allied to ours to discontinue the use of trade discounts and instead to employ net prices in the sale of their products to the trade. This new practice has acknowledged advantages for obtaining accuracy and facility in general sales procedure. Definite net sales prices allow of no misunderstanding or mistakes such as those caused by the use of improper discount percentages or miscalculations.

"After carefully studying the benefits to be derived from the use of net trade prices, we have decided to discontinue trade discounts and will therefore employ only net prices in our sales and accounting procedure with our distributors. We suggest and recommend that our distributors also employ the net prices suggested for resale to authorized dealers. Distributors should be careful, however, to always state the list price."

This is an excellent idea and it is hoped that more manufacturers will adopt this plan and thus avoid the confusion which has arisen in many cases through the use of trade discounts.

Refinishing Cabinets

The Atwater Kent Manufacturing Company in order to relieve distributors of considerable transportation expense in returning cabinets to the factory for refinishing, have arranged for pint cans of retouching lacquers to be made up for Models 37 and 38. These lacquers are supplied in all the various colors used on these sets. The factory suggests that where retouching work has to be done it is done at the distributors service department rather than by the dealers. This is a very excellent idea and should be followed by other manufacturers.

Radio Prospecting

As an aid to the study of the use of geophysical methods in prospecting for underground mineral deposits, a matter now commanding much attention in this country, the United States Bureau of Mines, Department of Commerce, has just published translations of certain papers by various Russian authors on measurements of terrestrial radioactivity, which detail the results of experimental work conducted in different areas in Russia. In connection with the publication of these translations, F. W. Lee, senior physicist, Bureau of Mines, has written a paper on radioactive

1929

ALUMINUM CONDENSERS

SEVERAL years ago one of the leading radio producers asked Aluminum Company of America for a special close tolerance aluminum condenser blade stock. Specifications required that variations in thickness within a single sheet should be less than .0005" and the gauge tolerance from sheet to sheet $\pm .001$ ". By special process aluminum sheet was produced that was satisfactory both in gauge and flatness. Other radio manufacturers were quick to adopt this special "radio flat sheet." This material has been produced in quantity for two years and has been of uniform high quality. Aluminum is the logical material for the "heavy" condenser blades now required in sets that are housed in the same cabinets with powerful loud speakers. Aluminum blades do not vibrate and produce microphonics. A variety of efficient assembling methods are applicable to aluminum, such as die-casting, staking, and swedging. Maintenance on tools used for punching aluminum blades is negligible. Aluminum condenser blades will be found in the great majority of the new sets in 1929.

ALUMINUM SHIELDING

SHIELDING will be universal in 1929 sets because it permits engineers to use the highest gain per stage of amplification in their new designs. Aluminum shielding was successfully used on 22 leading sets last year. Five other prominent manufacturers are either adopting aluminum shielding or returning to it. The reason is evident. Aluminum is highly efficient electrically, especially at radio frequencies. It works easily and well in the shop. It has its appeal to both purchaser and producer, because it is attractive in appearance, light in weight and non-corrosive. It adds the mark of quality to a set. Aluminum just naturally possesses the right qualities for radio shielding. Aluminum shields will be found to be economical in first cost, in production and in finishing.

* * *
ALUMINUM COMPANY OF AMERICA produces aluminum and its alloys in every commercial form. Also magnesium products. Aluminum foil is the best material for fixed condensers. Radio manufacturers use aluminum sheet, wire, rod, tubing, stampings, die-castings, sand-castings, strong alloys, extruded shapes, screw machine products, aluminum wood grain panels and other aluminum parts to advantage. Inquiries are solicited.

ALUMINUM COMPANY OF AMERICA

ALUMINUM IN EVERY COMMERCIAL FORM

2462 Oliver Building, Pittsburgh, Pa.

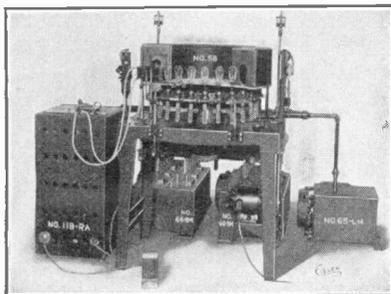
Offices in 19 Principal American Cities

ALUMINUM
The mark of Quality in Radio

substances and the methods for locating them. This material appears in Information Circular 6072, entitled "Russian Papers on Measurements of Terrestrial Radioactivity," and may be obtained from the United States Bureau of Mines, Department of Commerce, Washington, D. C.

New A.C. Tube Exhaust Machine

The Eisler Engineering Co., Inc., 740-772 South Thirteenth Street, Newark, N. J., has adapted its twenty-four position A.C. automatic exhaust machine for making A.C. tubes. The machine is equipped with a variable step transformer for lighting filaments during the exhaust period; also does double bombarding, air cooling and automatic tipping off of exhausted tubes.



Directly connected to the machine is a battery of Eisler high vacuum pumps. These pumps play an important part in securing the high vacuum so necessary in A.C. tubes.

TELEVISION

What Overload Does to Kino-Lamps

In the desire to secure greater illumination not so much in television reception as in general experimentation, there is always danger of overloading the neon or kino-lamp. In the case of the Raytheon kino-lamp, the current should be limited to 25 milliamperes for long life, which is obtained by operating on 235 volts with a 50,000 ohm adjustable current-limiting resistor in series.

Just what happens when a kino-lamp is overloaded? Answering this question, D. E. Replogle of the Raytheon engineering staff, states:

"Of course the illumination from an overloaded kino-lamp is enormously increased, but the life is correspondingly decreased. The neon gas is rapidly cleaned up or exhausted, as the result of overload, and other gases present in the metal and glass parts, are driven into the diminishing neon content, causing a change in color of the glow from the rich pink to a sickly lavender. The kino-lamp should be operated at 25 milliamperes or less. The life is cut in half if the current flow is raised 50 per cent, with still more rapid decrease of life beyond that overload.

"An overloaded kino-lamp soon loses its uniform glow, and the illumination on the plates becomes spotty. This is due to the boiling out of gases deeply imbedded in the plates, which would not be boiled out under normal operating conditions. Excessive overloading causes the plates to buckle from the heat generated. The glass beads may be cracked by the heat, causing leakage of current. Voltage breakdown

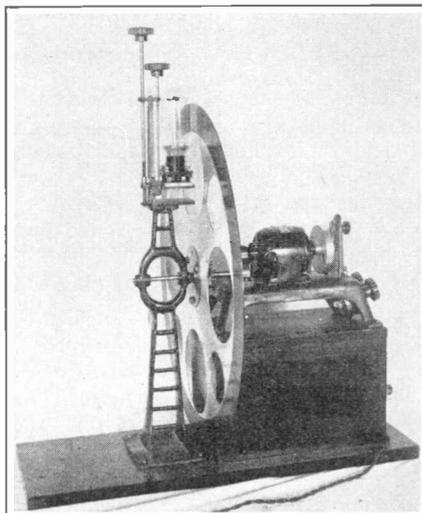
takes place between closely spaced wires, due to the presence of other gases and water vapor.

"A kino-lamp that has been seriously overloaded is, of course, more or less permanently ruined and should be replaced by a new kino-lamp for any precision work such as television reception. Nevertheless, due to the care with which such a device is made in the first place, it is possible to restore the damaged lamp to some extent, at least for experimental applications. The damaged kino-lamp should be operated at a current drain of 20 milliamperes for hours, following the same practice of the original aging of the tube at the factory. This procedure should restore a more or less uniform glow over the plates, although of reduced intensity and changed color. If alternating current is applied, both plates will be treated simultaneously. If direct current is applied, such as from a B power unit, only one plate will be treated at a time. A re-aged kino-lamp will usually be good enough for ordinary experimental use, so that it need not be a total loss.

"Nevertheless, an ounce of prevention is worth a ton of cure, when it comes to the operation of kino-lamps."

Television Kit

An automatic television kit comprised of a driving motor, automatic speed control and adjustable kino-lamp mounting, is now being made by the Clarostat Manufacturing Company, Inc., 285 North Sixth Street, Brooklyn, N. Y.



The motor is of the 1/25 hp. high-speed type, with reduction gearing and flexible coupling for driving the scanning disc. On the motor shaft is mounted a special centrifugal governor actuating a pair of contact points in series with the motor current supply. The contact points are shunted by an adjustable resistance. Thus when the speed of the motor rises above a given point, the centrifugal governor opens the contact points, reducing the current to the extent of the resistance then thrown into the circuit. As the speed of the motor falls below a given point, the contact points close, short-circuiting the resistance and restoring full current to the motor.

Two special power clarostats are used as the controls for obtaining any desired speed and also for trimming the sparking at the contact points by varying the degree of short-circuited resistance.

The kino-lamp is mounted on an adjustable platform which, by means of rack and pinion movements, may be micrometri-

New Television Transmitter



Philo T. Farnsworth, the inventor of a new type of television transmitter and receiver said to do away with the usual scanning disc. Photo shows Farnsworth beside the latest working model of his television transmitter with one of the transmission tubes used.

cally raised or lowered as well as shifted from side to side. In this manner the light source can be adjusted for any variations in the kino-lamp, and the image aligned with the opening through which it is visible.

Baffle Board Sizes

The size of baffle is largely governed by the results to be obtained. A well designed baffle is made of non-resonant wood such as spruce, or some material of a pressed composition which is non-resonant.

If the baffle is 2 ft. square it should be at least 1 in. thick; if 3 ft. square 1½ in. thick; 4 ft. square 1¾ in. thick; 5 ft. square 1¾ in. thick; 6 ft. square, 2 in. thick.

Round baffles should follow approximately the same dimensions. The unit should be mounted exactly in the center of the baffle with the cone mounting ring flush with the surface. A hole should be cut in the baffle, the size of the inside diameter of the cone.

A baffle is not a sounding board but really an obstruction forcing the cone to move great volumes of air. Normal air pressure is 15 pounds per square inch on a surface. Supposing the cone moves outward ¼ of an inch. This creates a pressure on the front surface of the cone of a plus pressure over 15 pounds. Take this pressure to be plus 1 pound, then an equal minus pressure under 15 pounds is created on the back surface of the cone or minus 1 pound, making a difference in pressure between the front and back surfaces of the cone of 2 pounds. The pressures tend to equalize again to restore equilibrium and the air is forced from the front surface of the cone around the baffle, the shortest way, to the back surface of the cone; thus setting in motion a large volume of air.

The larger the baffle board, the greater the volume as well as greater amplification of the lower frequencies.

RADIO TRADE MARKS

The following is a report of trade marks favorably acted on by the United States Patent Office during the past month and which, unless opposed, will be duly registered. Anyone believing that such registration would be an infringement of his own rights may oppose the application or seek its cancellation.

The editors of *Radio Retailing* have arranged with Lester L. Sargent, patent attorney, of 1115 K Street, Washington, D. C., by whom this report is furnished, to

BETTER MAGAZINES

Through Co-ordinated Publishing Facilities

DURING THE LATTER HALF OF 1928 the McGraw-Hill Publishing Company took two important steps in the development of its program of logical progress and growth. Through mergers with the A. W. Shaw Company and the Textile World organization three new magazines were added to the McGraw-Hill group, making 24 in all.

In their entirety these publications now cover the five major branches of engineering—civil, electrical, mechanical, mining and chemical—and the industries allied with them. They embrace also two divisions of the field of transportation, the electrical and radio trades, the food and textile industries. In addition they serve the interests of production management and service-to-production in all manufacturing industries. And, finally, they enter the broad field of commerce, business and finance.

The effect of this continuous evolution of the McGraw-Hill program has been to expand steadily the gathering and dissemination of business news, to insure the recording of all important industrial developments, to provide authoritative interpretation of events, and to strengthen the activities of each publication through internal co-ordination and co-operation. Publishing facilities for the group as a whole have been enhanced beyond those which any single paper or lesser group might enjoy, and these advantages have found expression in better publishing media for the service of American business and industry.

The spirit animating this co-ordination of related publishing activities is a response to the increasingly severe and exacting demands upon business publishers. It springs from a recognition not only of the desire but also of the necessity for broadening and strengthening the service of the publications to their respective

fields. It is in harmony with the spirit of progress and growth so characteristic of industry and business in this country. It is broader than the mere desire to be in step with business tendencies. The business press, if it is not to lag in the leadership it has attained in the past two decades, cannot rest on its record of performance. It must keep a step in advance, must have the forward look.

Advantages of Co-ordination

DOES IT REQUIRE publishing experience to see the value of co-ordinating publishing facilities? The co-ordinated organization can throw a drag-net over the industrial, engineering and business world; it has the personnel and the facilities for covering all new events, ideas and developments. Today, on the McGraw-Hill publications there are 128 editors specializing in interpretative, creative, technical, commercial and research writing or investigation. Each paper has its own independent staff and is served, in turn, by an effective news-collecting agency, which has the needs of every staff in mind and which knows the interests of the readers of each publication. At the same time each individual publishing staff naturally stimulates and supplements the others through exchange of information from different fields of business and industry.

Thus the collection of data on new developments is broader and its interpretation more authoritative. The leadership of the papers along the avenues of sound progress is surer and more aggressive.

This has been our experience with the entry of every new paper into our group. Just now we expect a particularly great stimulus within the organization from our association with *The Magazine of Business*. For all the other McGraw-Hill publications *The Magazine of Business* now forms a capstone.

It is in truth a magazine of American business, for it serves the policy-forming executives in all branches—in trade, industry and finance, and in all

of the servicing branches, such as transportation, communication, power, insurance and warehousing. It goes to many men who already read McGraw-Hill and other industrial papers. It in no sense replaces them. It talks to specialists, not as the industrial paper does, in terms of their specialties, but in the broader terms of those factors which affect all business from without. It will, therefore, bring to each McGraw-Hill publishing staff a broader sounding of the whole stream of business. At the same time *The Magazine of Business* will draw upon all of these editors for an intimate understanding of the flow of business, as these 128 trained observers see it from day to day in their visits and correspondence with thousands of business men, engineers and industrialists in specific industries. The help of these editors will be all the more valuable because of their intimate contact with science and engineering which are the bases on which modern industry and business are built.

A Great Responsibility

IT IS IN THESE WAYS that, through improved editorial service, the public benefits from the co-ordination of publishing facilities. There are returns to the public, too, through co-ordinated advertising and circulation activities; through economies in production, in purchasing, in administration. All of these enable more money to be spent on the primary service—that of building a better editorial service for the reader.

We are fully conscious that our magazines are an important and direct avenue to the minds of America's business men, her industrialists, and her engineers. Apart from any wish of publisher or reader, such an avenue is bound to create business and industrial opinion and, therefore, affects American business, and, indirectly, the whole American public. Ours is a responsibility of which we are keenly aware. We propose conscientiously to discharge it in the interests of business and the public.



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.

NOVEMBER 13, 1928

"Bosch and picture of spark plug, for vacuum tubes, primary batteries, storage batteries, electric transformers, switches, etc. Used since August 15, 1922. Robert Bosch Aktiengesellschaft, Stuttgart, Germany. Ser. No. 181,169.

"H O B" with hexagonal border, for telegraphic and radiotelephonic equipment consisting of assembled audio frequency amplifying units, antenna switches, automatic controls for motors, antinoise sets, adjustable condensers, relays, compensation contactors, current-regulating units, carbon microphones, condenser microphones, choke coils, chopper discs, battery switches, beat oscillators, coupling units, circuit panels, combined mechanical and electrical mechanism for regulating motor speed, cable switches, cable-switch panels, cable transmitters, clips (connecting), commutators, electromagnetic reproducers for phonograph records, field amplifiers, gain controls, ink recorders for telegraphic signals, leak boxes, loading coils, microphone announcing stands, radio photograph-receiving units, radio photograph-transmitting units, radial-arm rheostats, relay banks, start-stop distributors, storing transmitters, variometers. Used since June 9, 1927. H. O. Boehme, Inc., New York City. Ser. No. 253,132.

"Venus" for thermionic vacuum tubes. Used since February 1, 1928. C. E. Manufacturing Co., Inc., Providence, R. I. Ser. No. 266,298.

"Philco" for radio receiving sets and radio speakers. Used since June 25, 1928, upon radio receiving sets and since July 31, 1928, upon radio speakers. Philadelphia Storage Battery Co., Philadelphia, Pa. Ser. No. 272,425.

"By Heck" with picture of farmer, for radio products—namely, radio receiving sets, radio "A" batteries, radio "B" batteries, radio tubes, radio "C" batteries, transformers, loud speakers, radio battery dry cells, socket power units, "B" eliminators, "A" chargers, and units for radio apparatus. Used since January 1, 1926, Raymond's Inc., Boston, Mass. Ser. No. 272,430.

NOVEMBER 20, 1928

"Record-Lowaver" for frequency changer for use in radio, telegraphic, telephonic, and television reception. Used since June 1, 1928. Richardson Electric Corporation, Fort Lauderdale, Fla. Ser. No. 271,621.

"Little Marvel" inclosed in elliptical design including wings and harp, for radio crystal receiving sets. Used since March, 1928. Marvel Radio Manufacturing Co., Inc., Des Moines, Iowa. Ser. No. 272,167.

"Como" for storage batteries and parts thereof. Used since Sept. 19, 1928. Gould Storage Battery Co., Inc., Depew, N. Y. Ser. No. 273,297.

NOVEMBER 27, 1928

"Dealerola," for speakers of the telephonic-receiver type suitable for use in connection with radio receiving sets and phonographs. Used since August 25, 1927. Temple, Incorporated, Chicago, Illinois. Ser. No. 264,541.

"Ohmite," for resistors for voltmeters, radio receivers, transmitters and battery eliminators, etc. Used since August 1, 1925. Ohmite Manufacturing Company, Chicago, Ill. Ser. No. 272,179.

DESIGNS

NOVEMBER 20, 1928

76,926. Escutcheon Plate for a Vernier Dial. John Geloso, New York, N. Y.
76,947. Electron-Emission Device. Frederick Theodore May, Montclair, N. J. Assor. to Westinghouse Lamp Co.
76,957. Escutcheon Plate for a Dial Mechanism. William A. Ready, Brookline, Mass.

DECEMBER 11, 1928

77,146. Loud-Speaker Casing. Clair L. Farrand, Forest Hills, N. Y.
77,165. Diaphragm for a Loud Speaker. George R. Lum, New York, N. Y. Assor. to Bell Telephone Labs., Inc., New York, N. Y.
77,189. Table for Radio Receiving Sets or the Like. Frederick Schwartz, Brooklyn, N. Y. Assor. to Robert Findlay Mfg. Co., Inc., Brooklyn, N. Y.

77,210. Radio cabinet. Everett Worthington, Chicago, Ill. Assor. to Brandes Labs., Inc., Newark, N. J.
77,211. Radio cabinet. Joseph Wolff, Brooklyn, N. Y. Assor. to Sonora Phonograph Co., Inc.

NEW RADIO PATENTS

1,691,946. Audion. Jack R. Tolmie and Tyng M. Libby, Seattle, Wash.
1,691,962. Selective Signaling System. Charles M. Demarset, Ridgewood, N. J. Assor. to American Telephone and Telegraph Co.
1,691,990. High-Frequency Signaling System. Ralph K. Potter, New York, N. Y. Assor. to American Telephone and Telegraph Co.
1,692,051. Radio Direction and Position Finder. Martin L. Patterson, Bogota, N. J. Assor. to The Sperry Gyroscope Co., Brooklyn, N. Y.
1,692,064. Radio Receiving Apparatus. Arthur M. Trogner, Takoma Park, Md. Assor. to Wired Radio, Inc., New York, N. Y.
1,692,257. Wave Signaling System. Louis A. Hazeltine, Hoboken, N. J. Assor. to Hazeltine Corp.
1,692,607. Variable Condenser. Wilson Aull, Jr., Astoria, N. Y.
1,692,763. Radio-Frequency Amplifying Circuits. Wladimir J. Polydoroff, Chicago, Ill. Assor. to Johnson-Williamson Labs., Inc., Chicago, Ill.
1,692,797. Combined Phonograph and Radio Receiving Apparatus. Joseph W. Bishop, Muskegon, Mich. Assor. to The Brunswick-Balke-Collender Co., Wilmington, Del.

NOVEMBER 27, 1928

1,692,841. Sound Amplifier. Jacob Kersten, Allegan, Mich.
1,692,877. Audio Frequency Interference Preventer. Frederick K. Vreeland, Montclair, N. J.
1,692,904. Amplification of Photo-Electric Call Response. Ralph K. Potter, New York, N. Y. Assor. to American Telephone and Telegraph Laboratories.
1,692,994. Radio Loud Speaker. Frank Mattis, Dayton, Ohio.
1,693,009. Rheostat. Chester E. Warner, Berwyn, Ill. Assor. to Benjamin Electric Mfg. Co., Chicago, Ill.
1,693,072. Means for Shielding Sound Detector and Amplifier Apparatus. Lee De Forest, New York, N. Y. Assor. to De Forest Phonofilm Corp., New York, N. Y.
1,693,173. Condenser. George H. Brown, Newton, Mass.
1,693,223. Sound Reproducer. Harold I. Danziger and Charles Lucas Wachter, New York, N. Y.
1,693,286. Gang Condenser and Method of Adjusting Same. Edwin S. Pridham, Oakland, and Donald K. Lippincott, Alameda, Calif. Assors. to The Magnavox Co., Oakland, Calif.
1,693,298. Radio Mast Holder. Emanuel Ingham, Washington, D. C.
1,693,316. Vacuum-Tube Circuits. David C. Prince, Schenectady, N. Y. Assor. to General Electric Co.
1,693,321. Electron-Discharge Tube. Charles Spaeth, Chicago, Ill. Assor. by mesne assignments to Raytheon Mfg., Cambridge, Mass.
1,693,354. Wireless Telephone System. Morton W. Stern, Jamaica, N. Y.
1,693,470. Radio Receiving Cabinet. Adolph A. Thomas, New York, N. Y.
1,693,509. Resistor Cell Circuit. Charles Francis Jenkins, Washington, D. C.

DECEMBER 4, 1928

1,693,588. Condenser. Ernest A. Bohlman, Chicago, Ill. Assor. to Kellogg Switchboard and Supply Co., Chicago, Ill.
1,693,662. Radio Signaling System. Russell S. Ohl, New York, N. Y. Assor. to American Telephone and Telegraph Co.
1,693,685. Method and Apparatus for Transmission of Pictures. Allan Weaver, Brooklyn, N. Y. Assor. to American Telephone and Telegraph Co.
1,693,771. Sound Amplifier. Thomas Young, Enfield, England.
1,693,825. Resistance Unit. Edwin R. Stoeckle, Milwaukee, Wis. Assor. to The Cutler-Hammer Mfg. Co., Milwaukee, Wis.
1,693,898. Amplification System. Lawrence C. F. Horie, Newark, N. J. Assor. to Federal Telephone Mfg. Corp., Buffalo, New York.
1,693,899. Grid Leak. Lawrence C. F. Horie, Newark, N. J. Assor. to Federal Telephone Mfg. Corp., Buffalo, N. Y.

1,693,967. Combined Radio and Phonograph Cabinet. Adolph A. Thomas, New York, N. Y.
1,694,065. Duplex Radio Machine, Charles Francis Jenkins, Washington, D. C.
1,694,135. Antenna for Electric Wave Transmission. Alexander Meissner Berlin, Germany. Assor. to Gesellschaft der Drahtlose Telegraphie m. b. H., Berlin, Germany.
1,694,319. Apparatus for Producing Sounds. Emile C. Guedon, Schenectady, N. Y. Assor. to General Electric Co.

DECEMBER 11, 1928

1,694,384. Electrical Condenser and Indicating Means. Henry F. Herman Chappqua, N. Y. Assor. to Stratline Radio Corp., New York, N. Y.
1,694,396. Radio Apparatus. Paul H. Booth, Chicago, Ill.
1,694,473. High-Frequency Signaling. Burton W. Kendall, East Orange, N. J. Assor. to Western Electric Co., Inc., New York, N. Y.
1,694,601. Control Mechanism for Radio Apparatus. Robert J. Martin, North Asbury Park, N. J. Assor. to B. M. C. Patent Co. Trenton, N. J.
1,694,654. Method of and System for Electrical Signaling. John Hays Hammond, Jr., Gloucester, Mass.
1,694,655. System and Method of Production and Reception of Continuous Oscillations. John Hays Hammond, Jr., Gloucester, Mass.
1,694,848. Sound Clarifier. Edward H. Freeborn, New York, N. Y. Assor. to Cornelius C. Freeborn, Sr., New Milford, N. J.
1,694,895. High-Frequency Electrical System. Albert Hoyt Taylor and Leo C. Young, Washington, D. C.
1,694,982. Transmission of Pictures and Views. Camille A. Sabbah, Schenectady, N. Y. Assor. to General Electric Co.
1,695,039. Electric Wave Signaling System. Lewis M. Clement, Mountain Lakes, N. J. Assor. to Bell Telephone Labs., Inc., New York, N. Y.
1,695,048. Picture Transmission. Herbert E. Ives, Montclair, N. J. Assor. to Bell Telephone Labs., Inc.
1,695,058. High-Frequency Signaling. Eugene Peterson, New York, N. Y. Assor. to Western Electric Co., Inc., New York, N. Y.
1,695,126. Loud Speaker. John E. Sederholm, St. Paul, Minn. Assor. to American Holst & Derrick Co., St. Paul, Minn.
1,695,171. Combined Radio Telephone and Power-Distributing System. James B. Hodge, Cleveland, Ohio, and Edward F. Clement, Washington, D. C. Assor. to by direct and mesne assignments to Edward F. Colladay, Washington, D. C.
1,695,172. Radio Receiving Instrument. Edward E. Clement, Washington, D. C. Assor. to Edward F. Colladay, Washington, D. C.
1,695,173. Radio Broadcast Selection and Distributing System. (Same.)
1,695,181. Radio Receiving Instrument for Systems of Broadcast Distribution. (Same.)
1,695,175. Radio Receiving Station. Harry F. Lowenstein, Washington, D. C. Assor. to Edward F. Colladay, Washington, D. C.
1,695,176. Traffic-Control System for Radio Broadcast Distribution. Edward E. Clement, Washington, D. C. Assor. to Edward F. Colladay, Washington, D. C.
1,695,177. Radio Service Metering System. (Same.)
1,695,178. Selective Key for Radio Systems. (Same.)
1,695,179. Secrecy System of Radio Broadcast Distribution. (Same.)
1,695,180. Secrecy System of Radio Broadcast Distribution. (Same.)
1,695,174. Radio Receiving Instrument for Systems of Broadcast Distribution. (Same.)
1,695,182. Trunking System for Radio Distribution. (Same.)

REISSUES

NOVEMBER 20, 1928

17,142. Radio Broadcast Selecting and Distributing System. Edward E. Clement, Washington, D. C. Assor. to Edward F. Colladay, Washington, D. C.

DECEMBER 11, 1928

17,163. Radio Broadcast Selecting and Distributing System. Edward E. Clement, Washington, D. C. Assor. to Edward F. Colladay, Washington, D. C.

The Furniture for ALL ATWATER KENT Radios



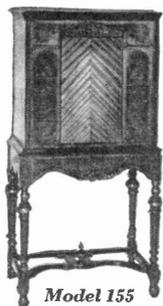
Announcing the New Model 155 Red Lion Cabinet for Atwater Kent Radio, Model 46, and Electrodynamic Speaker; Complete, except tubes, \$157.50

A brand new Red Lion ensemble, combining the latest Red Lion Chest Cabinet with the most advanced Atwater Kent receiving set—and the new Atwater Kent Electrodynamic speaker.

Red Lion cabinetmakers have produced this complete A. C. radio to retail at a price that makes it the greatest all-around value in the field.

This Model 155 cabinet has been designed to enhance, in every possible way, the surpassing tone-qualities of Atwater Kent radios; it is built with a five-ply, extra heavy baffle-board particularly fitted for use with the Atwater Kent Electrodynamic speaker.

Altogether this combination presents a masterpiece of unity, harmony and balance—and a most remarkable achievement in value.



Model 155
Closed

SPECIAL
Five-Ply
Extra Heavy
Baffle-Board
for
Atwater Kent
Electrodynamic
Speaker, or
E Speaker

RED LION CABINET COMPANY

RED LION, PA.



BUILT-IN BEAUTY!

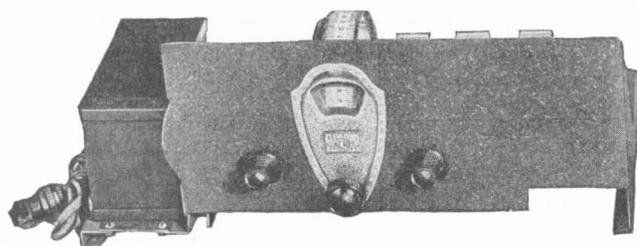
THE ACME AC-7 chassis has "built-in" beauty which makes it the ideal radio receiver for console combination. The set is designed by men with years of experience in the radio field, built by experts and *built to sell*.

Briefly, the set has illuminated, single dial control. The escutcheon plate is exceptionally beautiful. The selectivity, the tone, the performance cannot be matched by any set within striking distance of its price

For dealers and jobbers who wish to put out a set under their own or other trade names, the ACME lends itself perfectly to all cabinet combinations, and will build a reputation under any name. To those who do not wish to supply cabinets we are prepared to offer the ACME AC-7 chassis in a wide variety of console combinations.

ACME, The Set That Sells The Millions, has scored again. You can now offer a fully equipped AC radio, in attractive furniture, at prices that will sell them and sell them fast.

Write today for full information.



\$ 58⁰⁰
(LIST PRICE)

The ACME AC-7 Chassis. All electric, no batteries, no eliminators, ready to fit into any console combination.

THE ACME ELECTRIC & MANUFACTURING CO.
1440 Hamilton Ave. Cleveland, Ohio
Established 1917 Member R.M.A.



Dance to more business with a PAM

PAM 16 or 17 List Price,
without tubes, \$125.00

Restaurants, cafes, hotels, clubs, tea rooms and cabarets are all interested in supplying *good* music for dancing and entertainment. A PAM amplifier may be used to supplement an orchestra or take the place of one. The PAM may supply reproduction from radio programmes or phonograph records and when used in connection with our MIK-1 becomes suitable for announcements.

Have you called on your local prospects?

The PAM-17 is identical with the PAM-16 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 field energized from storage battery or AC 110 volt 60 cycle, use the PAM-16. Both amplifiers are designed to operate from 105 to 120 volts 50 or 60 cycles AC.

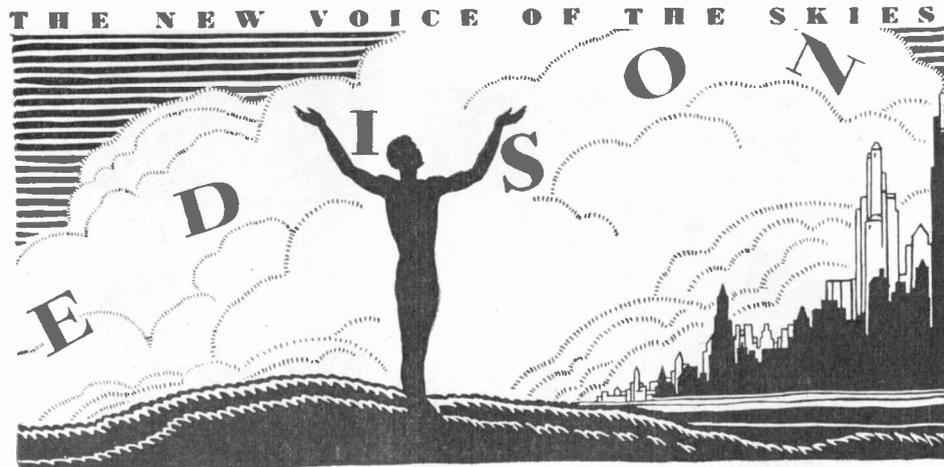
*Send for handsome folder RR4 describing the above and other
Samson PAM amplifiers which are also a "Sound Investment."*

Samson Electric Co.

Main Office:
Canton, Mass.

REPRESENTED BY
RMA

Factories at Canton and
Watertown, Mass.



RAUDIO lovers all over the country waited. They wanted to *see* and *hear* what an Edison could do. Then they did *see* . . . and *hear* . . . and *approve*. The new voice of the skies held them breathless. Such life-like reproduction . . . such ease of operation . . . such craftsman-like beauty of design.

Here was payment in full for the months of waiting, for here was a masterpiece. In hearing the new Edison people get something of the thrill that its makers got when they achieved it.

For the makers of the Edison had consistently refused to produce until every possible improvement had been made . . . every proof established that their theories of radio construction were right. And after countless hours of tireless checking through 1928, they knew they were right. They switched on the power—and the new voice had spoken.

THOMAS A. EDISON, Inc., Orange, N. J.

TRADE MARK
Thomas A Edison

The new voice has spoken!

The **EDISON RADIO**
and **RADIO-PHONOGRAPH COMBINATIONS**

Edison Distribution Corporation

ATLANTA, 155 So. Forsyth St.
DENVER, 1636 Lawrence St.
ORANGE, N. J.
BOSTON, 96 South St.

KANSAS CITY, 1215 McGee St.
PITTSBURGH, 909 Penn. Ave.
CHICAGO, 3130 So. Michigan Ave.
MINNEAPOLIS, 608 First Ave. N.

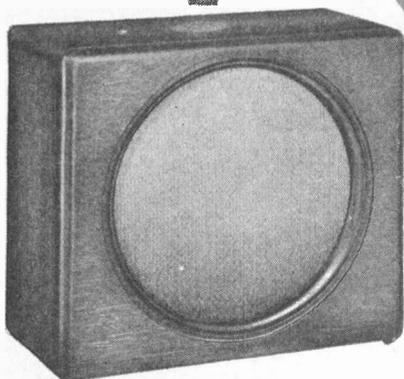
RICHMOND, 1204 East Main St.
DALLAS, 500 Elm St.
NEW ORLEANS, 128 Chartres St.
SAN FRANCISCO, 1267 Mission St.

CLEVELAND: B. W. Smith, Inc., 2019 Euclid Ave.
LOS ANGELES: H. R. Curtis Co., 727 Venice Blvd.
OGDEN: Proudfit Sporting Goods Co., 2327 Grant Ave.

PHILADELPHIA: Girard Phonograph Co., Broad & Wallace Sts.
ST. LOUIS: Silverstone Music Co., 1114 Olive St.

a new
ROLA
SPEAKER
 at an amazingly low price!

**Quicker Turnover
 Greater Volume
 More Sales**



Rola Cabinet Model Fifteen

Rola Quality Reproduction in a Cabinet Speaker to Sell at Only

\$ 22.50

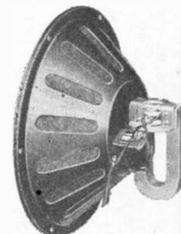


A NEW speaker which can take the full power output of any of the standard sets on the market! A magnetic speaker which in tone range and volume closely approximates the results of the average dynamic speaker . . . at a remarkably low price! Here is speaker value never before offered in radio history.

Radio dealers know that this new cabinet speaker Model Fifteen, with Rola quality, at the price, will create a tremendous sensation among radio users. It means quicker turnover, greater volume, more profits for Rola dealers. It means that you can now recommend a popular-priced speaker, knowing that it will give permanent satisfaction.

MODEL FIFTEEN: Extraordinary as it may seem, this new speaker is equipped with the famous Rola Model M Magnetic Armature Unit, the same unit contained in the more expensive Rola Model Twenty. Its performance is therefore identical with the more costly speakers. From the deepest bass to the highest treble it reproduces with perfect accuracy—marvelous realism. The new Model Fifteen is sturdily built of hardwood with attractive walnut finish. Dimensions are: height 10½ inches; width 12 inches; depth 6 inches. This addition of a low priced quality speaker to the Rola line is your opportunity to increase sales in the popular speaker class. *Now Ready for Delivery.*

MANUFACTURERS: The new Rola Model M Magnetic Armature Unit is ideally adapted to built-in consoles and speaker tables. Radio users desiring quality performance at low cost will find that this unit gives results equal to, if not better than, any magnetic speaker made — in fact, results closely approaching the average dynamic speaker. Rola Model M is the same unit as installed in the Rola Models Fifteen and Twenty and is the result of Rola's five years of successful loudspeaker manufacture. It has the Rola full-floating diaphragm and responds to all tones between 100 and 5000 cycles per second in frequency. *Manufacturers: Write for Quantity Prices.* ○○○○○○○



Rola Model M
 List Price \$15

ROLA DYNAMIC AND MAGNETIC SPEAKERS FOR EVERY RADIO INSTALLATION

THE ROLA COMPANY

OAKLAND, CALIFORNIA: 45th and Hollis Streets • CLEVELAND, OHIO: 2570 East Superior Avenue

Help your receivers sell themselves

Buckeye Console Cabinets are constructed of selected walnut and the finest American gum woods; ornamented with carving, marqueterie, and antique brass; designed and built by master craftsmen—*men who have been makers of exquisite cabinet work for years*. They help your receivers sell themselves.

Yet in spite of their superior quality, Buckeye Cabinets are remarkably low in price!

Small wonder, then, that they have been selected for exclusive use by Stewart-Warner. Small wonder that radio dealers the country over regard Buckeye Radio Furniture as a sales asset of inestimable value!

Learn how these beautiful and distinctive cabinets will help to sell *your* receivers. Write today for complete information, attractive illustrations, and price lists.

THE BUCKEYE MANUFACTURING COMPANY / SPRINGFIELD, OHIO

*National Sales Agent, Studner Bros., Inc., New York City, 67 West 44th St.
Chicago, Ill., 28 East Jackson Blvd.*

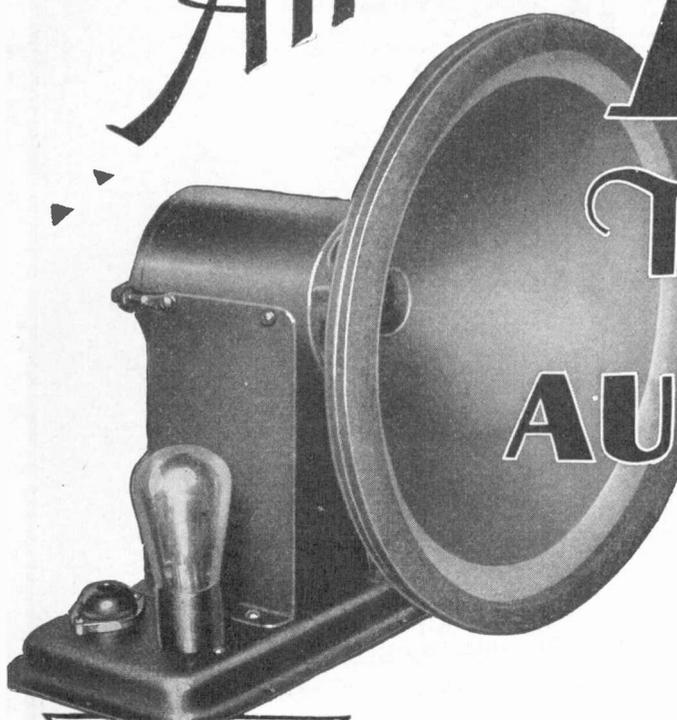


Model No. 33

Buckeye
RADIO FURNITURE

And in

1929



The Jensen
**AUDITORIUM
SPEAKER**

DYNAMIC, OF COURSE!**Salient
Features**

◆
Size of cone, 11 inches.

◆
Responds to
frequencies of from 25 to
6,000 cycles.

◆
One Jensen Auditorium
Speaker operated at full
volume is sufficient for
the average theatre.

◆
Makes any power-tube
equipped radio set sound
better.

◆
Designed and developed
personally by Peter L.
Jensen.

Jensen
AUDITORIUM SPEAKER

In 1927, Peter L. Jensen perfected the first successful dynamic cone for use with conventional radio sets—and thus set the stage for the great radio year of 1928.

And now new standards are established for 1929 by the Jensen Auditorium Speaker. Designed without the slightest compromise or restriction, this new reproducer is indeed a master stroke of creative genius, a new perfected type of the famous original dynamic speaker, of which Peter L. Jensen is the co-inventor.

Briefly, the Jensen Auditorium Speaker assures extreme volume of reproduction, with greater sensitivity and a degree of fine tonal quality never possible before.

This new all-purpose speaker, ideal for theatres and auditoriums and for out-of-doors, will be especially appreciated in the home,

where its wide range of ability meets every individual requirement. It is also the most effective medium for demonstrating radio sets and phonographs.

And note particularly that when the Jensen Auditorium Speaker is added to a set equipped with one type 171 amplifier tube the performance approaches that of much more powerful sets and amplifiers when these are used with ordinary speakers.

Units for use in console cabinets or on open baffles are ready for delivery now. New Jensen cabinets of distinguished design will be announced shortly. Model illustrated is DA5—AC which requires one rectifier, type 280 or 380, for operation.

Model DA4 for 110 Volt D C Operation \$55.00

Model DA5 for 220 Volt D C Operation \$55.00

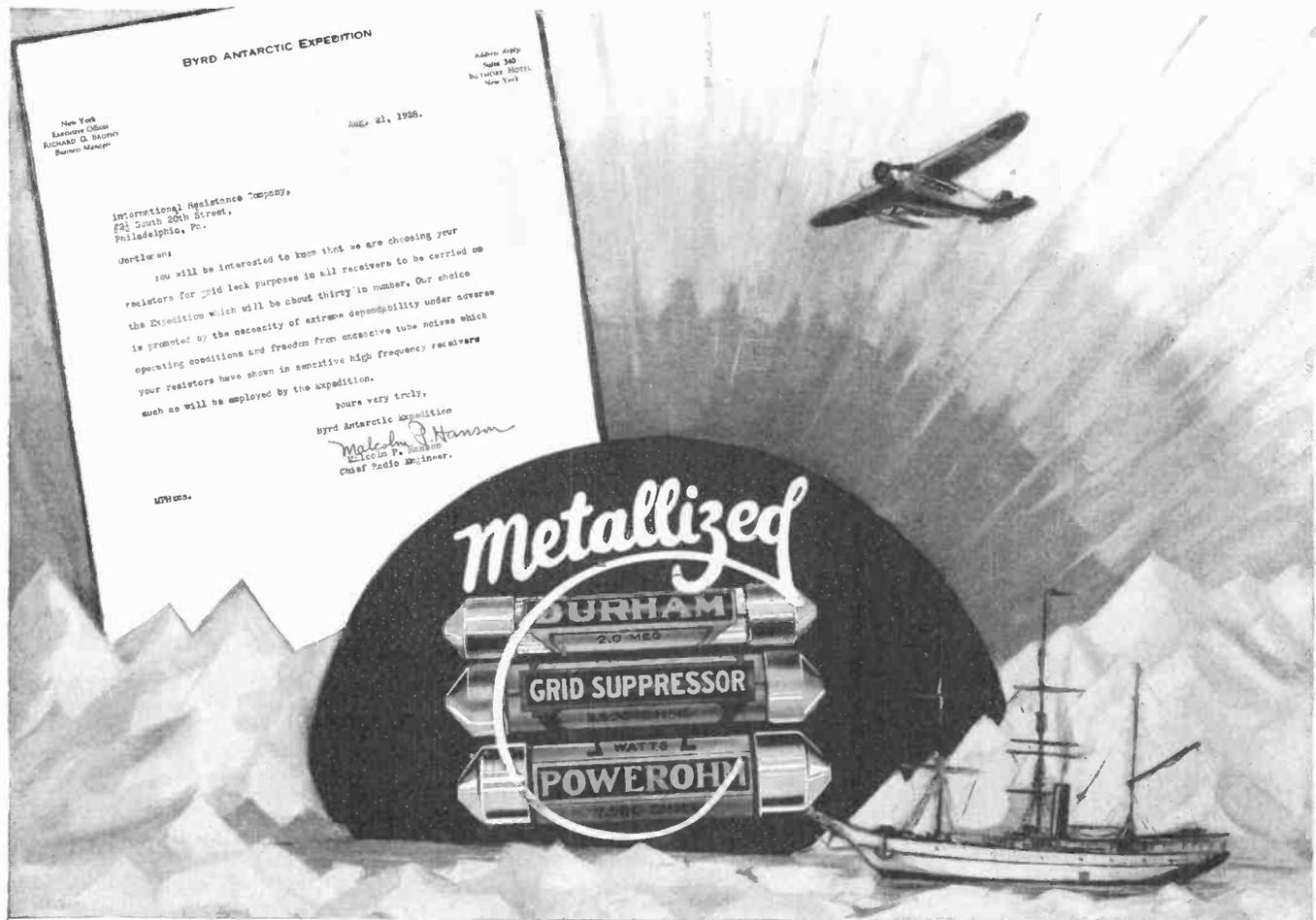
Model DA5 AC for 110 Volt
AC Operation \$70.00

JENSEN RADIO MANUFACTURING COMPANY

338 N. Kedzie Ave., CHICAGO, ILL.

212 Ninth Street, OAKLAND, CAL.

Jensen Patents Allowed and Pending—Licensed under Lektophone and Magnavox Patents



On the Byrd Antarctic Expedition Only DURHAMs are Used! —

another tribute to the DURHAM Metallized principle! — another tribute to the extreme care with which DURHAM Resistors, Powerohms and Suppressors are made! — another tribute to DURHAM accuracy and utter dependability! — read the above letter from Chief Radio Engineer Malcolm P. Hanson of the Byrd Antarctic Expedition. In effect he says "We are using DURHAMs exclusively because past experience has taught us that they can be relied upon for perfect performance under even the most adverse conditions". DURHAM Resistances are available for every practical resistance purpose in radio and television work from 250 ohms to 100 Megohms and in ratings for all limited power purposes, Used in leading radio laboratories, endorsed by leading engineers and sold by leading jobbers and dealers. Descriptive literature on the entire line of DURHAM products will be gladly sent upon request.

DURHAM

METALLIZED

RESISTORS & POWEROHMS

INTERNATIONAL RESISTANCE CO., 2006 Chestnut Street, Philadelphia, Pa.

Popular MAGNETIC REPRODUCERS

*that assure
satisfaction with
all radio receivers!*



Exceptional tone quality and volume . . . a Condition Equalizer that compensates for inequalities of audio amplifiers . . . moderate price within the means of every set owner . . . these three features make Newcombe-Hawley Magnetic Cone Reproducers big sellers. Order a stock today and get your share of this profitable business!

The CONDITION EQUALIZER boosts reproducer sales

The Condition Equalizer offers three step control of tone quality, and compensates for variations in condition of broadcast reception and in the quality of audio amplifiers. Clear articulation of speech depends largely on the higher frequencies. For this reason speech is more easily understood if the equalizer is set on the "high" position. Music is often more pleasing on one of the other settings. The Condition Equalizer is a big sales feature.



MODEL 83
(shown at left)

Portable model in walnut—with or without Condition Equalizer.



MODEL 81
(shown at right)

Table model with unit concealed behind grill—with or without Condition Equalizer.

THE COMPLETE NEWCOMBE-HAWLEY LINE includes magnetic and dynamic reproducers in a large variety of portable and table models. Write for catalog.

NEWCOMBE-HAWLEY
Division of United Reproducers Corporation
201 First Avenue, North St. Charles, Ill. Export Dept., 130 W. 42nd Street
New York City, N.Y.

NEWCOMBE-HAWLEY RADIO REPRODUCERS



Majestic Distributors

have placed orders for

\$120,000,000

worth of

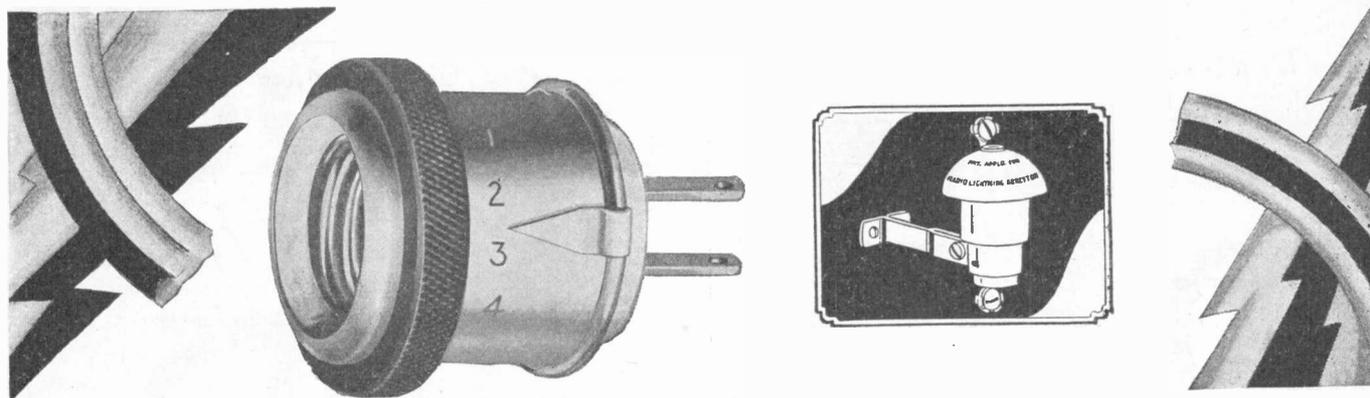
Majestic
~~ELECTRIC-RADIO~~

Receivers

for 1929

GRIGSBY-GRUNOW COMPANY, 5801 Dickens Ave., CHICAGO, ILL.

Voltage Regulator



and Wirt Lightning Arrester

Both have been tested, tried, and found true. Both are profit go-getters. We guarantee satisfaction, so the responsibility is all ours.

The Wirt Voltage Regulator is a saver of A-C tubes and sets. It cuts down the high voltages and current "surges" that burn out tubes. It keeps excess heat *out* of sets. A permanent safeguard that can be easily attached by your customers. Eliminates line noises, too. Regulators save you hours of service time. \$2.25 list.

The Lightning Arrester protects not only

set but house, too. It is the air gap type, made of bakelite and brass — "petticoat" insures ample insulation, even in rainy, snowy or sleety weather. Terminals are extra heavy — and so arranged that aerial can be connected without cutting it — much the best practice for better reception and complete protection. Bracket insures rigid fastening. Only \$1.00 list.

Order Regulators and Lightning Arresters from your jobber or write us. The coupon is for your convenience. Use it now!

WIRT COMPANY



The Wirt Company is the sole manufacturer of Dim-a-lite and Dim-a-lamp — the well-known additions to household lighting comfort and beauty. Perhaps you can carry them, too. They're profitable and easy to handle.

Here's a good display idea. Get a modern standard (we can supply at cost); put on it a No. 23 Dim-a-lite with tags, which we'll furnish free, and a 25 watt bulb. Then place the outfit on a counter, connect it up, and let your customers play to their hearts' content. This sure sells Dim-a-lites! They cost only \$1.00 for No. 23, 25 to 40 watt size; and \$1.25 for No. 23A, 50 to 60 watt size.

Send for free booklet—"Many Lights from One Bulb," if you want to know more about Dim-a-lite and the part it plays in modern home lighting.

WIRT COMPANY, 5221 Greene Street, Philadelphia, Pa.

Please send me by return mail.

-cartons of 10 Voltage Regulators, No. 211.
-cards of 10 Dim-a-lites, No. 23.cards of 10 Dim-a-lites, No. 23A.cartons of 10 Wirt Lightning Arresters, No. 200.
- Free booklet, "Many Lights from One Bulb."

Bill through (jobber)
 Name
 Address
 Town.....State.....

SELL—
Your Customers
WESTON TESTED TUBES
The Weston Model 533
COUNTER TUBE CHECKER

Protects Everybody's Interests—
Manufacturer, Dealer and Customer

Plug it into the A.C. Light Socket
IT REQUIRES NO BATTERIES



WESTON TESTED radio tubes command the confidence of your customers. They know that Weston instruments give the most reliable tests that can be made. When you test any make of radio tube on the Weston Model 533, in the presence of the purchaser—and it measures up to standard—you have demonstrated a service which reflects credit on your business dealings and protects everybody in the transaction.

The largest operators in the radio industry are urging the use of this instrument upon their retail and service outlets. Chain store organizations and other large distributors of highest standing in the merchandising of radio supplies are equipping all their stores with the Model 533 because they know there is no other instrument that can compare with it in workmanship, accuracy, rugged dependability—and SERVICE.

The Model 533 will test all makes of tubes of the following rated filament voltages:

Type	Filament Volts	Type	Filament Volts
226	1.5	240	5
227	2.5	210	7.5
199	3.3	250	7.5
120	3.3		
200-A	5	213	5 volts
201-A	5	280	5 "
112-A	5	216	7.5 "
171-A	5	281	7.5 "

In addition, the Model 533 provides special connections for testing Kellogg tubes and both A. C. and D. C. screen grid tubes.

The Model 533 is simple to operate. Proper voltage regulation is quickly obtained by means of the Voltage Adjusting Dial and the Voltage Indicator.

Any leading supply house can furnish this instrument promptly, or address your inquiry to our nearest representative. Our engineering and sales offices are located in all principal cities.

WESTON ELECTRICAL INSTRUMENT CORP.
 581 Frelinghuysen Ave., Newark, N. J.

WESTON
RADIO
INSTRUMENTS

CASE
ELECTRIC RADIO

1
Outstanding
Values

2
Sensational
Performance

3
Liberal
Franchise
Write
Today!

The CASE line of 8- and 9- tube Neutrodynes makes real money and builds customer good will for its dealers.

This is easily explained by these facts—Case ranks with the five largest manufacturers in production this year—Case Sets are fully licensed by Neutrodyne, Hazletine and Miessner—Case Sets are built and engineered within our own plant—Case Cabinets are designed and built by master craftsmen — Price range from \$98 to \$500.

CASE ELECTRIC CORP.
Division United States Electric Corp.
MARION, INDIANA

CORWICO

Braidite

HOOK-UP WIRE
"THE BRAID SLIDES BACK"

SPECIAL DEALER OFFER

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 and its possibilities for sales and profits in your store.



LIST PRICES
 25 Feet Stranded 35c
 25 Feet Solid 30c
 Red, Green, Yellow, Blue,
 Black

CORNISH WIRE Co
30 Church Street New York City

P **PERRYMAN RADIO TUBES**

PERRYMAN

"DISTANCE WITHOUT DISTORTION"



1 9 2 9

THE PERRYMAN ELECTRIC COMPANY
Greets the New Year

With the best of wishes to all its friends
With increased production facilities
And with a program of cooperation for
 Perryman Dealers that will insure
 greater returns than ever before.

PERRYMAN ELECTRIC CO., INC.

33 West 60th Street, New York

Laboratories and Plant—NORTH BERGEN, NEW JERSEY



PERRYMAN RADIO TUBES
A Complete Line of Standard Equipment for every Radio Purpose



ZENITH

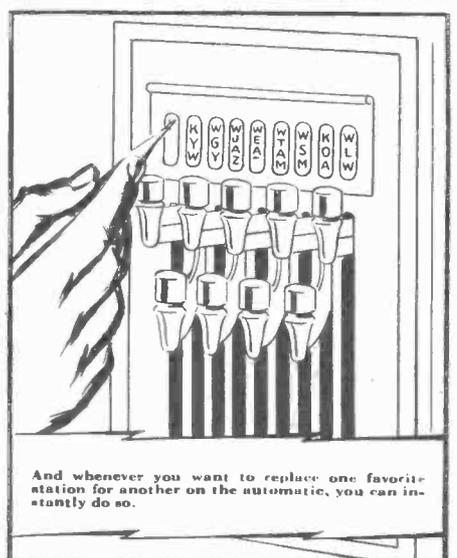
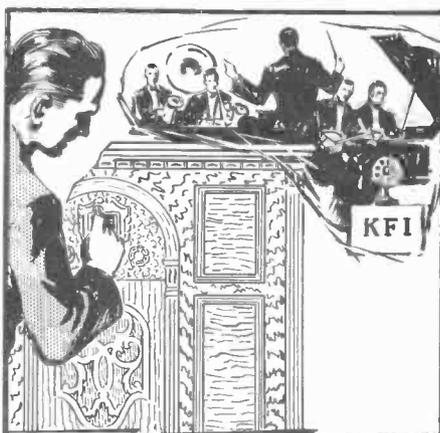
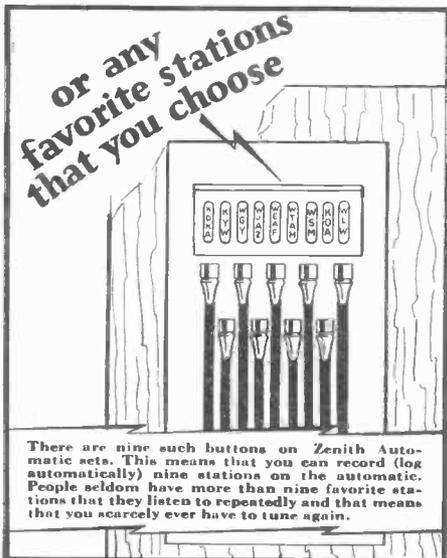
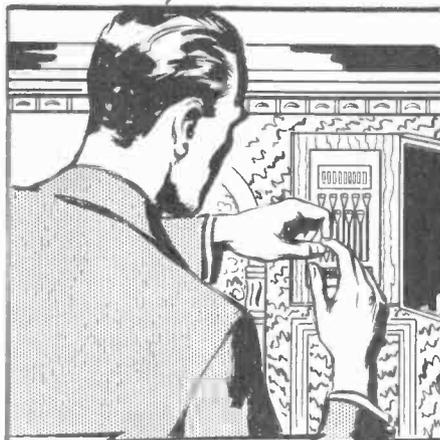
TRADE MARK REG.

LONG DISTANCE RADIO

AUTOMATIC TUNING



These six pictures illustrate the striking simplicity of Zenith Automatic Tuning



30 Models—3 different circuits—including De Luxe Automatic and Phonograph Models—without loop or antenna—battery or fully electric—\$100 to \$2500.
Licensed only for Radio amateur, experimental and broadcast reception. Western United States prices slightly higher.

Simple—convenient—eliminates endless adjusting whenever you want to hear a station—repeats your expert tuning automatically—eliminates noise between stations—that's why automatic tuning is tomorrow's radio—here today.

Why "tune in" the same station a thousand times? With Zenith Automatic you do it once.

Zenith Radio Corporation • 3620 Iron Street, Chicago, Ill.

"Automatic Radio" Owned and Controlled by The Zenith Radio Corp., Chicago, U.S.A., under the following patents—Vasselli 1581145, Re-issue 17002, Heath 1638734, Canada 264391, Gt. Britain, 257138, France 607436, Belgium 331166. Also under Marvin and other U. S. and foreign patents pending.

WORLD'S LARGEST MANUFACTURERS OF HIGH GRADE RADIO

"Yes, BUT..."

Ambitious Real Estate Salesman: "There are seventy-five trains through this town daily!"

Cautious Buyer: "Yes, but how many of them stop here?"



YOU can well ask a similar question when you are told of the immense advertising circulation behind products you are urged to sell: "Yes, but how much of that circulation is going to do me any good?"

National advertising won't move merchandise from your store unless it reaches the people of your community—unless it is a powerful local influence—unless it shapes the buying habits of your customers!

The American Weekly is the one national magazine that dominates locally—that will do as big a job for you as for the manufacturer—a magazine that reaches more people and sells more merchandise than any other on earth!

What is the American Weekly?

The American Weekly is the magazine distributed with the sixteen great Hearst Sunday Newspapers from sixteen principal American

cities*—a magazine that 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 almost two million copies of The American Weekly are bought in thousands of other populous communities—making a staggering national total of 5,646,898 families who buy and read The American Weekly!

When a manufacturer's representative talks national advertising in The American Weekly, he is talking circulation that means something to you!

THE AMERICAN Greatest Circulation in the World A WEEKLY

Main Office: 9 East 40th Street, New York City

Branch Offices:

Wrigley Bldg. Chicago	5 Winthrop Square Boston	753 Bonnie Brae Los Angeles
222 Monadnock Bldg. San Francisco	1138 Hanna Bldg. Cleveland	101 Marietta Street Atlanta
11-250 General Motors Bldg., Detroit		

*Atlanta	Chicago	Milwaukee	Pittsburgh	San Francisco
Baltimore	Detroit	New York	Rochester	Seattle
Boston	Los Angeles	Omaha	San Antonio	Syracuse
				Washington

-----MAIL THIS COUPON-----

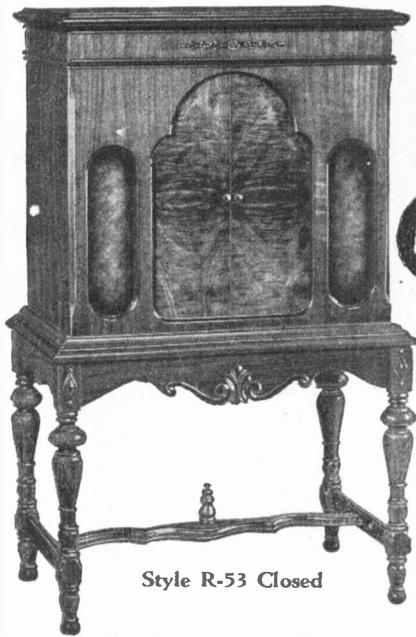
The American Weekly
9 East 40th Street
New York City

Please send me a copy of the American Weekly and a statement of its circulation in my trading territory.

Name.....

Address.....

Town..... State.....



Style R-53 Closed

For Beauty and Quality

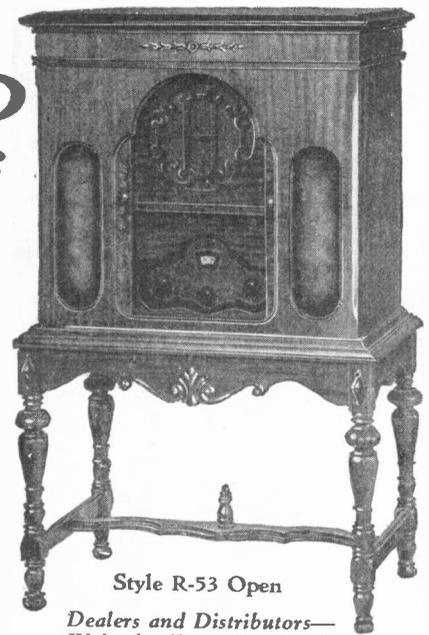
1929

EXCELLO Radio Consoles

STYLE R-53 Console is adaptable for radio only or Phonograph-Radio combinations. The Top is hinged and a motor board is provided, making for the purchasers convenience if they desire to make their own Phonograph installation.

Regular phonograph equipment consists of A. C. Motor, Electric pickup, Volume control, Phono-Radio switch, Radio adapter, automatic shut-off, etc.

A descriptive bulletin of this and other new 1929 styles sent free on request.



Style R-53 Open

Dealers and Distributors—
Write for Franchise details

EXCELLO PRODUCTS CORPORATION

4834 West 16th St., Cicero, Illinois

Nationally Advertised—SELL THE EXCELLO—Nationally Preferred

Potter Condensers

- T-2900 Condenser Block for the single 250 type tube amplifier \$20.00
- T-2950 Condenser for the push-pull 254 type tube amplifier \$22.50
- T-2098 Condenser Block for single 210 type tube amplifier \$20.00
- T-280-171 Condenser Block for power pack with 280 type tube rectifier ... \$18.00



Potter Interference Eliminator



Do not allow your radio broadcast programs to be spoiled by interference from oil burners, ice machine motors, violet rays, vacuum cleaners, fans, etc.

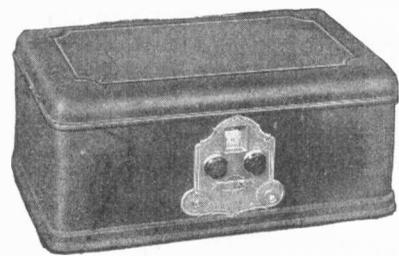
The remedy, connect a Potter Interference Eliminator to the line circuit at the point where the interfering device is connected, and enjoy good reception from your radio set.

Code	Size	A. C. Supply Line Volts	Price
103-03	1" x 2" x 4 3/8"	110	\$2.25
104-04	1 3/8" x 2 1/4" x 4 3/8"	110	3.00
105-05	1 3/4" x 2 1/4" x 4 3/8"	110	3.75

The Potter Co.

North Chicago, Illinois

A National Organization at Your Service



8 TUBE ELECTRICS

CHASSIS and CABINET MODELS

For A. C. or D. C.

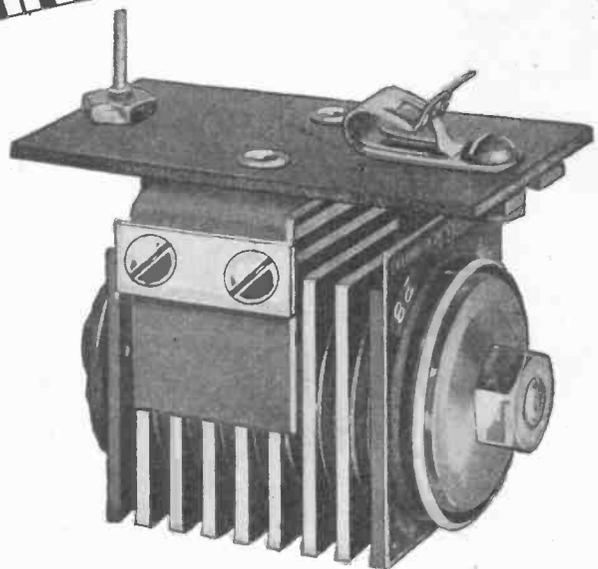
IMMEDIATE DELIVERY

GREAT TRADE STIMULATORS

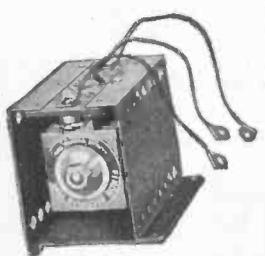
Write for prices and discounts or send for a sample Pierce-Airo Electric Receiver for test in your own store.

PIERCE-AIRO, Inc. 113-R Fourth Ave. New York City

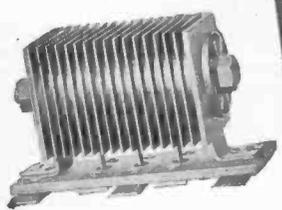
NOW! AN ELKON DRY Rectifier for PHILCO POWER UNITS



Type BNK for replacing the acid jars in Balkite Types N and K Trickle Chargers.



Type BJ for replacing the acid jars in Balkite Type J chargers



Type M-16 for replacing the rectifiers in 11 makes of "A" Eliminators and 3 Ampere chargers



Type V-4 for replacing the rectifiers in 6 makes of trickle chargers.

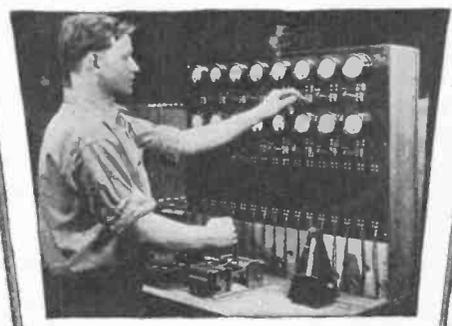
HERE'S the latest type just added to the well-known, fast-selling line of Elkon all-dry metallic rectifiers. Type U-P-8 is so designed that it replaces the wet jar rectifiers designated as Philcatron A and Philcatron AA used in Philco Trickle Chargers, Philco "A" Powers and Philco A and B combinations.

Very simple to attach, two wires to connect. May be done in a minute by anyone. No liquids to bother with—no attention—just satisfaction.

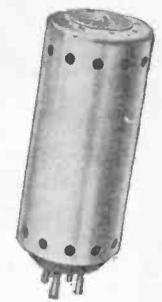
It is small in size but in its sturdy couples are packed thousands of hours of perfect service.

The U-P-8 is a fitting member of the Elkon family of dry-metallic rectifiers.

ELKON, Inc.
Division of P. R. Mallory & Co.
350 Madison Ave., N. Y. C.



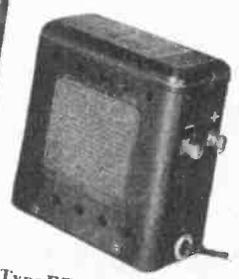
Not a music lesson but one of the many accurate processes of testing Elkon rectifiers.



5000 hour type EBH rectifier for replacing BH type tubes in "B" eliminators. Replaces fragile 1000 hour tubes.



3 Ampere Charger. Dry, noiseless, no moving parts. Has tapering feature—long life. For radio or auto batteries.



Type E Tapering Charger. Maximum charging rate 1 amp. Dry. No moving parts. Long Life. Ideal for dynamic speakers.



Dry, high-capacity condensers. Capacities from 750 to 2000 microfarads. Used in many leading "A" eliminators.

ELKON, Inc., Dept. 47, 350 Madison Ave., N. Y. C.
Please send me full information on the Elkon Radio Products.
Name (Dealer) (Jobber) Please check.
Address

**Locate
Set Troubles
Instantly**



with the **Jewell**
199 AC-DC
Set Analyzer

The biggest and most costly part of radio service work is in locating troubles. As a rule correction of the trouble is comparatively simple.

The Jewell Pattern 199 Set Analyzer, in conjunction with the Jewell Radio Set Analyzer Charts, enables service men to check radio receivers scientifically. Nothing is left to guesswork.

This remarkable set analyzer not only quickly pays for itself in time saving, but as a builder of customer confidence, satisfaction, and good will, it has no equal.

It will pay you to put one of these Jewell trouble eliminators in the hands of every service man. Ask your jobber's salesman or write us for complete information.

Jewell Electrical Instrument Company
1650 Walnut St., Chicago, Illinois



29 Years Making Good Instruments



TONE like velvet . . .
keener sensitivity . . .
longer life. That's why so
many thousands of fans insist
on **Televocal Quality Tubes!**
Made in all standard types.

*Write for full description
and prices.*

Televocal Corporation
Televocal Building

Dept. E-8, 588 12th Street,
West New York, N. J.

Televocal
Quality Tubes

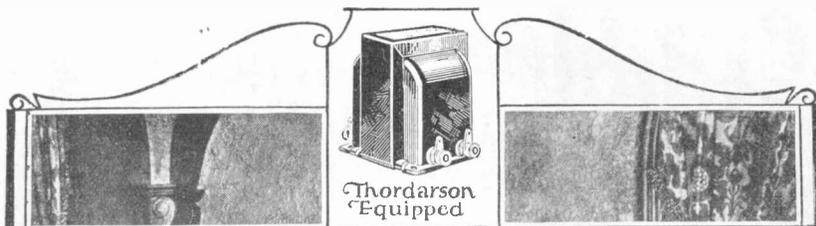


Another
ASTON
Masterpiece
of
Cabinet
Design

EGYPTIAN lines predominate in this exquisitely designed and compact cabinet for small apartment use. Beautifully figured matched walnut doors fold back against the sides. A sliding tray makes the radio easily accessible. Typical of the combined beauty and practicality of *ASTON* design. Send for beautiful illustrated catalog.

ASTON CABINET MANUFACTURERS

Distinctive Originality in design of
High Grade Radio Cabinets
1223-1229 W. Lake St., CHICAGO, ILL.



Thrilling Tone Purity
"Radio's Richest Voice"



SPARTON RADIO

THE PATHFINDER OF THE AIR

We have now been using Thordarson transformers for some four years, which should be proof conclusive that we think them capable of maintaining the high quality of Sparton Radio Receivers, which we so jealously guard.

President-General Manager
The Sparks-Withington Company

THE manufacturers of the world's finest receivers realize the important relationship between the choice of transformers (power supply and audio) and the performance of their instruments. Almost universally they have turned to Thordarson as the source of their transformers.

In Thordarson Power Supply Transformers they have found an efficiency of design, an abundance of power and a constancy of performance that makes their power unit free from service

calls; and in Thordarson Audio Transformers a fidelity of reproduction that renders their receivers musical instruments of the highest caliber.

The purchaser and builder of radio receivers who seeks the ultimate in performance will insist on Thordarson Radio Transformers.

THORDARSON ELECTRIC MFG. CO.
Transformer Specialists Since 1895
Huron, Kingsbury and Larrabee Streets, Chicago, Illinois

**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

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.

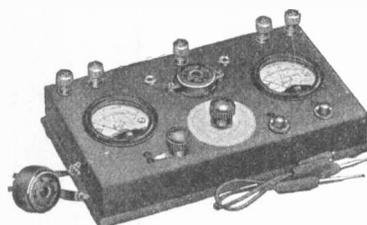


TYPE 550 A.C. POCKET
VOLTMETER
A. C. LINE TESTER
List Price, \$3.75

For complete information
consult your jobbers'
salesman, or write us on
your letterhead.



UNIVERSAL A.C. D. C. SERVICE
SET TESTER
(Model 500)
List Price, \$90.00



UNIVERSAL TUBE TESTER
(Model 400)
List Price, \$30.00

HOYT ELECTRICAL INSTRUMENT WORKS
857 BOYLSTON ST., BOSTON, MASS.

BEEDE Socket Test Kit

*A complete and
efficient test kit at
a very low
price*

*Simply remove
tube and insert
Socket Meter.*



Contains an individual meter for each
test and makes mistakes impossible

List of Meters in Kit

- 1 No. 50 Plate Voltage Tester, 0-300 v.
- 1 No. 55 Grid Bias Tester, 0-50 v.
- 1 No. 60 A.C. Filament Tester, 0-7½ v.
- 1 No. 75 A.C. Line Tester, 0-150 v.
- 1 Adapter for 5-prong sockets.
- Leatherette Carrying Case.

LIST PRICE \$15.00—Dealers \$9.00.

If your jobber cannot supply you we will ship
direct at dealers' price.

Write us about other Beede Products.

Beede Electrical Instrument Company
Penacook, N. H.

X-L LINK

*the dealers,
profit-maker and time-saver*

What are your yearly demonstration and installation
costs?

Would you like to cut them in half?

The X-L link will do this for you and more,
by the elimination of messy wires, a quick, neat instal-
lation, pleasing to the housewife's eye, means quicker
sales and lasting satisfaction.

It provides:

- Positive line voltage regulation,
- Antenna and ground,
- Double socket outlet,
- Complete fusing,
- Control switch.

Send for Further Details of this Timesaver Profit Maker.

X-L RADIO LABORATORIES

1224 Belmont Avenue
Chicago, Ill.



A neat buff sil-
ver unit com-
pletely packed
for reship-
ment. Price
\$5.75 list.

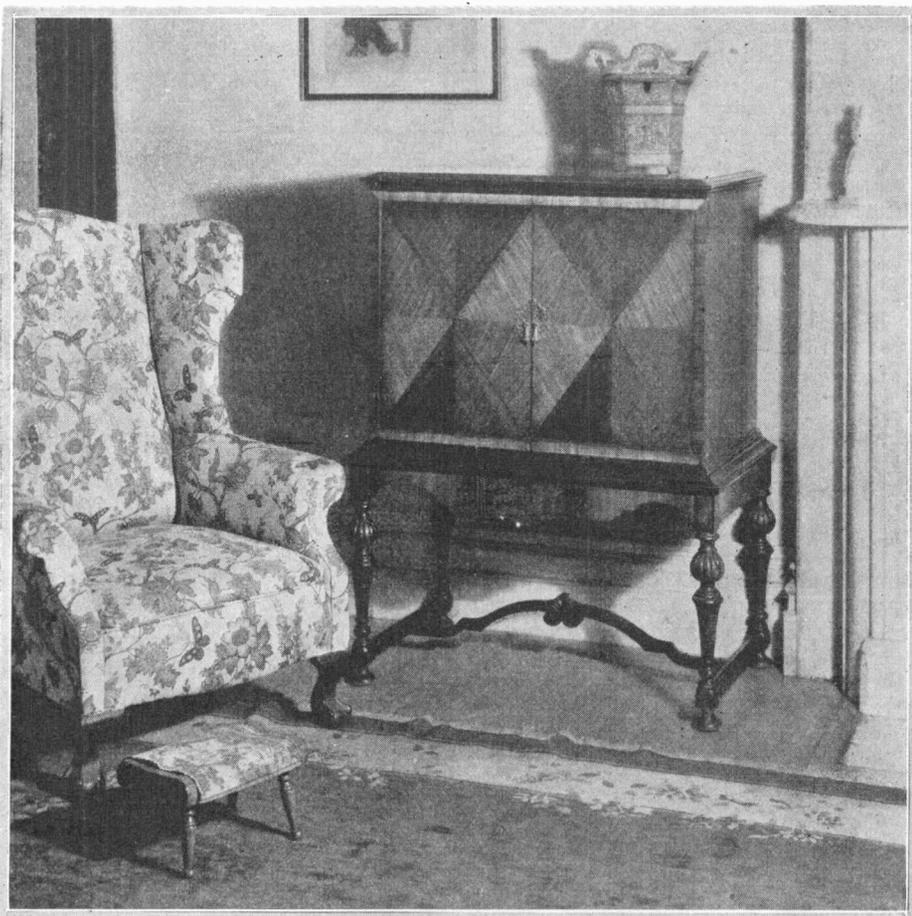
DEEMS TAYLOR

*distinguished composer and critic
has chosen the new Sonora*

IT is no mere accident that Deems Taylor, brilliant writer of music and American composer, has chosen a new Sonora Melodon with Radio for his own home.

For Mr. Taylor's trained ear was quick to sense the vast superiority of the glorious Sonora instruments . . . the Radio and the Melodon, recapturing both radio and recorded music with a purity of tone never before attained in musical reproduction. And a host of others, equally prominent, have been quick to realize the great perfections of the new Sonoras.

All who hear the marvelous Sonora Melodons and Sonora Radios (separately or in combination) are astonished at their glorious tone—and at their wonderful performance. And all are delighted with the artistry of their cabinet designs. Then they are amazed that such perfection, that so much value can be had at so little expense and on such convenient terms.



*Your ear will tell you how
vastly Sonoras differ in tone
from all other instruments*

Sonora offers the dealer an exceptional opportunity for profit—a complete line of finest-quality instruments under one brand name—Sonora, a line of growing leadership, increasing demand, established prestige and handsome profits.

Truly, the Sonora franchise is a valuable one. Investigate. Write or wire today for further information.

THE SONORA MELODON
MELODON WITH RADIO
SONORA PHONOGRAPHS

Sonora
CLEAR AS A BELL
(Acoustic Products Company)

NEW SONORA RADIOS
MELODONIC SPEAKER
SONORA PORTABLES

SONORA PHONOGRAPH CO., INC., SONORA BUILDING, 50 W. 57th STREET, NEW YORK



Antennavolt
COMBINATION RESISTOVOLT
& LIGHT SOCKET ANTENNA

What we say about Resistovolt you can just double up on this combination model. A light socket aerial that doesn't tie up the wall plug PLUS Resistovolt protection. Do they want it? And How!

LIST PRICE
\$2.25



RESISTOVOLT

REG. U. S. PAT. OFF.

Our new Air-Cooled DeLuxe model has certainly "knocked 'em cold." Nothing but complaints from dealers, they can't even keep their last Resistovolt in the window—somebody buys it at a premium! and why not? A real efficient voltage controller, automatic, non-heating, and handsome, for less than the cost of one tube. And how dealers praise Resistovolt for cutting down their service calls.

LIST PRICE
\$1.75

Write for complete 1929 Catalog Free

INSULINE CORP. OF AMERICA
78-80 Cortlandt St., New York City, N. Y.

Television
KITS AND PARTS

Model B-1—With-out amplifier or Television Tube \$37.50

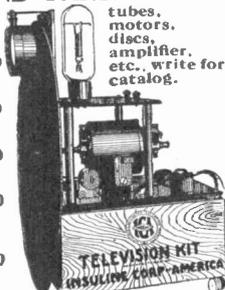
Model 45 — Same as B-1 with improved motor. . . 45.00

Model 52 — Same as 45 with four stage amplifier... 52.00

Model 65 — Same as 52 with Television Tube . . . 65.00

Model A-1 — Model 65 completely built up on metal stand.. 100.00

tubes, motors, discs, amplifier, etc., write for catalog.



TELEVISION KIT
INSULINE CORP. AMERICA

Readrite

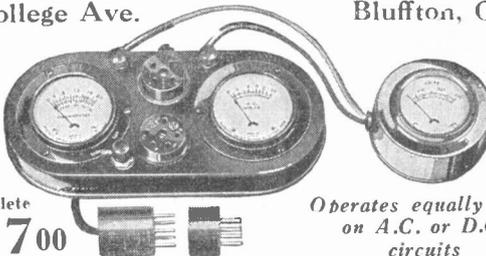
UNIVERSAL TEST SET

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



UDELL

popularity grows

Through 1928 the demand for UDELL Radio Cabinets increased steadily, and since August it has been necessary for us to operate day and night to meet it.

Even greater things seem certain for 1929. UDELL craftsmanship has created a sound and cumulative recognition that is going to be more profitable than ever to dealers featuring these fine cabinets.

THE UDELL WORKS
28th St. at Barnes Ave., Indianapolis, U. S. A.



HUMLESS DYNAMIC!

See Pages 52 and 53 for Important Announcement By

Sterling

of Cleveland

"POSITIONS WANTED"

is the heading under which many excellent positions have been secured through the

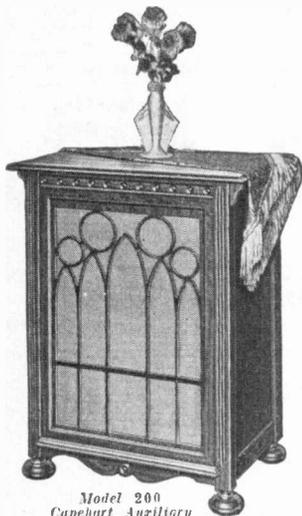
"SEARCHLIGHT SECTION"

MEN! Use these columns for good jobs.
EMPLOYERS! Consult these columns for good men.

4 cents a word. Minimum 75 cents an insertion.

0131

The ORCHESTROPE



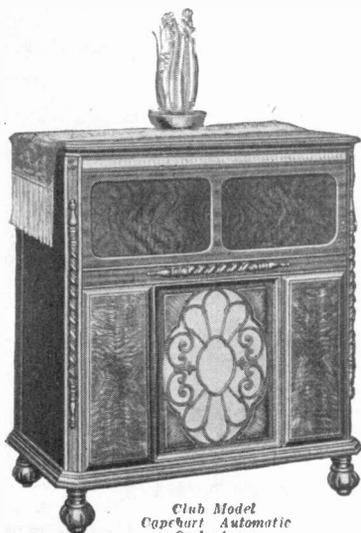
Model 200
Capehart Auxiliary
Dynamic Speaker

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

For powerful amplification and reproduction, this new Auditorium Model is recommended for public auditoriums, dancing academies. In fact any place where a great amount of volume is desired and exceptional tone quality required.



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 New Musical Marvel Plays 56 Selections Continuously Without Attention

The Capehart Orchestrope—a completely automatic and electric phonograph that plays 56 selections, *turning and changing* 28 records, without any attention whatsoever. Think of the unapproachable sales argument—4 hours of continuous music of your choice to suit the occasion, without repetition—without bother or care.

Amazing Tone Quality and Volume Range

The tonal quality of the Capehart Orchestrope is the zenith of musical reproduction. The surprisingly faithful renditions of either popular or classic, vocal or instrumental numbers are the result of applying the principles of dynamic reproduction and controlled volume.

The Capehart Orchestrope has three stages of amplification.

By simply turning a dial you can increase the volume suitably for a huge ballroom or auditorium or decrease the volume for a very small room and yet retain the same undistorted tonal quality.

Simple and Trouble-Proof.

The simple mechanism of the Orchestrope is an outstanding feature. 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 one-hundredth of an inch. Each working part is mounted on an all-metal chassis that will not permit a misjudgment of a single movement.

A Real Profit-Maker.

The beauty of the Orchestrope attracts instant attention. The market for this marvelous instrument is practically unlimited. It is made in one of the most famous cabinet factories in the world. Its outstanding exclusive features are "sale clinchers." Cash in on this new profit-maker!



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.

Send Coupon Now!

Mail the coupon below for free descriptive literature and detailed information regarding our exclusive dealer franchise. No obligation to you.

The Orchestrope is sold only through dealers.

Capehart Automatic Phonograph Corporation,
Dept. 4851, Huntington, Indiana.

Gentlemen:

Please send me, free and without obligation, descriptive literature on the new Capehart Orchestrope and detailed information regarding your exclusive dealer franchise.

Name

Address

City State

Mail coupon now!

CAPEHART
AUTOMATIC
PHONOGRAPH
CORP.
HUNTINGTON, IND.

One of the
3
OLDEST TUBE MANUFACTURERS
Will Offer An Outstanding Proposition For 1929

LOOK AHEAD—a new year is here—and with it a new era of tube profits if you have the right line. Ken-Rad, one of the three oldest radio tube manufacturers, is looking ahead. The profitable points of its merchandising program are going to be even stronger than in 1928. And a foundation is being laid to insure Ken-Rad dealers their full tube requirements over the year.

Now is the time to make your plans. Remember the lessons of the old year — (1) standard quality tubes offer greater sales and profit possibilities, (2) it pays to make certain of your source of supply. The Ken-Rad line, again with an outstanding sales proposition behind it, is the tube line you need for 1929. *Look ahead!*

THE KEN-RAD CORPORATION, *Incorporated*
 OWENSBORO, KENTUCKY



KEN-RAD
ARCHATRONS



SUPER-MAGNETIC!
 Turn to Pages 52 and 53
 Better Tone—Remarkable Value
 Announcement by

Sterling
 of Cleveland

Only reliable products can
 be continuously
 advertised

Business Wants

THE *Searchlight* Section of this paper represents a meeting place for men and concerns who have immediate business "wants" to fill—the section covers

- | | |
|------------------------------|---------------------------------|
| Agencies Wanted | New Industries Wanted |
| Agents Wanted | Office Space for Rent or Wanted |
| Books and Periodicals | Partners Wanted |
| Business Opportunities | Patent Attorneys |
| Civil Service Opportunities | Patents for Sale |
| Contacts Wanted | Plants for Sale |
| Desk Room for Rent or Wanted | Positions Vacant |
| Educational | Positions Wanted |
| Employment Agencies | Property for Sale |
| Employment Service | Representatives Wanted |
| Foreign Business | Salesmen Available |
| For Exchange | Salesmen Wanted |
| For Rent | Spare Time Work Wanted |
| For Sale | Sub-Contracts Wanted |
| Franchises | Tutoring |
| Labor Bureaus | Vacation Work Wanted |
| Miscellaneous Wants | Work Wanted |

"SEARCHLIGHT"



"The first Arcturus Tubes we sold are still burning after six months," writes J. A. Hall of the Pioneer Electric Co., St. Paul, Minn. "Not only that, they are producing better results than any other new tubes we know of."

Setting New Records for Tube Sales



Thompson Bros., Atwater Kent dealers at Eldorado, Kansas, feature Arcturus Tubes. "We find that Arcturus Tubes are quick sellers," writes Mr. Frank Thompson, "and they never fail to give satisfaction."

Demonstrable points of superiority explain Arcturus' sales success. The Arcturus 127 A-C Blue Detector acts in *seven* seconds, against *thirty* seconds to *sixty* seconds for other tubes. There's no danger from line surge, for Arcturus Tubes are built to stand all ordinary strains. They live much longer than most A-C tubes—2,000 hours of service is Arcturus' average life. And the program comes in clear and quick, absolutely free from hum.

These Arcturus features are boosting sales for hundreds of radio dealers. They find that Arcturus Tubes are easier to sell, because their advantages can be quickly *shown* to customers. And Arcturus buyers become Arcturus boosters, because Arcturus Tubes give *better* service over a *longer* period of time.

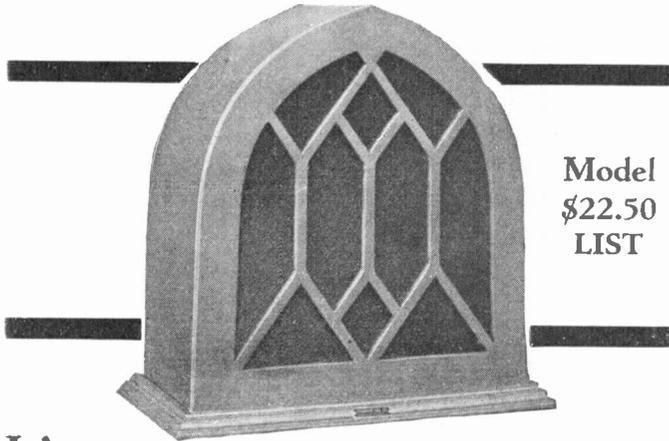
If you want to sell the fastest moving and most satisfactory A-C tube on the market today, get all the facts about Arcturus. Arcturus Radio Company, 220 Elizabeth Avenue, Newark, N. J.

ARCTURUS

A-C LONG LIFE TUBES

ULTRATONE

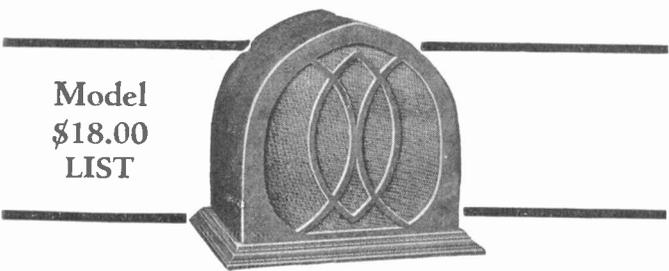
Exponential Air Column
Amplifiers and
Super Magnetic Cones



Model
\$22.50
LIST

It's
TONE QUALITY
that sells their speakers

The present scientifically constructed air column amplifier should in no way be confused with old type horn and sounding box speakers. Ultratone Exponential Air Column amplifiers are as modern as science can devise. Depth of tone, undistorted separation and fidelity of both high and low notes has been assured in practice as well as theory. Ample volume on any set.



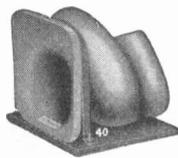
Model
\$18.00
LIST

For those who prefer cone type speakers, Ultratone also offers the Super Magnetic Cone with an exceptional range of tone reproduction.



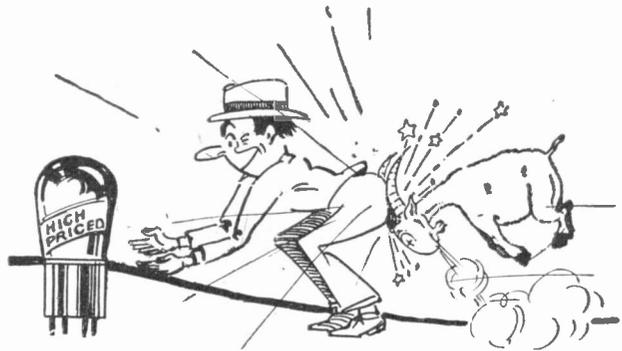
A cone type, and 7 different models of air columns for built in use are available for set and cabinet manufacturers.

Price range on Table Speakers from \$13.50 to \$22.50. Mfrs. requesting prices on built in type write direct.



ULTRATONE MFG. CO., INC.
1046 W. Van Buren St. Chicago, Illinois

BUCK



Radio Tubes

Buck up—
your sales
policy with

1. A unique original merchandising plan.
2. A complete line of Buck Tubes — all popular A.C. and D.C. types.
3. Posters and sales boosters that "buck up" your trade.
4. The Buck Tube itself— "not a kick in a million."

DON'T pick up the high priced tube for 1929

Make more bucks with "Bucks"

Buck (\$1) Tubes get the loose bucks out of the pocket of the Fans, who pass up the high priced tube but "Don't Pass the Buck".

If you are interested in quick sales and big profits sell "Buck" Tubes—"The Best for Less"—guaranteed for six months. Distributors from Coast to Coast. Write for the name of the one nearest you.

UNIVERSAL
ELECTRIC LAMP CO.
Newark, N. J.

Manufacturers:

DID YOU KNOW that one magazine now reaches retailers and wholesalers of radio sets and accessories in all trades? It is

"Radio Retailing"

a McGraw-Hill publication

471 Tenth Avenue, New York City

HUMLESS DYNAMIC!

See Pages 52 and 53

Aggravating Dynamic Hum

Eliminated by

Sterling
of Cleveland

Manufacturer's Representative

One of our clients, an energetic, well-rated Chicago firm can handle additional non-competitive lines. Has been selling radio items successfully for five years; 2,000 square feet of space in loop district office building. If you are not represented in the Chicago district, or if you want more effective representation, write our office, attention A. R. M.

ANKRUM ADVERTISING AGENCY
100 North La Salle Street, CHICAGO

Sales Opportunity Knocking!!

Here is a marvelous opportunity for SALESMEN—live men who will go out, and stay out, and work hard on a fine line of well-known quality merchandise carefully planned for the market. That's the kind of men we want to sell WASMUTH GOODRICH Radio Cabinets in the following territories:

- Birmingham, Ala.
- Atlanta, Ga.
- Indianapolis, Ind.
- St. Louis, Mo.
- Kansas City, Mo.
- Omaha, Neb.
- Buffalo, N. Y.
- Pittsburgh, Pa.
- Dallas, Texas
- Houston, Texas

SALESMEN WANTED

Salesmen

Side line for salesmen calling on dealers—a speaker filter to retail at around 65c—write now for details. Craftsman Radio Products, 351 Halsey St., Newark, N. J.

Tested Sales Representation Offered Manufacturers of Low Priced Dynamic Speakers and Radio Cabinets

Established Sales Organization can give manufacturers of articles mentioned and other radio products high quality representation in Eastern and Southern Territory—profitably. Inquiries solicited.
RA-85, Radio Retailing
Tenth Ave. at 36th St., New York City

Notice to Radio Manufacturers

Leading Canadian Jobbing House in Musical Instruments, with established connections and sales force covering the entire Dominion, is considering the distribution of popular priced Radio on a sole agency basis. Interested manufacturers are invited to communicate with Whaley, Royce & Co. Limited, Toronto, Canada.

WE PAY CASH for your SURPLUS RADIO STOCKS

What have you for sale?
AMERICAN SALES CO.
21 Warren Street, New York City
Established 1919

CASH for Your Entire SURPLUS RADIO STOCKS

Write or Wire
FULTON RADIO CO.
16 Hudson St., N. Y. City, N. Y.

Ph. Dubilier

Direct Factory Agents
Territory covered: New England, New York, New Jersey and Penn.
40-42 West 17th St., New York City

Agents and Dealers Wanted

to sell the Cleveland Acme A.C. 7 all-Electric Radio. List \$65.00. Our Price \$38.50. 90 day factory guarantee.
Order one C. O. D. to-day.
PATCHIN'S RADIO STORE,
Dept. R. Kent, Ohio

WANTED MANUFACTURERS' REPRESENTATIVES

Acquainted with and actually selling jobbers, distributors, dealers, cabinet manufacturers, mail order houses, set manufacturers, large retail outlets to sell

THOROLA

DYNAMIC SPEAKERS
6 & 7 TUBE A.C. & D.C. SETS

Those applying for this line must give full particulars, including past experience, total volume produced in 1928, class of firms sold, references, number of salesmen employed and actual territory covered, also if now selling a similar line.

Consideration given those who give us concise details. To those selected, most complete co-operation will be given.

We are manufacturers, well financed and desire hearing from those who are real producers.

Jobbers and Dealers write for proposition

United Research Lab., Inc.
864 West North Ave., Chicago, Ill.

If you can get enthusiastically behind a product that deserves your greatest enthusiasm,—if you can do a real selling job with a line of the highest quality,—write, giving references, previous experience, and any other information that you consider valuable. Commission basis.

**Symphonic
Sales Corporation**
370—7th Ave., New York

**Best Wishes
for a
Prosperous
New Year**

MAY the coming year be the most prosperous of all. We look back with pleasure and pride at the growth of that intangible asset, "goodwill," which has tied us closer to our friends in the Radio Industry during the past months. May we assure all of our customers, past, present and future, of our determination to make our service of still greater value and thereby build more and closer business friendships.

**Radio
Circular
Company**

INCORPORATED

**225 Varick St.
New York, N. Y.**

**Dealers—Slashing Reductions
on Desirable Radio M'dse**

SPLITDORF- ABBEY 6 tube 1 dial set	\$26.00	two Marathon Dry Disk Rectifiers. Not a vibrating charger	\$7.98
FEDERAL 5 tube 1 dial model 10D set . .	\$26.00	FRANCE "A" Eliminator All Dry —uses Marathon rec- tifier	\$17.50
WELL KNOWN ELECTRIC "AC" 7 tube set in metal cabinet guaranteed quality	\$34.50	ACME "B" Elim- inator 180 volts "AC"	\$10.50
WESTINGHOUSE 6-BRO-7 7 Plate Stor- age Battery	\$6.00	FRANCE Trickle Charger Dry with re- lay 3-rate charge, list.	\$6.50
KODEL Home- charger 6 amp. "AC" New Model	\$7.98	TOWER Cones Castle or Adventurer	\$5.50
FRANCE 6 amp. "AC" Charger uses		CORNELL DYNA- MIC CHASSIS "AC" 110 volt	\$22.50

20% with order. Balance C. O. D.
Rated Dun and Bradstreet

FRANK RADIO CORP.

58 Cortlandt St., New York, N. Y.

"SEARCHLIGHT"

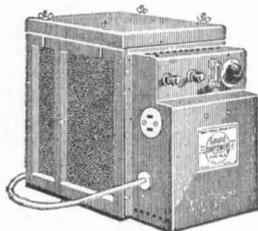
Opportunity Advertising

—to help you get
what you want.

—to help you sell
what you no longer need.

*Take advantage of it—For Every Business Want
"Think SEARCHLIGHT First"*

List Price \$39.50 ea.



Special \$9.75 ea.
Lots of Three 8.50 ea.

The New Gould Kathanode Unipower

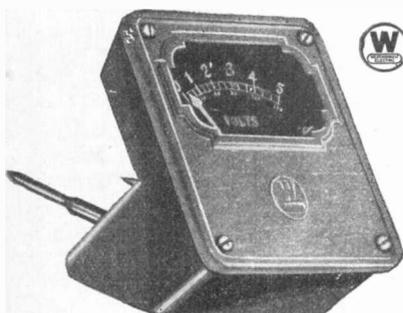
A GOULD PRODUCT
[WITH BUILT-IN RELAY]

Automatic Radio "A" Power From Light Socket

Model AC-8K (6-volt) Kathanode Unipower is the highest quality "A" Power Unit built. Furnishes rich, smooth, unflaring "A" current, without any trace of hum, which is automatically replenished from the light socket. Installed in less than three minutes, makes any set as simple and convenient to operate as an expensive AC outfit at only a fraction of the cost. No rewiring necessary in your set. The Kathanode construction uses the glass mat retainer, which insures extra long life of the battery elements and when sold it will require no servicing. It is very economical and will outlast several storage batteries. This exclusive patented feature (Kathanode) is used and approved by the United States Government for its submarine batteries, which are furnished by Gould. Equipped with a new noiseless Balkite Charging Unit which has four graduated charging rates, and in addition one booster rate (1½ amperes) for an emergency charge, which enables it to properly take care of all sizes of sets and conditions of operation. Operates on 110-120 V., 50-60 cycle A.C. current. Complete with extra fuse.

Westinghouse PORTABLE VOLTMETER

(Double Range—0-5 and 0-150 V.)



List Price \$6.50 ea.

This high grade Pin 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.

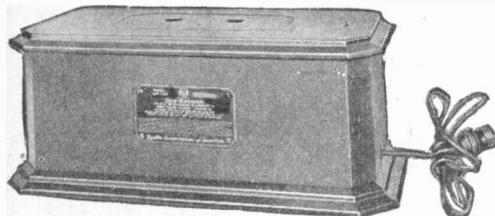
Equipped with an extremely sensitive electro-magnetic Cone unit with direct drive to Cone and is exact to highest degree.

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

Kodel KuProx Kodel

BONE DRY—NO LIQUIDS

Kodel 1 Amp. Trickle Charger

Model 9632. List Price, \$10.50

OUR PRICE \$3.70

Model M-10 1 Amp. Trickle Charger

List Price, \$10.00

OUR PRICE \$3.15

Kodel Bone Dry "B" Eliminators

180 Volts, Model 361. List Price, \$39.50

OUR PRICE \$10.50

Kodel Bone Dry "BC" Eliminators

150 Volts of "B" and 10 Volts "C". List Price, \$42.50

OUR PRICE \$11.50

A Deposit of 20% Must Accompany All Orders.

MERCANTILE RADIO CORPORATION

135 Liberty Street, New York

There is a

Searchlight Section

in each McGraw-Hill
paper:

American Machinist

(American Edition)

Bus Transportation

Chemical and
Metallurgical Engineering

Coal Age

Construction Methods

Electric Railway Journal

Electrical Merchandising

Electrical World

Engineering News-Record

Engineering and Mining Journal

Power

Radio Retailing

*And also in the McGraw-
Shaw papers:*

Factory and Industrial
Management

Industrial Engineering

*For advertising rates and
other information on any
or all of these publications,
address*

SEARCHLIGHT DEPT.

Tenth Ave. at 36th St., New York

BUY THESE RADIO SPECIALS

UNUSUAL
OFFERS
IN
RADIO

"A" Eliminators

Sentinel all dry using Elkon rectifiers and condensers.

"B" Eliminators

Basco specially built using BH Raytheon 90—135 and 180 volts.

Oriole AC Sets—Wonderful performer. Panel 7 x 21 using two 171A tubes—three 226 tubes—one 227 and one 280 tube. Price \$25.00.

Borkman Air Column Speakers—with "Velvet" unit, former List Price \$25.00. **OUR PRICE \$3.25.**

Argus Electric Sets—Model 135. Former List Price \$125.00. **OUR PRICE \$23.50.**

Valley 6 amp., Chargers—Regular List Price \$19.50, our price \$7.00. Less 5% in lots of 10.

SMERAGE MUSIC CORP.

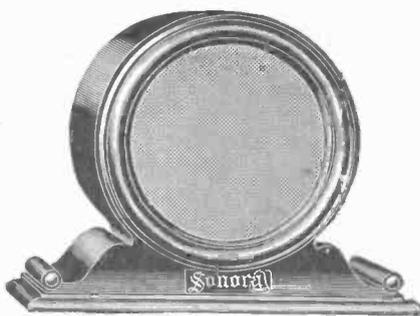
53 W. Jackson Blvd., Chicago, Ill.

Write for
prices on A
and B Power
Eliminators.

"Opportunity" Advertising:

Think
"SEARCHLIGHT"
First!

*Mr. Radio Dealer
\$100,000.00 worth
of standard mer-
chandise offered
to you at prices
as low as 75%
off manufacturers'
list prices.*

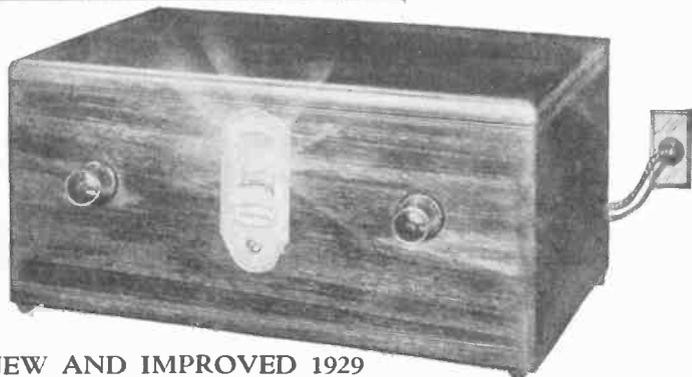


Sonora

(Clock Model) SPEAKER

New and improved magnetic unit; will stand 600 volts without vibrating. Designed to operate on modern electric power sets. Cabinet is made of selected mahogany grained veneer. Each speaker is packed in original Sonora shipping carton, and fully guaranteed.

List price \$35: Our net dealer's price. **\$8.50**



NEW AND IMPROVED 1929
ALL ELECTRIC SET

THE PHILHARMONIC

8 Tube Electric Radio—1 Dial—4 Condensers—
All Shielded—Marvelous Selectivity.
Beautiful Mahogany Cabinet

The Philharmonic is one of the greatest sets ever designed in its class. Uses five 226-A.C. tubes; one 227-A.C. detector; one 171 power tube and one 280 rectifier—8 tubes in all.

The Philharmonic has a built-in phonograph pick-up. Works with any speaker, dynamic or magnetic. One dial beautifully illuminated. Four condensers—a sure sign of fine selectivity. Marvelous tone quality! Heavy audio transformers specially designed, put this radio receiver in a price class all by itself. The power pack contains condensers with a capacity and voltage far beyond the safety factor.

This set is housed in a beautiful grained Mahogany Cabinet. It is the only set selling at this price that is so constructed.

This radio set is warranted electrically and mechanically

\$85.00
List Price
(without tubes)

DEALERS
PRICE

\$38.25
Net

Order One Today and BE Convinced.

**A few of our
SPECIALS!**

SETS

- Freed-Eisemann 6 Tube fully shielded 3-dial \$15.00
- Federal D-10, 1 dial, 5 tube, \$150 list 26.00
- Splittorf Abbey, 1 dial, 6 tube, list \$100 26.00
- Kellogg 6 tube, \$125 list 40.00
- Valleytone 7 tube, 1 dial, \$95 list 25.50

SPEAKERS

- Freed-Eisemann, 30-in. Cone, \$45 list \$ 8.50
- Grebe 20-in. Cone, \$35 list 8.50
- Melorad 18-in. Cone (as good as the best) 4.50
- Bosch Cone Speakers, \$25 list 6.75

UNITS

- Nationally known Baldwin Type C. Bakelite Casing \$ 1.65
- Baldwin Type H. Aluminum Casing 1.50
- Utah Big Chief 1.75
- Holiday Utah (large case, nickel plated) 1.95

B-ELIMINATORS (Bone Dry)

- Atwater Kent, \$40 list \$15.00
- Yorktown Eliminator, 220 Volts delivered 10.50
- Kodel 180 volts 12.50

ELIMINATORS, A, B, and C

- Powerizer with power amplifier using 210 tube furnishes A, B and C current for any set, also equipped with harness for changing any battery set to an electric set, list price \$60, our price \$19.50
- Timmons Power Amplifier 12.00
- Timmons B Eliminator and Power Amplifier 21.00

BATTERY CHARGERS

- Webster Bone Dry, list \$12, net \$ 1.60
- Rayethon Cartridge, \$2.50 extra.

TRICKLE CHARGERS

- Westinghouse (3 rate charger) without case \$ 4.85
- Kodel-Bone-Dri 4.75

RELAYS

- Westinghouse Automatic Relay \$ 2.25
- Kelford Relay 1.15

GLOBE TUBES

One of the most popular and fastest-selling Radio offerings of today—

The excellent quality of the GLOBE Tube, combined with the low price of it to the dealer, makes it a most desirable and profitable line for retailers to sell—

All GLOBE Tubes carry our usual guarantee of FREE REPLACEMENTS—

NET PRICES

- UX-226 \$.80
- UX-227 1.75
- UX-17170
- UX-11270
- UX-171-A80
- UX-112-A80
- UX-280 1.45
- UX-210 3.10
- UX-281 2.70

Also: CROWN 201-A
Tubes, 45c. Each

These are only a few of the bargains. Write for special list of money savers and complete FEDERATED PURCHASER CATALOG.

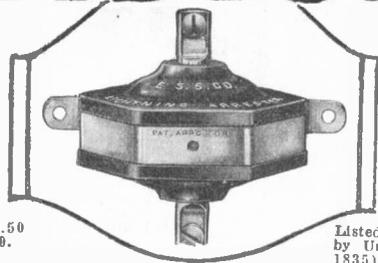
Federated Purchaser

206 B. Broadway
New York City

20% cash with order, balance C.O.D.

Barclay 7583

KEYSTONE



Retail price \$1.50
In Canada \$2.00.

Listed as Standard
by Underwriters (E-
18351.

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 Arrester.

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

BALDER RADIO

*A set that's set
for everything
—including fast sales*



Featuring:

- 7 tubes and rectifier.
- 3 stages radio frequency, detector, and 1 stage audio, and 1 stage push pull amplification.
- Made for A.C. or battery operation.
- Single dial, illuminated control.
- Available in chassis or table model.
- Fully shielded.
- Phonograph pickup.
- Immediate deliveries.

Write or wire for full details.

BALDER RADIO CORPORATION
80 Fourth Ave., New York City

ALPHABETICAL INDEX TO ADVERTISEMENTS

Page		Page		Page	
Acme Electric & Mfg. Co.	104	Grebe & Co., Inc., A. H.	5	Stromberg-Carlson Tel. Mfg. Co.	2
Aluminum Co. of America	98	Grigsby-Grunow Co.	112	Supreme Instruments Corp.	41
American Weekly	117	Hoyt Elec'l Instr. Co.	122	Sylvania Prod. Co.	54
Andrea, F. A. D.	42-43	Insuline Corp. of America	124	Temple, Inc.	50
Arcturus Radio Co.	127	International Resistance Co.	110	Televocal Corp.	120
Atwater Kent Mfg. Co.	14-15	Jensen Radio Mfg. Co.	109	Thorardson Elec. Mfg. Co.	121
Aston Cabinet Mfgs.	120	Jewell Elec. Instrument Co.	120	Transformer Corp.	16
Audak Co.	51	Ken-Rad Corp., Inc.	126	Trav-ler Mfg. Co.	47
Bakelite Corp.	46	Kolster Radio Corp.	26-27	Udell Wks.	124
Balder Radio Corp.	134	La Salle Radio Corp.	4	Ultratone Mfg. Co.	128
Beede Elec. Instrument Co.	122	National Carbon	96	United Reproducers Corp.	49
Belden Mfg. Co.	35	Neonlite Corp.	40	Universal Elec. Lamp	128
Bodine Elec.	35	Newcombe-Hawley, Inc.	111	Utah Radio Prod. Co.	3
Bohn Aluminum & Brass Corp.	32	Operadio Mfg. Co.	28-29	Webster Elec. Co.	21
Bremer Tully Mfg. Co.	34	Pacent Elec. Co.	48	Weston Elec. Instrument Co.	114
Buckeye Mfg. Co.	33	Perryman Elec. Co.	115	Wirt Co.	113
Burton Rogers	122	Philadelphia Storage Battery Co.	17-18-19-20	X. L. Radio Laboratories	122
Capehart Automatic Phone Co.	125	Pierce-Airo, Inc.	118	Zenith Radio Corp.	116
Case Electric Corp.	114	Potter Mfg. Co.	118		
CeCo Mfg. Co.	9	Premier Elec. Co.	126		
Champion Radio Wks., Inc.	22-23	Radio Corp. of America	80-81, Back Cover		
Colonial Radio Corp.	10-11	Radio Master Corp.	8		
Cornish Wire Co.	114	Raytheon Mfg. Co.	37-38		
Crosley Radio Corp.	39	Readrite Meter Works	124		
De Forest Radio Co.	25	Red Lion Cabinet Co.	102		
DeVroy Corp.	6	Rola Co.	107		
Edison, Inc., Thomas A.	106	Samson Electric Co.	105		
Electric Service Supplies Co.	134	Sonatron Tube Co.	7		
Elkon Wks.	119	Sonora Phono Co.	123		
Excello Prod. Corp.	118	Steinite Radio Corp.	Inside Back Cover		
Farrand Mfg. Co.	Inside Front Cover	Sterling Mfg. Co.	52-53, 124, 126, 128		
Federal Radio Corp.	36	Stewart-Warner	30-31		
Freed-Eisemann Radio Co.	12, 13, 92				
French Battery Co.	24				
Freshman Co., Inc., Chas. H.	12, 13, 92				
General Elec. Co.	44-45				
Gold Seal Elec. Co., Inc.	Front Cover				

SEARCHLIGHT SECTION

Classified Advertising

Classification	Page
Business Opportunities	129
Employment	129
Used and Surplus Equipment	129-133
American Sales Co.	129, 130, 131
Ankrum Advertising Agency	129
Dubilier Ph.	129
Federated Purchaser	133
Frank Radio Corp.	130
Fulton Radio Co.	129
Mercantile Radio Corp.	132
Patchin's Radio Store	130
Radio Circular Co.	130
Smerage Music Corp.	132
Symphonic Sales Corporation	129
United Research Laboratory, Inc.	129
Whaley, Royce & Co.	129

STEINITE

in 1929

will be your greatest

PROFIT-MAKER

or your strongest

COMPETITOR!

STEINITE'S engineering leadership will, in 1929, set new standards for the industry. A group of recognized scientists, working under the necessity of maintaining Steinite as America's greatest radio value, will produce a line which every radio dealer should know about. Write for details—and use the coupon below.

STEINITE

ELECTRIC AC RADIO

*Mail
the Coupon!*

STEINITE RADIO COMPANY
General Sales Offices
506 S. Wabash Ave., Chicago, Ill.

Gentlemen:

Send me the details of the Steinite 1929 proposition.

Name

Address

City State

**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-225**
A.C. Filament
- RADIOTRON UX-227**
A.C. Heater
- RADIOTRON UX-280**
Full-Wave Rectifier
- RADIOTRON UX-281**
Half-Wave Rectifier
- RADIOTRON UX-373**
Voltage Regulator Tube
- RADIOTRON UV-873**
Ballast Tube
- RADIOTRON UV-885**
Ballast Tube

The standard by
which other vacuum
tubes are rated



Look for this mark
on every Radiotron



E. F. McDONALD, JR.
President, ZENITH RADIO CORPORATION, KENOSHA



"We determine the performance of all of our receiving sets by using RCA Radiotrons. That is because they materially enhance the reception of our instruments. We urge our dealers to recommend them for initial equipment and for replacement."

E. F. McDonald, Jr.

If you wish your receiving set to give you the best results, renew all of your vacuum tubes with RCA Radiotrons once a year at least. It is better not to use new tubes with old ones.

RCA RADIOTRON

RADIO CORPORATION OF AMERICA • New York • Chicago • Atlanta • Dallas • San Francisco

This is the first of the 1929 series of Radiotron advertisements, each of which will be signed by a leading manufacturer of radio sets.

**Better Manufacturing Methods—
Better Test Methods—
Longer Experience—
Pioneering—**

Result:

RCA Radiotrons are better vacuum tubes—And better tubes backed by great year-round advertising naturally win the biggest sales.



RADIO CORPORATION OF AMERICA • New York • Chicago • Atlanta • Dallas • San Francisco

RCA RADIOTRON

MADE BY THE MAKERS OF THE RADIOLA