

RADIO RETAILING

INCLUDING
SERVICE
AND
INSTALLATION
SECTION

HOME ENTERTAINMENT MERCHANDISING

McGraw-Hill Publishing Company, Inc.

25 Cents per Copy

● "Too much cannot be said for the new 'MAGIC BRAIN' sets!"

... another success story for
RCA Victor—this time from
The Gunter Company of San
Angelo, Texas

Still they come! Day after day we get letters at Camden full of high praise for the new RCA Victor line . . . and the advertising . . . and the way sets are selling! Here, for example, is a letter of October 13th from The Gunter Company of San Angelo, Texas. Glance over these excerpts:

"We unhesitatingly express," writes E. G. Gunter, "our sincere appreciation and gratification for the *outstanding new line of RCA Victor.*

"Too much cannot be said for the new 'Magic Brain' sets—they are marvelously beautiful and amazing in performance. The prices are bracketed to meet every requirement and the model coverage is most commendable. We have never seen RCA Victor acceptance so pronounced and customers so anxious to own the universally dependable radio of Today, the new RCA VICTOR RADIOS.

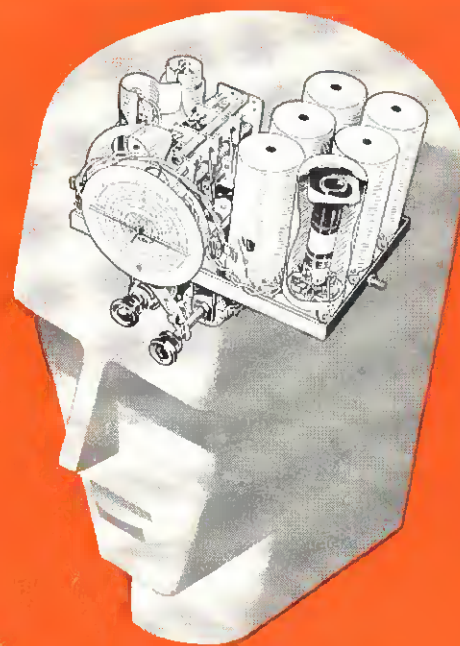
"The entire line is full of sterling performers, AC, 32 volt, Auto and Battery sets. There's plenty of snap, punch and sales power in this new line.

"The 'Magic Brain' advertising campaign is clicking in a big way, and with the public interest that it is arousing, we are on our way to capitalize and make the nice profit that RCA Victor offers every dealer.

"Our purchase for the first three weeks have amounted to 52 sets and we feel that we are just getting into the season. We wish to thank you for your splendid cooperation and trust that RCA Victor dealers will assist in keeping this line sizzling hot. *We can take it!*"

And that's a dealer talking! You, too, want to share in this "Magic Brain" gravy. Don't wait a day longer . . . write, wire or 'phone your RCA Victor distributor today!

RCA VICTOR COMPANY, INC., CAMDEN, NEW JERSEY
A Radio Corporation of America Subsidiary



RCA VICTOR

Tung-Sol has CONFIDENCE in the INTEGRITY of its Retail Partners

It is timely to re-affirm our confidence in the men who sell TUNG-SOL TONE-FLOW RADIO TUBES to the public. These Retail Partners are representative citizens of the community in which they do business and in which they live. Honest selling of dependable merchandise at a fair profit provides their livelihood.

Their reputations are vitally important to them and to us.

That this Bond of pride and confidence between Tung-Sol and its Partners is profitable is evidenced by the steady, healthy growth of this business.



MADE BY THE MAKERS
OF TUNG-SOL AUTOLAMP
BULBS

Send for full information about the Tung-Sol Time Tested Consignment Plan

TUNG-SOL *Tone-flow radio Tubes*

TUNG-SOL RADIO TUBES INC., NEWARK, N. J.

Form T10

Atlanta Boston Charlotte Cleveland Chicago Dallas Detroit Kansas City Los Angeles New York

RADIO RETAILING, November, 1934, Vol. 19, No. 11. Published monthly, price 25c. copy. Subscription rates—United States and Central and South American countries, \$2.00 a year, Canada, including duty, \$2.50 a year. All other countries \$3.00 a year or 12 shillings. Entered as second-class matter April 14, 1925, at Post Office at New York, N. Y., under the Act of March 3rd, 1879. Printed in U. S. A. Cable address "McGrawHill, New York." Member of A.B.P. Member of A.B.C. Copyright 1934 by McGraw Hill Publishing Co., Inc., 330 West 42d Street, New York, N. Y.

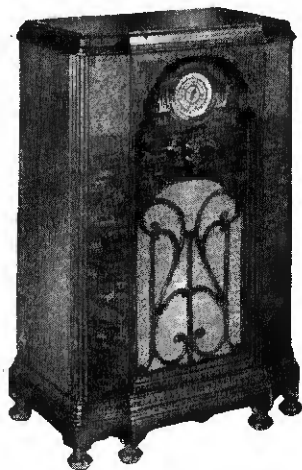
Printed by The Schenckler Press, N. Y.

ZENITH BRINGS YOU TWO NEW MODELS WITH *Split-Second** Tuning

*Split-Second Tuning on the Zenith Airplane Dial is an extra hand . . . like the minute hand on a clock. It permits you to log and accurately relocate all foreign stations.



ZENITH MODEL 975 is a semi-highboy with full length sliding doors, cabinet heavily built for added resonance of tone.



ZENITH MODEL 970 is a handsome, luxurious console of modern design with center and lower panels of butt walnut.

If you've wanted a radio with something *extra* in the way of good looks . . . here it is! *Two* new Zenith Long Distance Radios with Triple Filtering *plus* Split-Second* tuning!

Check off their sales features: both have a 9 tube chassis, two 8" speakers, 3 gang condensers and a tuning range of *four wave bands* . . . from 545 kilocycles to 20500 kilocycles . . . triple filtering that sifts noise from foreign reception, and Split-Second* tuning.

Both are powerful, distance-getting sets that match anything in their price class . . . and a good many above them, too! And *both* carry the Zenith Guarantee Bond: *daily* short wave reception direct from Europe, South America or the Orient or money refunded!

In rich, dignified beauty few sets on the market can match these two new Zenith models. They're *built heavier*. They have the *appearance* of hand craftsmanship. Models 970 and 975 *look like and are* quality!

You'll clinch the sale with Split-Second* tuning on the Airplane Dial of these two models. Add them to your sales floor display.

ZENITH LONG DISTANCE DOUBLET ANTENNA SYSTEM

Model DX—designed to improve foreign reception and likewise reduce man-made electrical disturbances . . . has no "dead spots." Provides noise reduction on both short wave and standard broadcast bands.

ZENITH
TRADE MARK REG.
→ LONG DISTANCE ← RADIO



*The New No. 60 Highboy
Foreign and American reception*

No. 60-H

Standard broadcast range, 540 to 1570 kc. Short wave range 5500 to 15,500 kc. Class A Amplification. Push-pull 6 $\frac{1}{2}$ watts. Stromberg-Carlson 10 $\frac{1}{4}$ inch speaker with 1 $\frac{1}{2}$ inch voice coil. 2-section Selectorlite Dial. Dual Ratio Tuning Knob. Price, \$135 (East of Rockies.)

Here is a radio of exquisite design, in dark walnut finish, with gorgeous burl and crotch walnut veneers on pilasters, doors and center panel. Typically Stromberg-Carlson in quality—one of the most beautiful models to be seen this season.

An advanced radio design giving the fine Stromberg-Carlson natural tone on *both* short wave and standard programs.

Tuning of foreign stations, with the Selectorlite Dial and Dual Ratio Tuning Knob, is as easy as tuning local stations.

Stromberg-Carlsons range in price from \$69.50 to \$950 (East of Rockies.)

STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY
ROCHESTER, N. Y.

Stromberg-Carlson

You too can profit as others are doing . . .

SYLVANIA'S SALES HELPS BRING IN NEW CUSTOMERS—MAKE OLD CUSTOMERS BETTER PLEASED

● *Smart* dealers and service men do not wait for customers. They act! They pick crack dealer advertising helps, put them to work . . . get out and scramble for the extra dollar's worth of business. They have a keen eye for added profits, and they usually succeed. Send for this free folder today. It describes a long list of free and inexpensive sales and service helps, worked out for you by Sylvania. Many dealers have seen a startling increase in business come as a result of their use.

Attractive consumer folders to build business...radio logs...mats for newspaper ads that *sell*...tube stickers...snappy direct by mail post cards...metal outdoor signs...base diagram charts...short cuts in servicing...valuable information on the auto radio field—and many other sales and technical helps that will prove their efficiency on your next profit and loss statement. Write today and learn how you too can make *more profit through Sylvania*—the real profit tube line.

INVEST 3c ON THIS COUPON NOW!

HYGRADE SYLVANIA CORPORATION 1-1
EMPORIUM, PA.

Gentlemen: Please send me your free folder describing Sylvania's Sales and Service Helps for Dealers and Service Men.

Name _____

Firm Name _____

Address _____

City _____ State _____

Sylvania

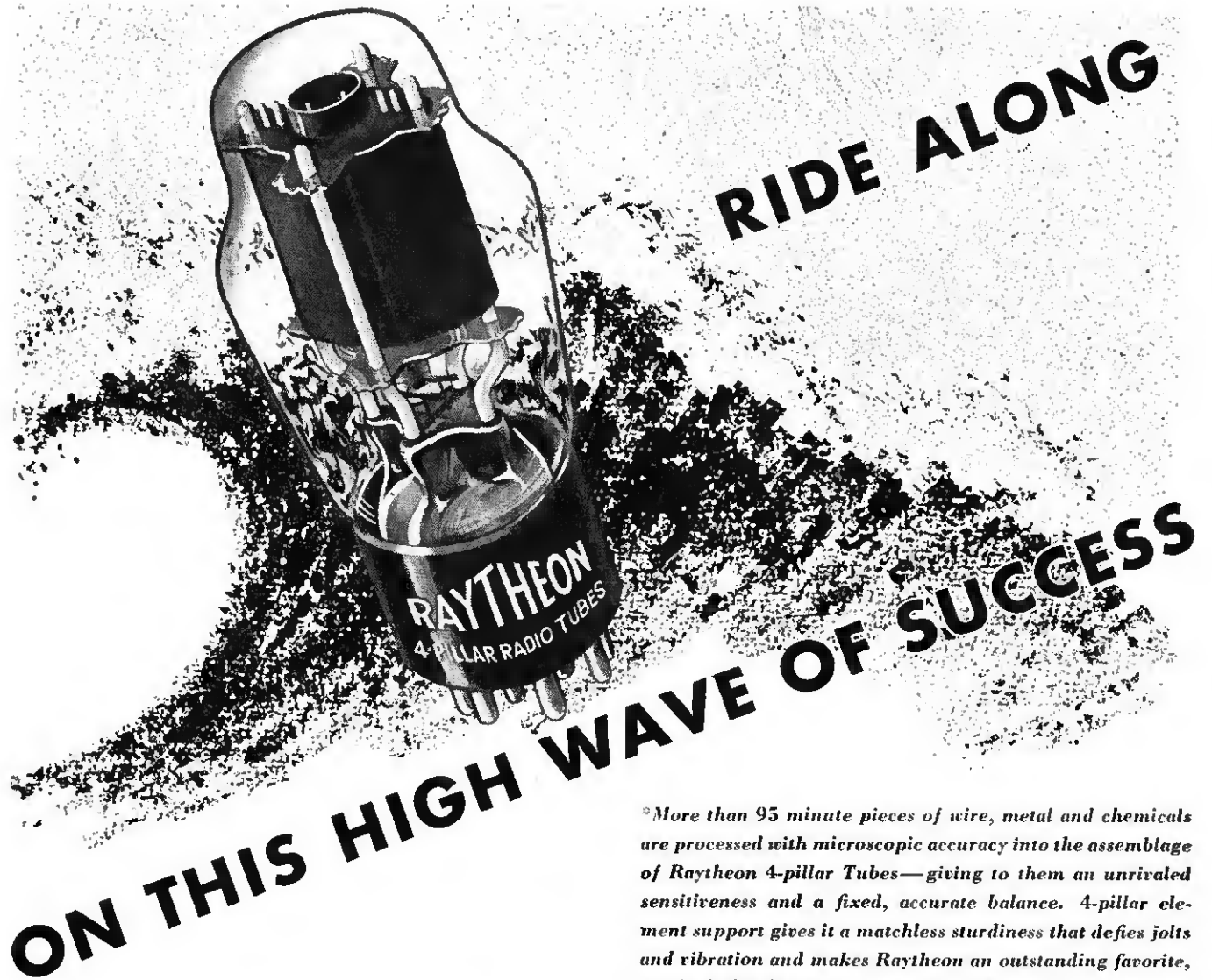
(Reg. U. S. Pat. Off.)

Factories:
SALEM, MASS.
EMPORIUM, PA.
ST. MARYS, PA.
CLIFTON, N. J.



©1934 H. S. C.

Warehouse Stocks in:
Portland, Ore., Atlanta, Georgia,
Philadelphia, Pa., Salem, Mass.,
Denver, Col., Los Angeles, Cal.,
New York, N. Y.



RIDE ALONG

ON THIS HIGH WAVE OF SUCCESS

FROM the Arctics to the Tropics — East to West — in forty countries — on airplanes, naval craft, automobiles, and police cars — in long-distance amateur sets and rich-toned home radios — in the initial equipment of many of the well-known licensed set manufacturers . . . you'll find millions of Raytheon 4-pillar Tubes.

Raytheons are so widely chosen because of sheer quality.* Twenty thousand dealers and eight hundred distributors handle them, not only for the complete customer satisfaction they assure, but also because there's a sensible profit in them. Raytheons are marketed under a policy of full list prices. The guarantee that goes with them assures the user his full money's worth. The sales promotion behind them is more vigorous than ever. For good profit, good-will building and a growing tube business, take on — and *push* — Raytheon 4-pillar Radio Tubes.

RAYTHEON PRODUCTION CORPORATION

30 E. 42nd St. 55 Chapel St. 445 Lake Shore Drive 555 Howard St.
New York City Newton, Mass. Chicago San Francisco

**More than 95 minute pieces of wire, metal and chemicals are processed with microscopic accuracy into the assemblage of Raytheon 4-pillar Tubes—giving to them an unrivaled sensitiveness and a fixed, accurate balance. 4-pillar element support gives it a matchless sturdiness that defies jolts and vibration and makes Raytheon an outstanding favorite, particularly where rough usage is likely and where dependability and long life are vital factors. The only radio tube with a distinctive and exclusive sales feature—4-pillar construction!*

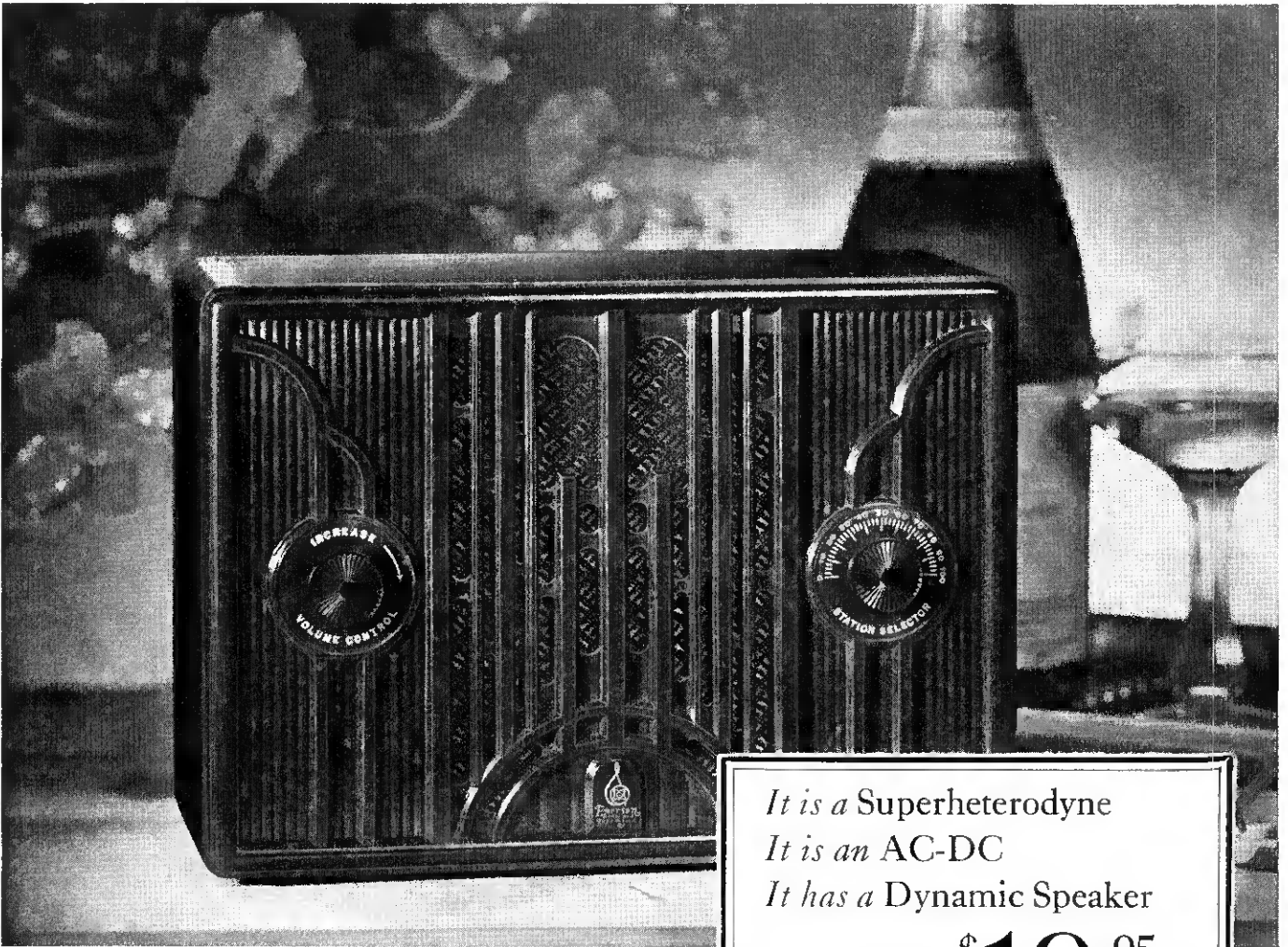


New window and counter displays are part of the effective selling aids offered free to Raytheon dealers.

RAYTHEON
TRADE-MARK
4-PILLAR RADIO TUBES

An Entirely New "Compact" Value is Now Established

One of the greatest, long-felt needs in radio merchandising has been a "PRICE" set which gives QUALITY performance to the buyer of limited means. . . . Few, if any, four-tube AC-DC sets have ever met this DOUBLE requirement. Few manufacturers, if any, have ever been able to produce such a winning combination. . . . Everyone knows what will happen—how sales will sky-rocket—when the news of such an accomplishment is made public. Here it is!



*It is a Superheterodyne
It is an AC-DC
It has a Dynamic Speaker*

With RCA Radiotrons **\$19.95**

SLIGHTLY HIGHER ON WEST COAST

Emerson Radio

Model 19



Four-tube AC-DC Superheterodyne with dynamic speaker, automatic overload control and other advance features—with RCA Radiotrons—in brown mahogany-mottled Bakelite cabinet, 9¼ inches wide, 6½ inches high, 4¼ inches deep. Exceptional sensitivity, selectivity and amazing TONE QUALITY. Shipped in cartons of SIX—each carton including one FREE suede carrying case, retail price of carrying case, \$2.50.

Initial shipments of Model 19 sent to the trade on a "MAKE-GOOD" basis. *If it doesn't out-perform and out-value any four-tube AC-DC Superheterodyne on the market, return shipment within ten days COLLECT.* Here is a quick-sale, "stay-sold" set which comes at the right time for getting the utmost holiday action and net profit. Ask your local Emerson distributor or send for the proposition direct.

—There are ELEVEN EMERSON Models—\$19.95 to \$99.50—

EMERSON RADIO AND PHONOGRAPH CORPORATION, 111 Eighth Avenue, NEW YORK, N. Y.

	ARCTURUS	OTHERS
What Manufacturer pioneered most of the fundamental developments in a.c. tubes?	✓ (6 out of the 7)	
What tube is used by the major number of set manufacturers?	✓ (43% of all in U. S.)	
What tube is used exclusively in one of the best radio sets?	✓ (Scott All-Wave)	
What tube is consistently sold at list price: full share of profit to you?	✓	✓ (Several others, too)
What tube has world-wide acceptance?	✓ (Sold in 78 foreign countries)	
What tube is regarded as the quality standard of the industry?	✓ (Ask any radio engineer)	
What manufacturer has an inflexible dealer sales policy?	✓ (One price only)	✓ (A few others)



Prove it to yourself!

The accuracy of your appraisal of the merchandise you sell reflects the success of your store or services. Particularly is this true of the radio tube you recommend.

Can you safely recommend to your customers any but *the* quality tube? If you're in business to stay—the answer is "no!"

To check your judgment on this vital question, analyze this chart. Prove for yourself that Arcturus well deserves its reputation as "the quality standard of the industry."

The tube with a background of pioneering 6 out of the 7 fundamental a. c. developments . . . that holds long-life records never equalled . . . that is endorsed by leading set manufacturers, engineers and service technicians . . . is the tube for you to handle and push. Arcturus Radio Tube Co., Newark, N. J.

6 OUT OF 7 FUNDAMENTAL DEVELOPMENTS IN A. C. TUBES WERE PIONEERED BY ARCTURUS

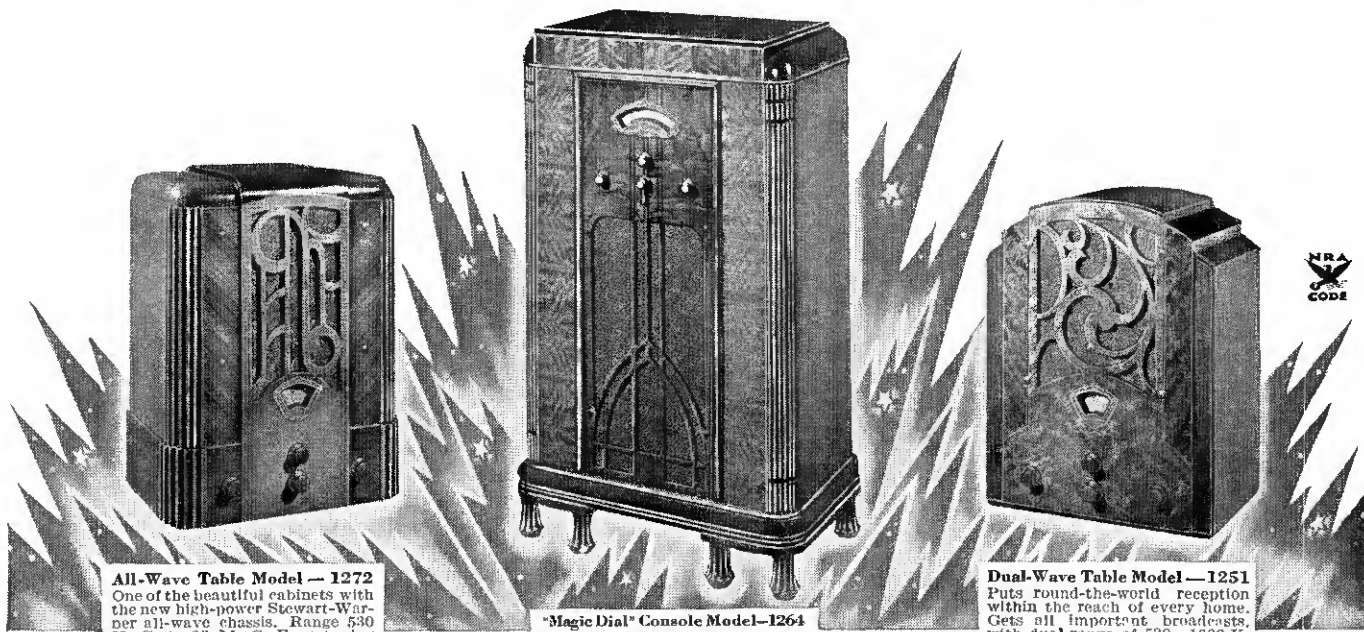
- ★ STANDARD-BASE A. C. TUBE
- ★ QUICK-HEATING DETECTOR
- ★ SCREEN GRID
- ★ VARIABLE-MU
- ★ SUPPRESSOR GRID (Penode, 2A5)
- ★ COAXIAL GRID (Wunderlich)
- ★ EMISSION CONTROL MODULATOR (B17)

ARCTURUS RADIO TUBES

DEALERS AND SERVICE TECHNICIANS NOTE:
Have your Arcturus Distributor show you the new Dealer Help Portfolio. Increases your sales . . . saves you money



Out-Performing All Others **REGARDLESS OF PRICE**



All-Wave Table Model — 1272
One of the beautiful cabinets with the new high-power Stewart-Warner all-wave chassis. Range 530 K. C. to 23 M. C. Four tuning bands, 11 to 1 tuning ratio. Variable tone, automatic volume control. Doublet Antenna Input System.

"Magic Dial" Console Model—1264
Represents the furthest advance in radio progress to date. Makes distant foreign stations as easy to tune in as local—with tone quality and freedom from noises never before realized.

Dual-Wave Table Model — 1251
Puts round-the-world reception within the reach of every home. Gets all important broadcasts with dual range of 530—1600 K. C. and 5.5 to 17.8 M. C. Chassis has all essential new features of this revolutionary Stewart-Warner line for 1935.

For Perfected Foreign Reception

Stewart-Warner's Extra Years of All-Wave Experience
Again Leave Competition Behind in *Any* Comparison

• It is no longer any secret, in the trade, that for quality of reception—range and selectivity—ease of world-wide tuning—the new Stewart-Warner Round-the-World line stands head and shoulders above all others. Dealers and consumers all over the country are getting a wholly new idea of what radio can be from this amazing new line.

Words—no matter how enthusiastic—can't get over to you the astonishing results achieved by the Stewart-Warner engineering staff. You must *hear* a comparison . . . *with any radio on the market*. Then you will appreciate how years of extra experience as the pioneers in all-wave radio have brought Stewart-Warner engineer-

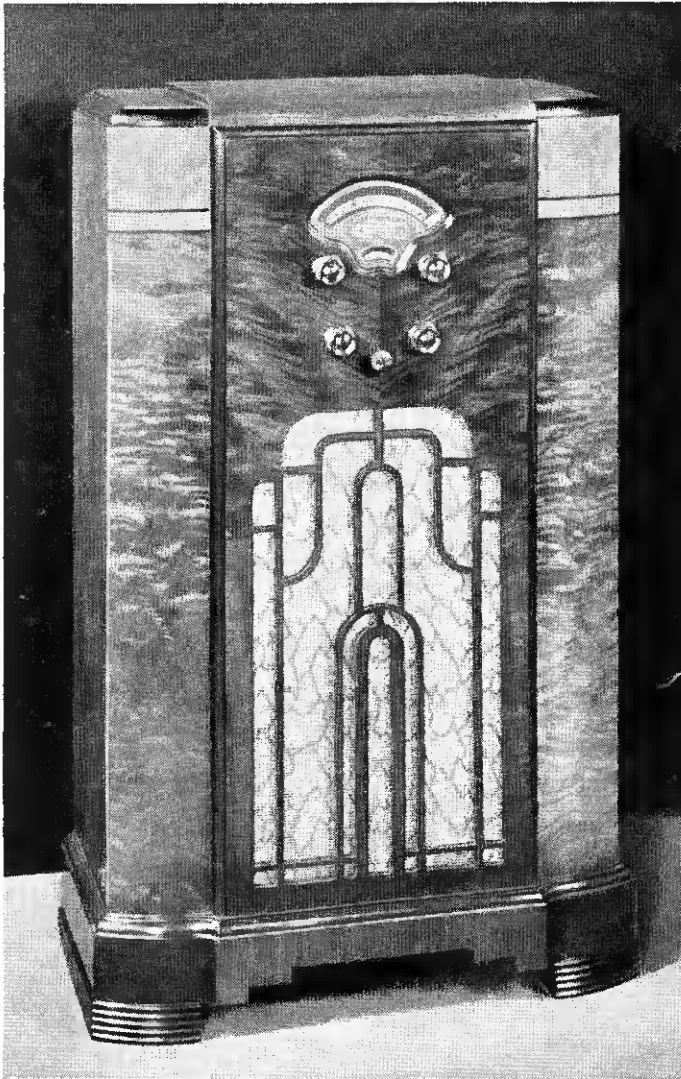
ing to perfected simplicity, while the industry in general was in the experimental stages. You can sell this line knowing in your heart that nobody can give your customers more value—regardless of price. And you can depend on this extra margin of Stewart-Warner value in the future, as in the past.

If you are the kind of merchant who values a good name and prefers to sell long-time satisfaction—you can put your trust in Stewart-Warner Radio and have the backing of one of the hardest-hitting merchandising organizations in the country, besides. Write your distributor or The Stewart-Warner Corporation, 1853 Diversey Parkway, Chicago, Illinois.

STEWART - WARNER **RADIOS FOR 1935**

ATWATER KENT RADIO

*Adds a hot new one
they'll all go for*



HERE'S the newest Atwater Kent Radio that they're all going to go for. It's in the charmed circle for price and appointments—and profit. No swapping dollars on this one. There's a real chunk of money in every single one you and your salesmen sell. You can see all around you how the public is going for Atwater Kent! It's just plain common sense for *you* to be in the Atwater Kent parade to profits.

. . .

MODEL 318C. 8-tube all-wave superheterodyne with 9 tuned circuits. 4 tuning bands cover everything between 540 kilocycles and 22.5 megacycles. Full vision on each tuning range, only range in use is visible, 6 to 1 and 60 to 1 ratios on 2-speed tuning, 11-inch improved dynamic speaker. Automatic switch for doublet and single antenna. **\$99.75** f. o. b. factory—prices subject to change without notice.

FADA Radio

Marches On to Greater Radio Achievements

FADA Radio founded in 1920 when broadcasting began.

•
GREAT DATES
IN FADA'S
HISTORY

FADA Radio 1925 *THE SATURDAY EVENING POST*
carried the Fada message nationwide
and created consumer acceptance from coast to coast.

•
FADA Radio in 1934 there were over a million sets in use.

And Now In 1935

FADA Radio

in its 15th year—
on a sounder basis than ever

FADA DISTRIBUTORS and DEALERS everywhere, will be glad to know that the FADA organization is going ahead on a new and sounder basis.*

Watch for the next FADA announcement in Radio Retailing for details of the 1935 line.

**Old FADA JOBBERS and DEALERS will have first consideration under the NEW FADA Franchise. Continuous service on FADA replacement parts will be maintained.*

FADA Radio

Long Island City, N. Y.

1920 . . . SINCE BROADCASTING BEGAN . . . 1935

"There's the Man we want"



★ If Frigidaire dealers were to be appointed simply for the sake of getting more outlets, Frigidaire could have many times the dealers it has today.

But Frigidaire believes in giving more than the usual factory cooperation to every dealer appointed—and that every dealer should be of the type who can benefit fully from the help we give him.

We want only the *best* of dealers. And the best of dealers want only the best in electric refrigeration.

So it is the most natural thing in the world that Frigidaire and the leading electric refrigeration dealers

of the country should work together.

They do. And in more ways than one.

We give each dealer assistance in training salesmen in successful methods of specialty selling. We give him promotional ideas and merchandising plans that are worked out to fit his own particular needs.

We give him the support of strong national advertising. We prepare copy and cooperate with him on local advertising that expresses his own personality. And—above all—we give him the benefit of an arrangement that enables him to make real profits.

Frigidaire's sales program for 1935 will soon be complete.

It will embody all the principles that have proved sound in the past. And it will hold a few surprises as well.

If, like General Motors, you have "an eye to the future—an ear to the ground"—if you want to go along with a company that expects to go places next year—now is the time to start.

A letter will bring you complete information at the earliest possible date. Write Frigidaire Corporation, Subsidiary of General Motors Corporation, Dayton, Ohio.

Frigidaire

PRODUCT OF GENERAL MOTORS

THE WORLD'S MOST POPULAR ELECTRIC REFRIGERATOR

RADIO RETAILING

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Washington

VOL. 20 NOVEMBER NO. 5
1 9 3 4

RMA promotes National Publicity Campaign

*To Make the Public All-Wave
and Tone-Quality Conscious*

FINANCED by every member of the Radio Manufacturers Association, an All-Industry, nationwide publicity campaign for radio will be launched this month under the expert guidance of the J. Walter Thompson Company, advertising agency. The purpose of this campaign will be to awaken the public to the tremendous strides which have been made in radio reception within the past year, culminating in the all-wave set and in improved tone fidelity. It is to drive home these facts that the RMA has voted to start this campaign.

This idea first took definite form following the presentation by the Radio Wholesalers Association at the June convention in Chicago of a "Five Point Plan" designed for this same purpose. The contract with the J. Walter Thompson Agency climaxes weeks of thorough consideration by the RMA Campaign Committee of an All-Industry promotion drive. No assessments will be levied on retailers or wholesalers. The entire cost will be borne by the manufacturers.

ALTHOUGH details of just what will be done are not available at this writing, it is understood that the main effort will be directed towards securing newspaper publicity based on the added allure of the 1935 all-wave receiver. Two or more special and outstanding national coverage broadcasts are under consideration. An ample supply of dealer display material for store and window will undoubtedly be provided.

The committee in charge and every member of the RMA merits sincere congratulations for their initiative and cooperative spirit. This campaign is most timely. We predict that it is but the forerunner of greater things to follow.

RADIO



SEE THE WONDERS OF TOMORROW

**Electric and Radio
PROGRESS EXPOSITION**
OCT. 1ST TO 6TH
Elmwood Music Hall

Stage Show from A Century of Progress
See the Electrical Circus and the House of
Magic - The Electrical Man - Hall of Buck
Lugs - Electrical Eye - Temple
of Light - Actual program
Broadcasting - See what your
radio looks like.

**\$3600⁰⁰
IN
PRIZES**

Admission 25¢

**THE LATEST IN RADIO
AND
ELECTRICAL DEVICES**
SPECIALS OF OTHER ATTRACTIONS

Get
Special
Tickets
HERE
Save 15¢

Sponsored by THE ELECTRICAL LEAGUE of the NIAGARA FRONTIER

MERCHANDISING
IDEA OF THE
MONTH

CIRCUS

No single sales device can create as broad a public interest in radio as a properly conducted local show. Such affairs are comparatively inexpensive per individual exhibitor. And November or the early part of December is an excellent time to hold such a cooperative display. There must be, however, some outstanding attraction to get the crowds. Mere displays of products no longer will suffice.

The Electrical League of the Niagara Frontier solved this problem in fine fashion last month with its "Radio Circus." A large stage dominated the entire rear of the main floor. Electrical "shows" were put on at frequent intervals. A "Feature Clock" on this platform announced the exact time that the various acts would be presented.

Here is an explanation of the special events—taken from the printed program:

"HOUSE OF MAGIC"

This feature, so popular at the World's Fair in Chicago, will be presented several times each day from the stage. Millions who have seen it claim it is an experience they will long remember.

"ELECTRICAL CIRCUS"

This feature, also a popular attraction at the World's Fair, gives a glimpse of tomorrow, to us today. It shows in many interesting stages how human electricity really is and the freakish pranks it can play at the verbal command of man.

"HALL OF BLACK LIGHT"

Can cats see in the dark? Why? Can human beings see in the dark if cats can? Visit the "Hall of Black Light" to get the answers to these questions.

SOUND OSCILLOGRAPH

Is your voice mellow or harsh? Are there squeaky peaks or pleasant well rounded overtones? Don't let your friends deceive you any longer. Now you yourself can "see" your own voice.

The radio show of the future must provide a major *drawing card*. Nothing could be more appropriate than a display of the many scientific marvels of the radio arts. Buffalo supplies a brilliant "case example" of just how this may be accomplished.

For further details as to how these exhibits may be obtained or put together by local talent, write to *Radio Retailing*, 330 West 42d Street, New York City.

NEWS VIA RADIO, AUDIBLY TODAY—VISUALLY TOMORROW

The radio public's intense interest in *news* has been shown by the way listeners have turned to the adequate news periods instituted by some of the independent stations, in place of the five minutes of belated bulletins served by the Press-Radio Bureau. Several active news-gathering organizations for broadcasters are now operating in the opening left by the newspaper-radio agreement. From these new groups may come the "Associated Press of the Air."

Apparently the newspaper publishers do not yet fully realize that a new and speedier medium has overtaken

their printing presses; that radio, delivering news to the home literally with the speed of lightning, is as far ahead of the present publication methods of the newspaper world, as their own presses are ahead of the early presses of Franklin and Gutenberg.

And the end is not yet. The next step in radio will be facsimile—"the home radio printing press." Already a number of inventors are working to provide an inexpensive means of printing in the home—while the family sleeps—a radio newspaper which will give all the news of the world, with pictures, headlines, cartoons, display advertisements, styles, etc., all actuated from the central broadcasting station. How thoroughly practical the method is the newspapers themselves attest, by beginning next month the expenditure of a million dollars for the transmission of pictures and text between their own offices by a similar process.

In a rapidly changing world that brought broadcasting in a few hurried years, the next mass-education development undoubtedly will be facsimile. To the newspapers facsimile will bring a new problem; to the radio trade it will bring new articles of accessory merchandise to sell that promise to repeat radio's famous "gold rush" of 1922-1927.

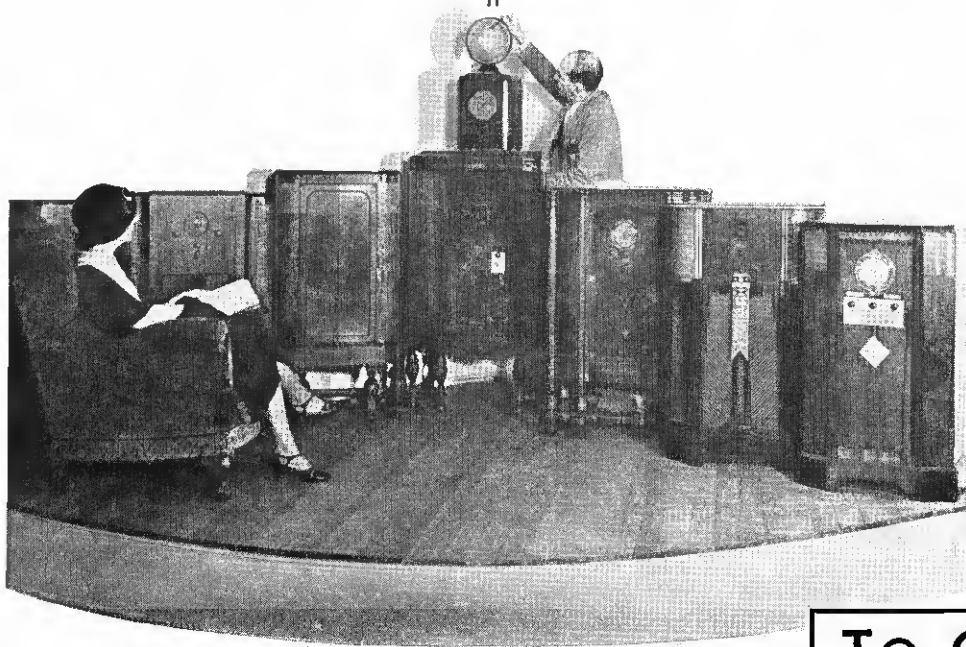
CAMPAIGN YOUR ANALYZERS

Even test instruments, it seems, can be moved by intelligently planned campaigns. A friend of ours, once a distributor and now a manufacturers' representative, informs us that he once sold 80 analyzers in three months by putting pressure on Middle West dealers. He had only 140 potential prospects.

Dealers were informed that their servicemen were welcome to work without pay under the distributor's chief technician repairing sets returned by the retail trade. It was pointed out that no better training could be obtained anywhere. Fully 50 men responded, working at "headquarters" anywhere from a day to two weeks. Naturally, the effectiveness of the distributor's instruments made an indelible impression.

When not in the shop directing retail servicemen the distributor's technician travelled from one account to another, demonstrated the ease and rapidity with which good analyzers localized trouble. He checked through any set which happened to be on the dealer's bench at the time. No attempt was made to sell instruments on these calls until the retailer himself asked for details. Business inevitably resulted from such inquiries as those dealers witnessing analysis were invariably impressed by the effectiveness of the instruments.

Our "New Boosts



WORLDWIDE
DEMONSTRATIONS

*Mr. Zeller visualizes modern
set reception possibilities with
Globe Talks*

TO CUSTOMER and

DURING the past year we have increased the sales volume in our radio department more than 40 per cent, have reduced the number of demonstrations by better than 70 per cent and have improved our sales organization to a point where it operates efficiently, economically and profitably. This has been accomplished by inauguration of a new sales policy, a revamping of our sales staff, a survey of our prospect sources—and hard work.

What we have done may be briefly summarized as follows:

We have reduced our sales staff to five men, all of whom are thoroughly seasoned salesmen. Not one man has had less than seven years' experience in selling radio merchandise and two have had ten.

We have increased the number of lines that we carry in stock to seven. This enables us to cater to the customer's preference.

We have made an analysis of our prospect sources to determine where we must concentrate our efforts to get the best returns. This has enabled us to make more sales with less effort, has cut out a lot of red tape and wasted effort, and has increased our business as well as the earnings of our salesmen.

No Lengthy Sales Meetings

We have cut out lengthy sales or pep meetings and now confine such efforts to daily reports of what has actually been accomplished. These morning meetings rarely exceed a half hour unless some matter of importance must be brought up.

With our former sales staff we found that we had to waste too much time in running down useless pros-

pects, assisting salesmen of limited experience, puzzling over credit ratings of many sales where the customer had been sold before it was determined whether or not he could afford a radio, and in trying to keep salesmen busy, satisfied, earning enough to live on and proving an asset to the house. With only five men we are doing a much cleaner job of selling, the men are making more money, sales are much more satisfactory and volume is greater.

We increased the number of lines which we carry in stock to seven since we found that a personal preference existed in a great many instances which was hard to overcome and often resulted in a lost sale. This increase has also reduced the number of demonstrations because if one set is not satisfactory after two weeks' trial, it may be turned in on one of another make. Numerous concrete instances have shown that prospects have turned to this store because they knew that we would have one of the makes that interested them in stock.

Five Prime Prospect Sources

An analysis of the source of our prospects has helped us in getting more concrete results. Our prospects are now obtained as follows: Two lady canvassers, who make personal contacts and turn in names and addresses of interested parties, 10 per cent; local utility company display room, 5 per cent; floor and telephone, 25 per cent; prospects from follow-up sales, 20 per cent; old customers and miscellaneous, 40 per cent.

By way of explanation, the two canvassers have been with the firm for some time and represent a number of other lines of merchandise in addition to radio. We

Deal"

Sales 40%

By

M. P. Zeller

Manager, Radio Dept.
San Antonio Music Company
San Antonio, Texas



TO SALESMEN

would not recommend them for radio alone. The local utility company has a sales floor which is used from time to time for cooperative radio displays, each dealer being allotted space, each furnishing salesmen, and each getting such business as is possible.

Floor and telephone sales are self-explanatory, although it is worth mentioning that we have cultivated both of these to a point where we are getting much better results than formerly. A little effort each day will show some wonderful returns within a short time if properly encouraged. Prospects from follow-up sales is also self-explanatory, and here, too, a little initiative will show better returns.

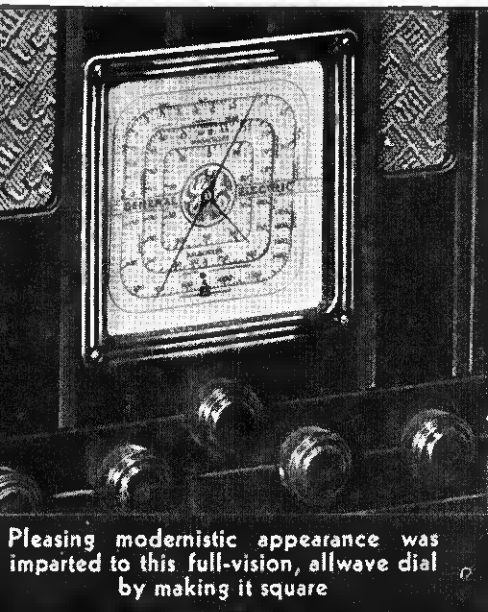
Prospects from old customers has reference to people who have been customers of the store at one time, who have proven satisfactory in their dealings, who have paid up any present installment accounts, and who are desirable for new business. The office makes out a

daily report of paid-up accounts together with other helpful information. This helps us not only to go after more business but to keep the customer doing business with our firm.

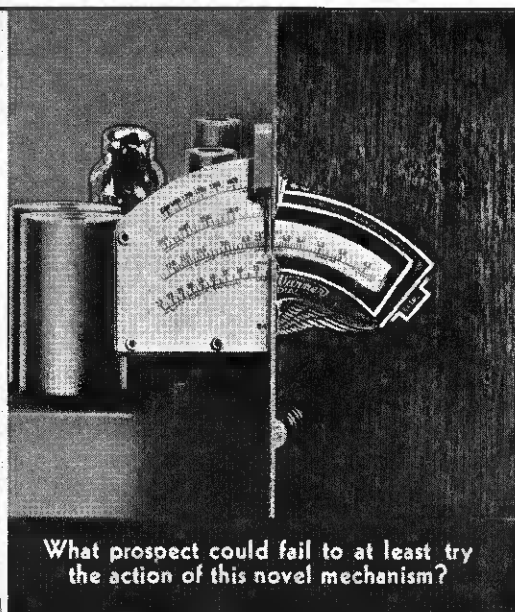
No Pep Talks

In making a study of our sales meetings to determine their value for building business we discovered that much valuable time was being wasted by giving the men pep talks, going over selling plans, making announcements, etc. We had to learn that with five seasoned salesmen, we did not need pep talks and that these men would produce good results with but a little occasional coaching or encouragement. We had to learn that sales are produced only by men who are out in the field.

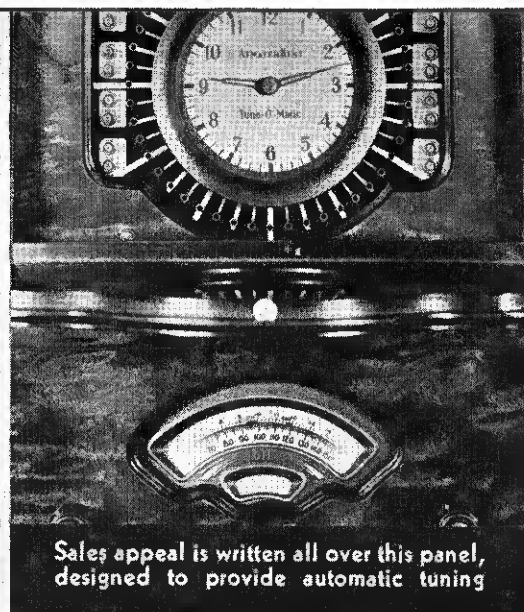
Our morning meetings cover brief reports, timely
(Please turn to page 29)



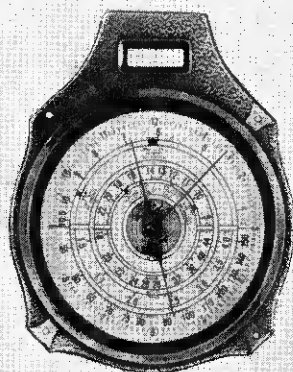
Pleasing modernistic appearance was imparted to this full-vision, all-wave dial by making it square



What prospect could fail to at least try the action of this novel mechanism?

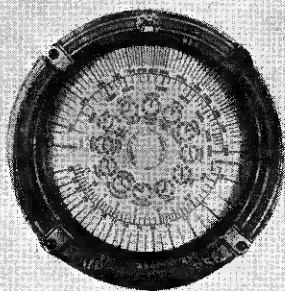


Sales appeal is written all over this panel, designed to provide automatic tuning

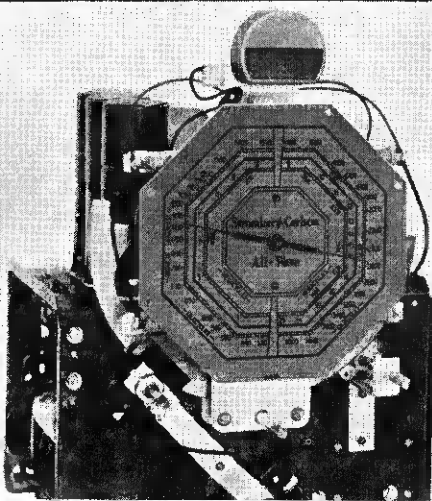


A "minute-hand" needle simplifies vernier tuning, fascinates the consumer

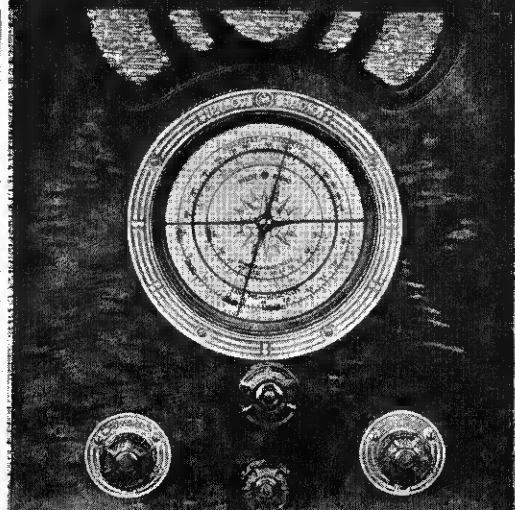
Time-difference charts, printed right on the scale, immediately focus attention on this receiver



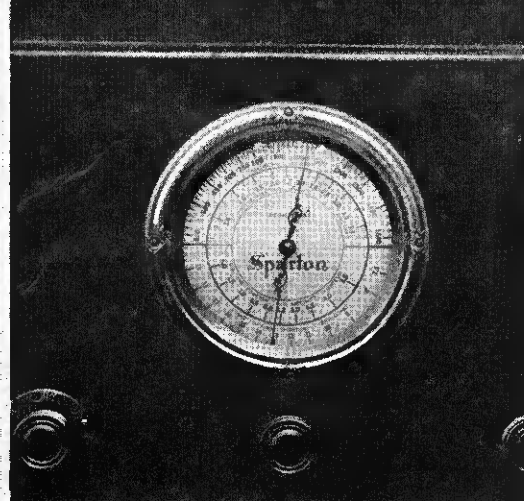
Snap the band-change switch to short-waves. Just the proper quarter-section of the dial lights up



An especially large clock-type indicator, carefully marked to simplify dx tuning

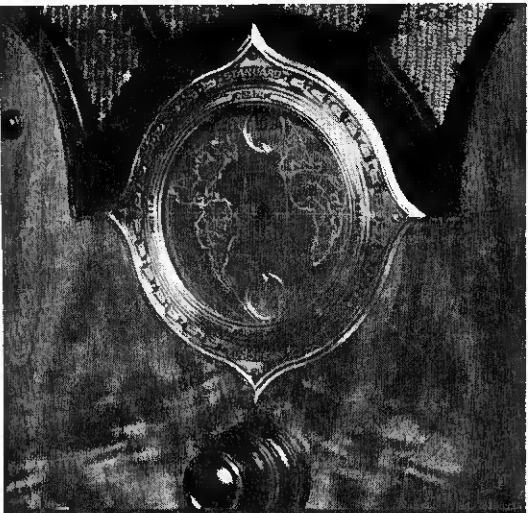


Another good example of the clock-type dial. Broadcast and police above, short-waves below

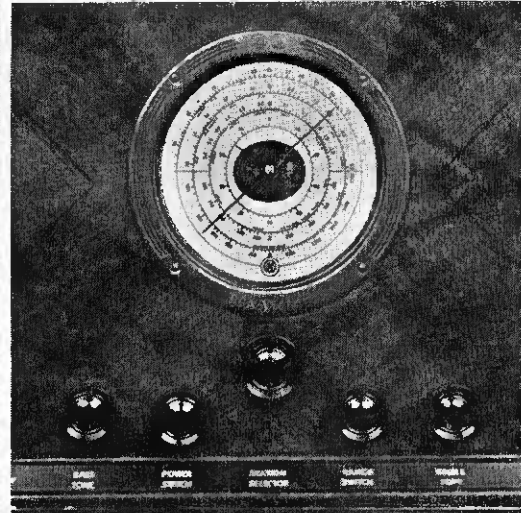


COLORED LIGHTS . . . CLOCK-TYPE INDICATORS . . . TIME-DIFFERENCE CALCULATORS . . . SHIFTING SCALES . . . all these tuning innovations are right-out-front in modern receivers, giving new sets more "eye-value," definitely outdating the old

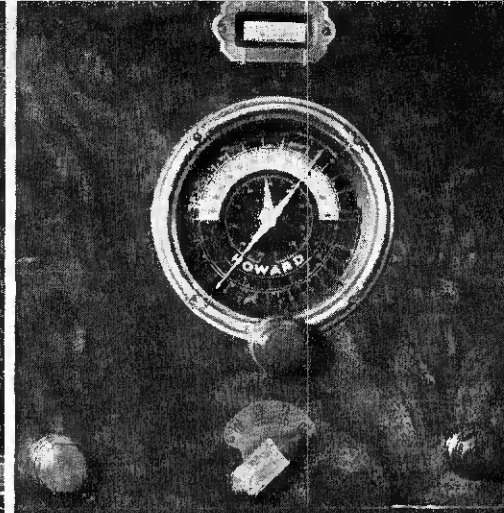
A STUDY



This set is designed for world-wide reception and the dial instantly tells the allwave story



One of the first clock-type dials. It stands out like a lighthouse on the sales floor, attracting the consumer

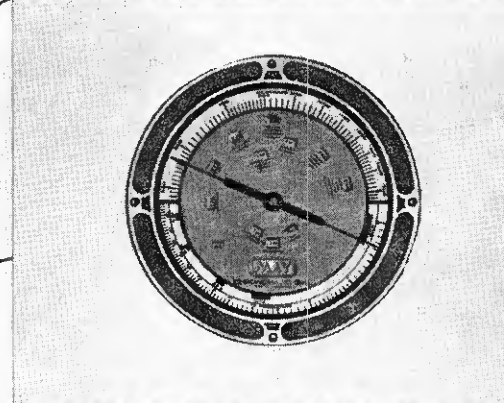


A black dial face with a white indicator gives this model plenty of "eye-value"

IN DIALS

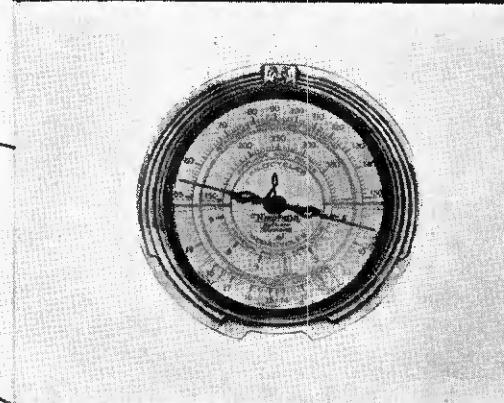
INTERESTED IN MECHANICAL DETAILS?

Turn to page 39 in the Service Section

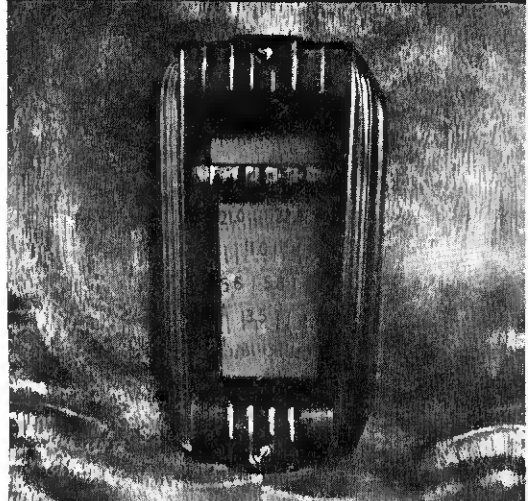


When it's midnight in Bandoeng what time is it here? This dial automatically computes the answer

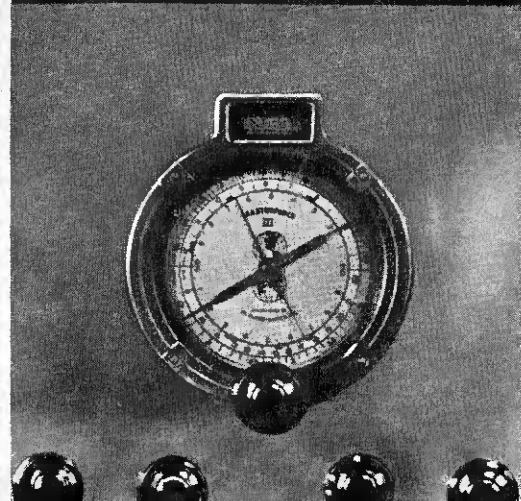
No fishing and fussing with this receiver. All scales are fully visible



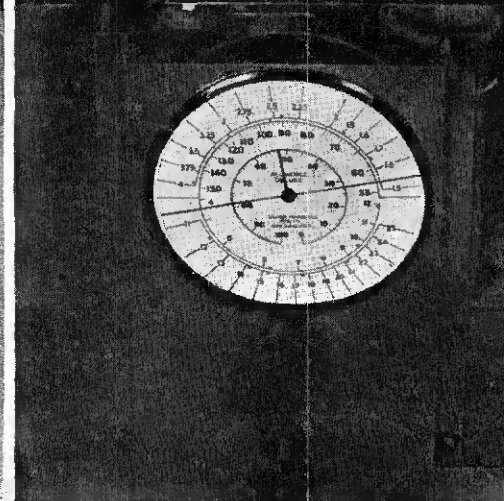
A quietly efficient "jump-scale" type. It does a real job and looks the part



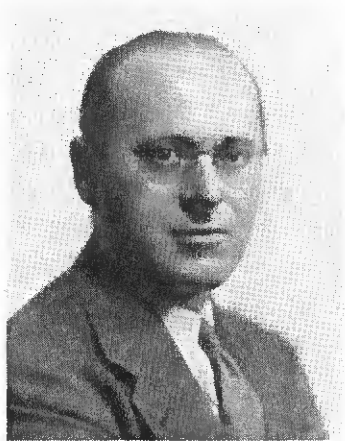
"Second-hand" needle plus visual resonance indicator places this set head and shoulders above old equipment



Neat and businesslike, this "show-window" tuning mechanism is especially appealing to shortwave fans



SERVICEMEN.....Your future depends largely upon whether or not you.....



K n o w

By
John F. Rider

perhaps the best-known figure in the radio service field. Publisher of the invaluable "Perpetual Trouble Shooters Manual." Author of "Servicing Superheterodynes" and other books for the repairman

EDITOR'S NOTE: This is the first of two articles by Mr. Rider concerning the cost of running a radio service business. The second, which will appear in an early issue, is now in preparation and will tell specifically how to determine how expensive the various items of overhead actually are. The author, furthermore, assures us that anyone who can add, subtract, multiply and divide will be able to set up cost records of his own after reading the coming analysis and that it will be well within the capabilities of a small businessman to keep them up to date.

THERE are as many reasons why servicemen should know their operating costs as there are successful businesses. It is doubtful if a single successful concern has reached that state without the proper consideration of costs. Yet, the radio service industry has, to date, accorded little thought to this subject.

Now it may seem strange to many men affiliated with the servicing branch of radio that suddenly, after years of servicing without recognition of the importance of cost knowledge, someone decides to agitate for it. This can be answered in very few words. Servicing is a comparatively new enterprise and there have been many other important problems to be dealt with. One of these was technical ability. The second was organized effort. Both have now reached a sufficiently high point to permit detailed study of the commercial side of the picture. For while it is said that the volume of business done by the servicing industry approximates more than 60 million dollars and that even greater volume will be done in the future, net income, if the past is any barometer, will not keep pace with increased sales.

Obviously, continued growth of the service industry necessitates full and complete recognition of *all* costs as the groundwork for the establishment of correct service charges and other forms of income by service organizations. The installation of cost records is the first and most important move, be it a one man concern or one employing several men. The serviceman *must* become a businessman.

Let it be understood that technical proficiency is necessary. Let it be further understood that the serviceman to whom these recommendations to become a businessman are made, is a good serviceman. Nevertheless, it is as equally important, if he is to survive, that he be a businessman as

well a a serviceman. Technical proficiency alone will never keep a man in business. A 50-50 condition should exist . . . half businessman and half serviceman . . . as good a businessman as serviceman. We say this because it is the business side of the combination which can make the dollar of greatest value—it is the business side of the man which makes certain that the income due the concern is collected—it is the business side of the man which can keep the overhead per call at the minimum—it is the business side of the man which controls his acts with respect to competition—it is the business side of the man which can derive the greatest, justified income from a service job well done.

Why Cost Studies?

Why is knowledge of costs so important? Knowledge of costs is important so that you may establish the correct sales prices. Service organizations must henceforward be run as a commercial enterprise if they are to succeed. The serviceman is selling his time and knowledge upon a commercial basis. Such being the case, how can he establish the sales value of his time, or for that matter his employee's time, if he does not know the cost of that time? How can anyone establish a resale price if the cost price is not known? No matter how you may ask the consumer to view the radio service industry it must consider itself a commercial enterprise. The owner must know how much business he must do each week or each month to operate upon a profitable basis. And, how can you establish a sales quota, if you do not know your total costs? Obviously, it cannot be done, no matter how ingenious you may be with a set tester or an ohmmeter. The ability to align correctly a super-heterodyne receiver is of little interest to the landlord when he calls for his rent or to the auto mechanic when he asks for his money after making a repair on your car.

Equipment Must Be "Retired"

In addition to service charges and sales quotas, knowledge of costs is essential in connection with the replacement of damaged or obsolete equipment. Automobiles, tires and testing equipment do not last forever. Eventually they must be replaced. Proper business administration calls for the establishment of funds for such replacement, so that when the time arrives to buy a new car, new tires, an ohmmeter, oscillator or set tester, the funds required are available.

Your COSTS

One of the frequent comments heard by the author during conversation with servicemen is that they do not understand why, at the end of a year or when they desire to purchase additional or replacement apparatus, the funds are not available. They just cannot make ends meet. Business is good but nothing seemed to be left over.

Assuming that business is satisfactory there can be but one reason for such a condition. This reason is excessive costs—as against income.

“Rainy Day” Reserve

Every business must protect itself against adversity. Perhaps you are wondering how such protection is associated with costs. Take the matter of insurance. Your car may be insured against fire, theft and accident liability. Maybe you cannot afford the latter, but if at all possible, such insurance should be carried. Perhaps you have your equipment insured against fire and theft. Such insurance costs money and is a part of your total operating cost. Whatever profit you earn must be over and above all costs.

Consider the possibility of dull business periods or non-profitable service calls. The extent of the first you never know but you can at least try to “insure” against the effects of such a condition by the establishment of a reserve fund. The profits from profitable calls must compensate for non-profitable calls. In order to do this, you must consider as a part of the cost of the profitable calls the amount which is set aside to compensate for the service calls done at a loss.

We recognize that service calls carried out at a loss are unavoidable, because the possibility of being confronted with a receiver or amplifier diagnosis which may require three or four times the normal length of time is very likely. Then again, a certain percentage of inspection calls do not result in service work. Usually, these inspection calls are made at a loss, with the hope that a profitable service call will result. By properly apportioning the cost and profit on normal diagnosis and service calls suitable compensation is accrued from the non-profitable inspection calls to take care of losses.

Credit Loss Protection

Servicemen do some business on a credit basis, particularly those who do dealer service. Time and again credit losses are incurred, so a reserve fund for such losses must be established. In effect, such losses represent increased cost because they reduce the total profits. Accordingly, dependent upon past experience, the sensible serviceman will add to his cost total that percentage of gross profit which he feels will take care of his credit losses, or which will be a reserve for bad debts. If a separate account is kept for such reserve and the man is fortunate and has no such losses, the amount of money so set aside can become general reserve or can be added to capital.

Direct mail efforts cost money. The post cards, stickers, or what have you, purchased from manufacturers for use as direct mail or for identification when you do a job, must

be figured in your costs, because it is a cost. Many servicemen omit these items—forget about them because the expenditures are relatively small. However, when totaled for a year, you will find that more than one will approximate several hundred dollars. Each dollar spent must be recognized, for it eats into the gross profit. Reflect for a moment upon the advertising, stamps, stationery, post cards, stickers, throw-aways, etc. which you have purchased during the past year, and you will be surprised at the total of money spent in that direction.

When you started in business, you had a certain capital. A great part of that capital was spent to establish yourself. Your business is upon a profitable basis only when you can *increase* your working capital until the original fund figures are reached and passed. Innumerable concerns have been functioning for years without realizing that operations were being carried on at a continual sacrifice of capital, until one fine day, the truth dawned upon the owner that further capital was not available. Then, “fnis.”

Many a man in business has been drawing his salary from the capital of the business, rather than from earnings. It is easy to sign and cash checks as long as money remains in the bank. It is also easy to give preference to your salary check rather than to the check which should be mailed to the creditors. But like all non-profitable companies with limited finances, the well runs dry eventually.

You cannot guide your business without knowing your costs. *You never know how you stand!* It is true that some organizations, despite mismanagement, prosper over a period of years. But even these organizations have found that the introduction of cost figures meant greatly increased earnings because it threw light on the “leaks.” It showed where profits were being earned and how more could be earned. It showed where losses were being incurred and pointed to the corrections or changes needed to turn loss to profit.

Cost Studies Must Precede Pricing

We want to take this opportunity of pointing out that we do not especially advocate “standard” service charges as the means of making servicing profitable. There is, of course, no doubt that certain kinds of service work require that prices be raised because the general average of figures shows that operation is not profitable. We are not definitely either for or against inspection calls at fixed prices. It all depends upon cost. What we cannot see is how anyone can attempt to establish prices without first being fully cognizant of operating costs, and what serviceman, or group of men using a “fixed price” schedule, actually knows real costs?

The service business cannot base its operations in accordance with considerations employed by manufacturing plants. Such plants, where production depends upon running machinery, know that cost to a large extent varies with volume of sales. Many service men who have not been operating at a profit, believe that it is due to insufficient volume. There is some truth in this belief, but it is rarely

(Please turn to page 29)

"We Use These SALES



SERVICEMEN GET PUBLICITY

The Cleveland *Press* and Station WGAR solicited sets last year as donations to shut-ins at Christmas. Neal Bear (seated left front), chairman of the Cleveland Section, IRSM, and his fellow members recondition the sets free of charge . . . and so obtain citywide publicity. Tubes were supplied by all the distributors in town and RCA-Radiotron storage batteries were donated by Willard, dries by National Carbon, General and Underwood. Spang Baking supplied doughnuts to the servicemen to sustain them during donation labors.

HIGH FINANCE

Proprietor Albert, of Albert Radio & Electric, Inc., Springfield, Mass., and Hartford, Conn., is a past master of the art of high finance. His advertising and management technique has been a primary factor in the success of the firm's three stores.

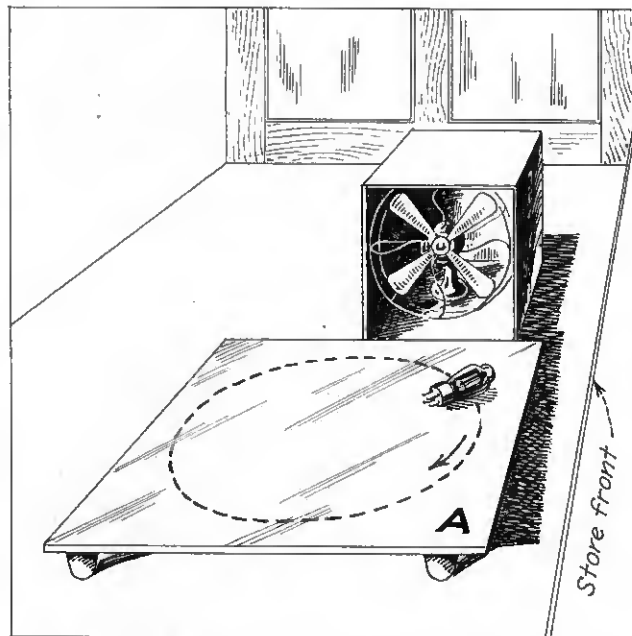
Albert sets up a gross sales quota for radio and refrigeration each month, proceeds to spend 10 per cent of the quota for advertising. Manufacturers split the advertising expense, reducing his investment to 5 per cent. Last December the concern budgeted for \$10,000 worth of business, proceeded to place \$1,000 worth of advertising. Sales did not come up to expectations the first ten days, but the advertising was carried on schedule and, largely due to its pulling power, the concern wound up the month with \$11,756 of sales.

Albert finances all merchandise under \$75 himself, sells a local bank all paper over \$75 at 6 per cent, charging his customers 10 per cent and thereby making a profit on the financing. Financing of sales under \$75 is carefully worked out to avoid the tying up of excessive blocks of capital. For example: Suppose Albert sells ten \$50 radios purchased for \$225 (50 and 10 discount). At an average down payment of \$8 per unit he receives \$80 in cash at once and \$2 per week thereafter gives him \$160 at the end of the first month.

He pays the distributor with trade acceptances for 30 days, takes 2 per cent on \$225, which is \$4.50, and pays

the distributor 6 per cent for 30 days, which is \$1.13, thereby enjoying his 2 per cent discount. At the end of the 30 days the ten units have brought in \$80 more, or a total of \$240, which is \$15 more than the cost of the merchandise. The customer and the distributor thus virtually carry sales under \$75.

MYSTERY WINDOWS



C. B. Elliott and G. C. Zimmerman of Elliott-Zimmerman, Alhambra, California, use mystery windows with good effect. Here are three ideas successfully applied:

1. (See drawing.) A radio tube was made to roll continuously in a circle on a 30-inch square of aluminum supported to permit a view underneath. Air current from a concealed electric-fan with its blast "focussed" by a simple wooden chamber gave the tube impetus at a certain critical point in its travels, while an imperceptible slope in the plate carried the tube around the rest of the arc. The shape of the tube kept the circle small enough to prevent it from rolling off the plate. The wind chamber may be lettered to look like a trick display sign. Plate corner "A" is a trifle higher than the other three.

2. A half-inch steel ball was made to roll around within a glass bowl in an erratic manner, without apparent power supply. The bowl was placed on a box that matched the one concealing the fan in the first window. Under the lid of the box was a phonograph turntable with an electromagnet made of a speaker field coil, energized by a type 80 rectifier, fastened to its outer edge. The bowl was placed slightly off center, causing the ball to run back and forth in its effort to follow the magnet.

3. A radio tube was made to light up whenever the passerby touched the window at a point directly in front of an electric iron hiked up on its end just inside the glass. An electronic "grid-glow" tube, operated by capacity increases when the hand was placed near the flat-iron, operated a relay supplying filament current to the tube.

STUNTS"

\$1 FLAT-RATE REPAIR CHARGE PROFITABLE

A flat-rate service charge of \$1 for repairing any set has worked out profitably for the City Electric Service Co. of Denver, according to P. Sweetland, partner.

"We only have to repair one out of 10 machines inspected," states Sweetland. "In the other nine cases we get more than we would if it was our policy to make free inspections. Occasionally we get an expensive job which runs us in the hole, but it works out to our benefit when the increased work obtained is considered. We have increased our business 500 per cent."

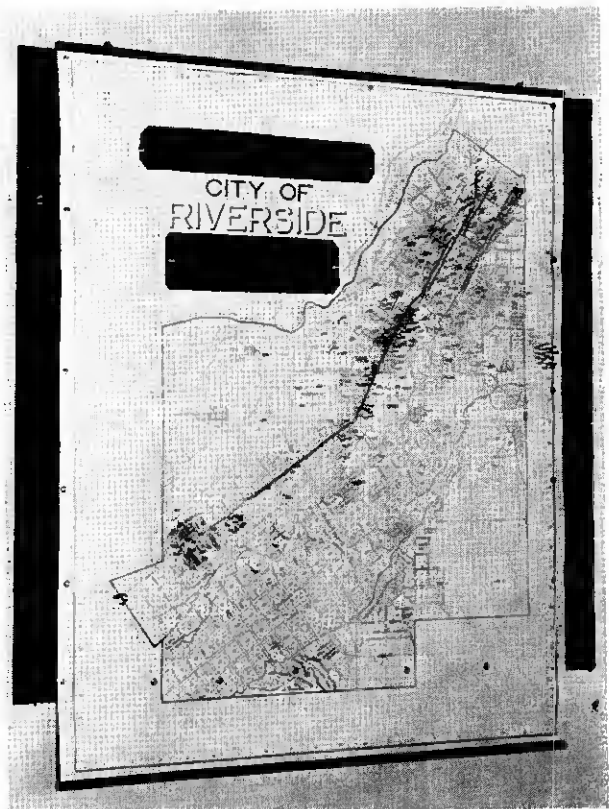
Sweetland claims that close examination of his records indicated that the flat rate charge idea would react to his company's benefit. On standard machines 80 per cent of all trouble was found to be from bad tubes, the next 10 per cent from condensers and the remaining 10 per cent from resistors and loose connections. With small, cheap sets condenser trouble accounted for from 15 to 20 per cent of all failures. The shop gets full list for replacement parts, of course.

THEY LISTEN LONGER



W. Koutnik, of the Anderson Electric Company, Manitowoc, Wisconsin, has a fixed demonstration rule which might well be emulated by others: "Never permit the prospect to stand while demonstrating a receiver. They will listen longer if seated," he says.

Koutnik always takes a \$60 or \$70 receiver along where the prospect asks for a home demonstration on a \$40 job. "Tell them you thought they might want to listen to a better set, even though having every intention of buying the cheaper job, and that it was no trouble to permit them to compare. This avoids any semblance to high-pressure selling and it has been our experience that sales can be boosted in 70 per cent of all cases without overselling."



"YOU MAY GET NOISE"

Clinton L. Fanton, Riverside, California, deliberately tell prospects who come into his store to see a set that they may get some noise with any radio. Then he leads them to a map nailed to the wall and points out the locations in Riverside at which Fanton-sold sets are in use, further calling attention to shaded areas where a city survey indicates a high noise level.

This serves two purposes. First, the customer points to the location of his house. And by looking it up in the city directory Fanton obtains the name and street address. Second, most prospects are agreeably surprised when a set is home-demonstrated and less noise than they anticipated shows up.

MAP BRINGS BUYERS

"Fischer-Smith Auto Radio Depot"

We make your Radio sound like the Manufacturer intended

Best Equipped
Radio Shop in
Bergen County

Installations,
Service-Repairs
and Parts for
all type Radios
Expert
Mechanics

TELEPHONE
TEANECK
7-4133



Manufacturers
of
Fischer-Smith
Auto Radios

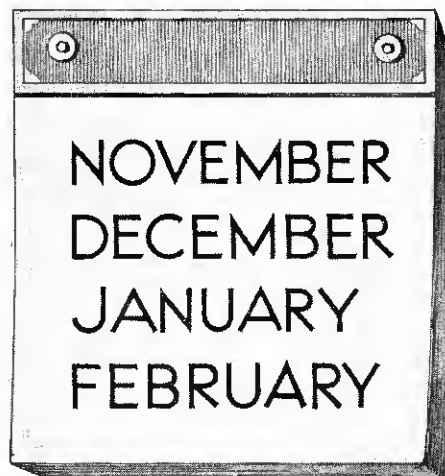
Satisfaction
Guaranteed

Ask for Prices

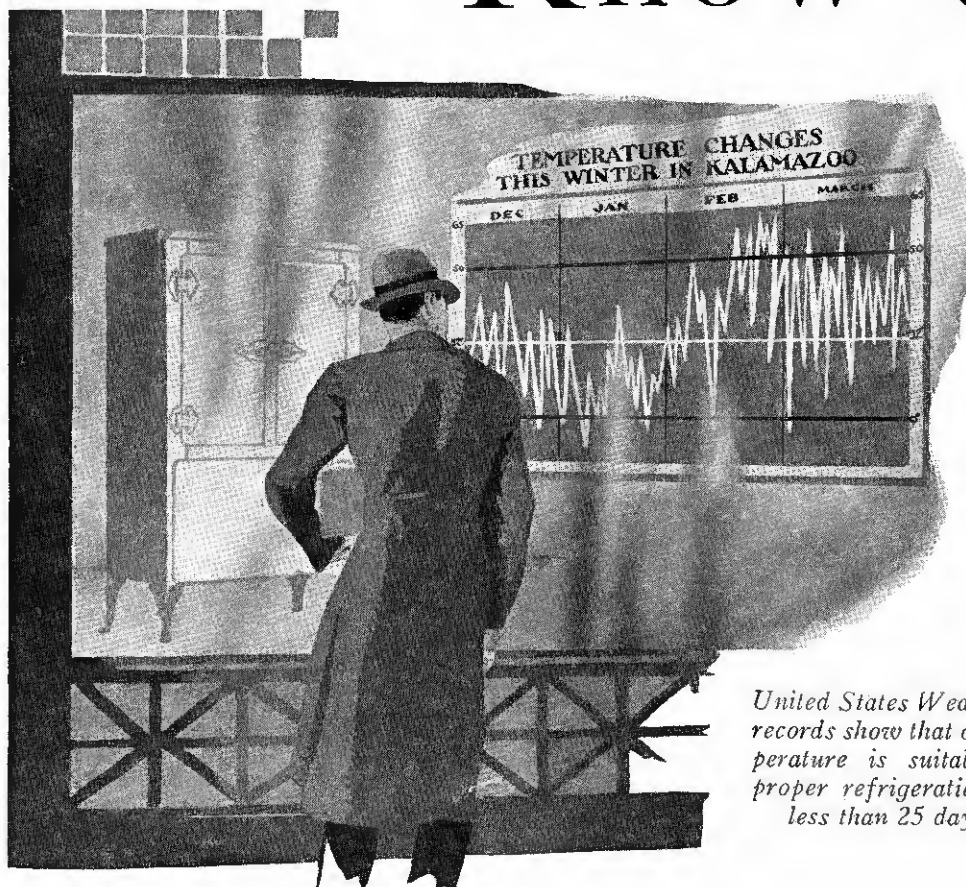
162 State St.
West Englewood

Fischer-Smith of West Englewood, New Jersey, attracts prospects to its door by distributing postcards bearing a street map and showing its location. Many people who want an auto-radio installation, or radio service, find it difficult to locate service stations. The map simplifies matters.

You Can Sell Her a Refrigerator in...



if you **Know the**



United States Weather Bureau records show that outdoor temperature is suitable for the proper refrigeration of foods less than 25 days a year.

MY EXPERIENCE in a supervisory capacity with the largest outside selling organization in the United States convinces me that the electric refrigerator can be sold just as readily in the winter time as during May or June. If you are a dealer who thinks that your refrigerator stock, and investment, should be placed in cold storage for the next five months you are wrong. There are just as many real reasons for mechanical refrigeration in the winter as in the summer. Sell refrigerators from now until April on this 'cold logic' basis: Protection of Family Health.

"Health Insurance" is your strongest argument when talking to winter prospects. Here are five reasons why an electric refrigerator is needed all year 'round to protect the health of every member of the family:

Reason No. 1—"In order to check the growth of micro-organisms the temperature of the refrigerator should be at least 50 degrees Fahrenheit or less," U. S. Dept. of Agriculture. "If milk or a delicate vegetable is submitted to a temperature *above* 50 degrees, by the end of 24 hours it will be teeming with harmful bacteria. The only safe preventative is some method

by
Joseph Salzman

Cold Facts

of artificial refrigeration *every month in the year*," Dr. Royal Copeland, former New York Health Commissioner.

Reason No. 2—The U. S. Weather Bureau records show that in the Chicago area last year the temperature was between freezing and 50 degrees for only 19 days. Outdoor refrigeration boxes operate at proper refrigeration temperatures for approximately but 25 days a year even north of the Mason and Dixon line.

Reason No. 3—Window boxes are unsanitary. Dust carrying germs are bound to shift in.

Reason No. 4—Back porch boxes likewise are unreliable and germ catchers. Furthermore, to go from a hot kitchen to a cold porch is to invite severe colds. The same applies to ventilated pantries.

Reason No. 5—The kitchen in a heated home is as warm in winter as in summer. Ice boxes do not keep certain foods cold enough. Only artificial refrigeration will do.

Also the Economy Argument

Another major point to bear in mind is the fact that an electric refrigerator pays for itself. You can convince your regular radio customers that this is so by showing them the following list of economies for a family of five. Here is a fair statement of savings:

ELECTRIC REFRIGERATOR	
MONTHLY SAVINGS	
Food spoilage	Saves \$2.50
Use of leftovers	" 1.00
Quantity buying	" 1.50
Bargain buying	" 1.00
Inexpensive desserts	" 1.00
Saving over ice	" 2.50

While an electric refrigerator will save at least nine dollars per month it can be purchased for as low as \$5 per month.

Lack of full knowledge about the refrigerator handled is another rea-



"Ventilated" pantries and back porches are not only unsafe and unreliable places for the storage of perishable foods but jeopardize the health of the housewife who must walk from a hot kitchen to these cold places many times a day.

son why dealers soft pedal this appliance during the erroneously called "off season." Write your manufacturer at once for every sales help available. Also get the literature of competing makes. Read every newspaper advertisement and acquaint yourself with the market prices of all the popular refrigerators. Get the refrigerator service man to tell you all about the operation, theory and functioning of your line. By doing these things you will develop your sales talk into smooth, interesting and convincing conversation.

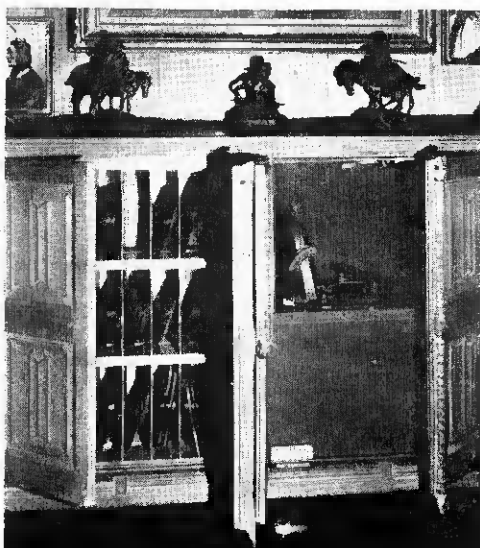
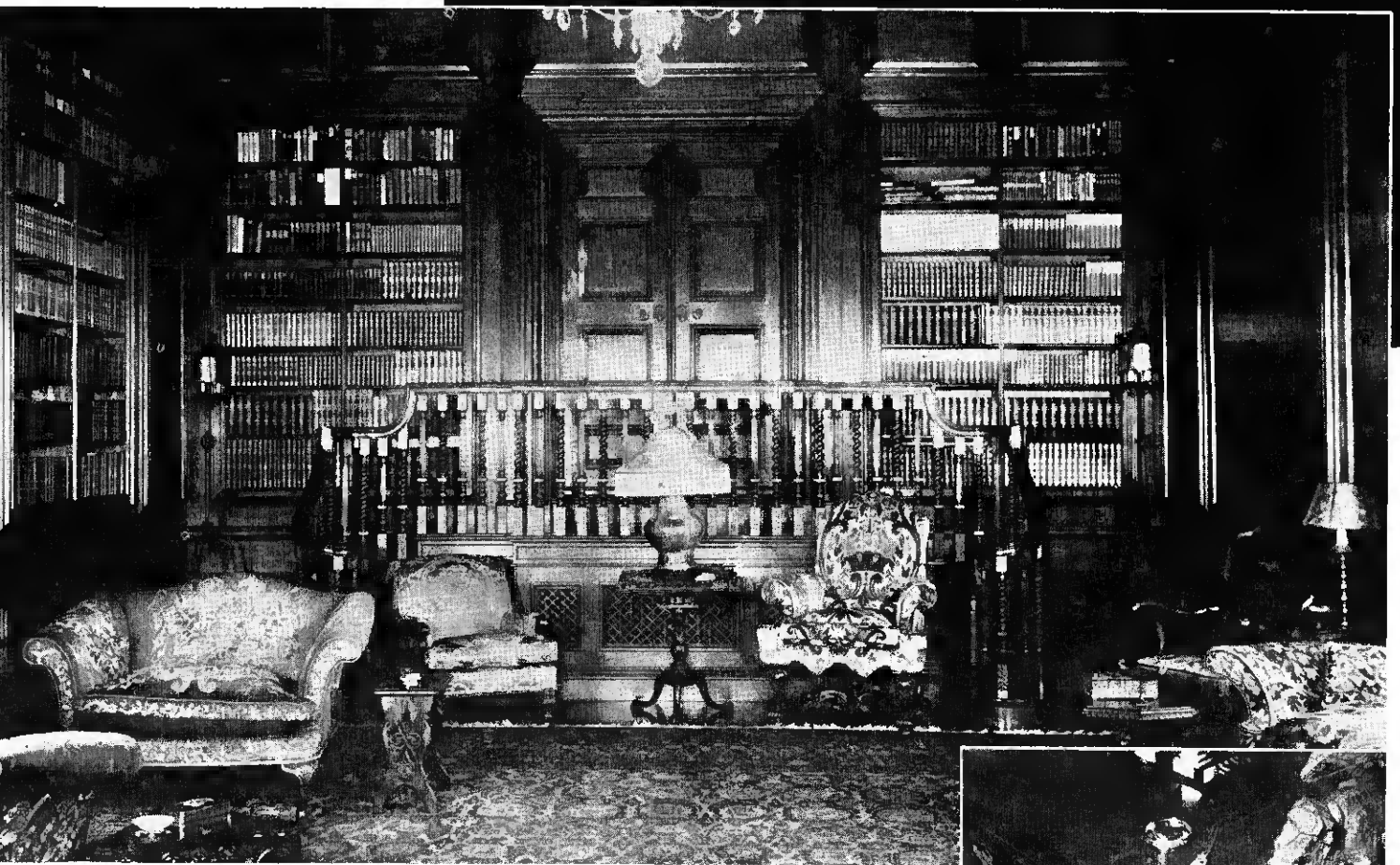
Isn't it logical reasoning to conclude that one is apt to sell more refrigerators by bringing out the numerous advantages of the electrical refrigerator to the prospective customer than by merely showing a refrigerator and quoting price with very little more to say?

The radio dealer who doesn't push electrical refrigeration every month in the year not only is closing his door to profits but will miss radio sales as well. The larger your clientele, the more you expose yourself to contact with people, the greater will be the number of chance leads which will naturally develop for everything you carry. By the same token, your salesmen will work with greater enthusiasm and efficiency because they will be busier and because their profit incentive will be greater.



The World's Finest Radio Installation

Eight balanced speakers, behind grillework under stair landing, provide full tonal range and volume for this palatial library which measures 28 x 60 feet and whose ceiling is 20 feet high. Each speaker has a different frequency range — regulated thru a filter network



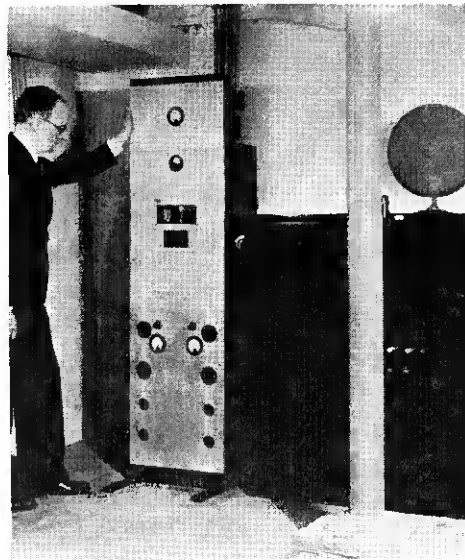
(Right) Remote control station concealed in desk drawer. Four other boxes of similar design are located in other key rooms. Note dial for tuning in ten, pre-selected stations (lower left)

(Left) Facilities for playing "recorded" music are, of course, provided. This automatic-feed device may be operated from five different rooms and its lifelike music fed to any or all of the speakers throughout the house and grounds

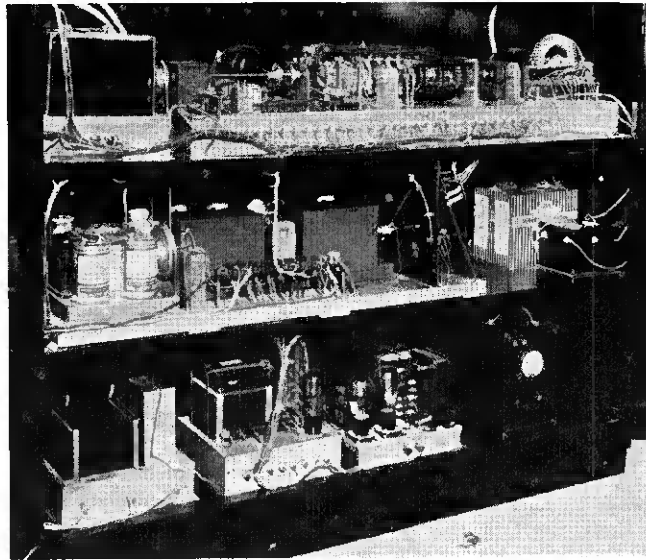




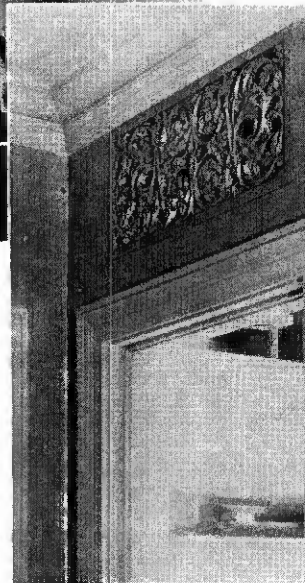
57 TUBES....27 SPEAKERS....COST \$27,000



Power supply panel and cabinet, with remote control devices, receiver, amplifiers



Doors open, showing type of remotely controlled program selector equipment, receiver and power amplifiers



Speaker over closet in master's bedroom

(Top) Another concealed speaker station. Note the two grilles, lower left

THE average price of radio receivers is rising! And many set makers now are featuring \$200 to \$800 jobs. But outstanding evidence that the discriminating public is more than ever interested in radio programs and in buying the best equipment available is dramatically presented in the de luxe installation pictured here. It was, of course, designed and manufactured to special specifications. Its owner, a New York State millionaire, faced with a choice between a pipe organ or a modern radio, chose the latter. It cost approximately

\$27,000. The wiring alone, all in special conduits, exceeded \$3,000.

Although few of our readers are in a position to sell, design or install similar apparatus, there are firms specializing in jobs of this nature who will gladly cooperate with any radio man who has interested a prospect in such a proposition. While this remarkable installation ran into big figures, equipment may be had for as low as \$900.

It is claimed, by those specialists who go in for this

(Continued on page 30)

WHAT THE TRADE

NRA ADMINISTRATOR SAYS RADIO JOBBERS MUST PAY THEIR CODE ASSESSMENTS

Wholesalers whose principal line of business is the distribution of radio sets must pay their assessments for the administration of the approved Code of Fair Competition for the Radio Wholesaling Trade. Failure to do so will subject the delinquents to the penalties of this Act. Furthermore, the Divisional Code Authority has been authorized to bring immediate civil suit for collection of this assessment.

The above is a digest of an edict rendered October 25, 1934, by Deputy Administrator for the Wholesale Distributing Trade, Frank H. Crockhard. It is set forth in his letter of that date addressed to H. G. Ekstrom, executive secretary member of the Divisional Code Authority for the Wholesaling Trade. A copy of this letter has been dispatched by Mr. Crockhard to all offenders as reported to date.

"The mere fact that certain other distributors of radios, whose principal line of business is not the wholesaling of radio, are for the moment exempt from the payment of an assessment to the Radio Wholesaling Trade Code Authority does not in any way affect the status of this concern," concluded Mr. Crockhard's letter.

A schedule of assessments as provided by the National Recovery Administration for the conduct of the Radio Wholesaling Code will be found on page 30 of the August issue of *Radio Retailing*.

Klugh Commends American Broadcasting Methods

Appearing before the Federal Communications Commission, Oct. 20, Paul Klugh, of the Zenith Radio Corporation, as spokesman for the Radio Manufacturers Association, emphatically recommended that the present "American" system of station wave band allotments and program dissemination be maintained. Mr. Klugh's testimony was in connection with the present hearings wherein certain religious, educational and labor groups are petitioning for a definite assignment of broadcasting channels to be devoted entirely to these activities.

"Today's broadcasting programs," said Mr. Klugh, "are in accord with the overwhelming desires of the greatest number of radio listeners. One of the best evidences of this is the increasing and universal use of radio in America and the stupendous sums of money spent by manufacturers and broadcasters in supplying this demand. If the character of radio programs were changed or were to be arbitrarily determined by those less competent to measure listener interest than the broadcasters themselves, I feel that the future of the radio industry would not be as bright as it is at present."

Hudson Buys Zenith A-R Sets

The Zenith Radio Corporation announces that the Hudson Motor Car Company has placed with Zenith its order for radios to be used in the 1935 cars. Zenith was the exclusive supplier for Hudson last year.

Fairbanks-Morse Holds First Distributor Meeting

Fairbanks-Morse Home Appliances, Inc., held its first distributor convention at the Hotel Stevens, Chicago, Nov. 1 and 2. Representatives of over 50 jobbing houses greeted with marked enthusiasm the keynote speech by sales manager Addison Brown wherein he announced a "balanced" program for the year 'round selling of refrigerators, radio sets, washing machines and ironers.

Colonel Robert Morse, president of the parent concern, drew attention to a background of 104 years of constructive, sound business history. S. T. Kiddoo, president of the F-M Home Appliance concern, enlarged upon the purpose and plans for merchandising a complete line of home appliances. Other talks were given by Mortimer Frankel, vice-president, Karl Schmidt, general manager and W. T. Watt, advertising manager.

Interest in F-M refrigerators centered about "duo pressure" and "conservador," two special features of this line which, together with a complete and individualistic line of radio receivers, promises to advance this new comer to a commanding position in the industry in double-quick time.

W. ROY McCANNE DIES

Rochester, N. Y.—W. Roy McCanne, president and general manager of the Stromberg Carlson Tel. Mfg. Co., died unexpectedly, after a brief illness, at his home in this city, Nov. 5.

Mr. McCanne, who was 55 years of age, early in life developed a keen interest in things electrical. In 1906, he went to Rochester to become treasurer and director of Stromberg Carlson. In 1913, he reorganized this concern and placed it upon a sound financial footing. In 1924, he was elected president.

Due to his foresight this company entered the production of radio sets in 1925 and is now recognized as an outstanding leader in the field of high grade radio equipment.

Mr. McCanne was ever active in promoting radio, holding many important positions with the RMA. Mr. McCanne was a beloved figure in the ranks of radio men. His passing is sincerely mourned.

He is survived by his wife, Minnie Lee McCanne, and a son, Lee McCanne.



Please Excuse Our Backs

Fairbanks-Morse executives huddle around the first laboratory draft of their new electric refrigerator, featuring the "Economizer." Left to right, S. T. Kiddoo, president Fairbanks-Morse Home Appliances, Inc.; Mortimer Frankel, general manager; H. A. Glasser, inventor of the feature, and R. H. Morse, president of Fairbanks-Morse & Company, parent organization of the appliance company.

International Appoints Many New Distributors

The many new and substantial jobbers who have signed up with International Radio Corporation, Ann Arbor, Mich., these past two months attest the rapidly growing popularity of the new line of Kadette radios. To mention just a few: Kimball Upson Co., Sacramento, Calif.; Peaslee-Gaulbert, Louisville, Ky.; Shuler Supply Co., New Orleans, La.; Portland Dist. Co., Portland, Maine; Parks & Hull, Baltimore, Md.; Cumings Bros., Flint, Mich.; Charles Ifeld Co., for New Mexico; Belcher & Loomis, Providence, R. I. and Chisolm Supply Co., Greenville, S. C.

Perfex Buys Central Radio Corp.

The Perfex Controls Company, Beloit, Wis., has purchased the Central Radio Corp., also of Beloit, manufacturers of B battery eliminators, tube sockets and range switches. J. K. Luthe, president of the new organization, formerly was vice-president of the Minneapolis-Honeywell Regulator Company. E. W. Patterson, vice-president of Central, will continue with Perfex as manager of its radio division, with offices at 205 West Wacker Drive, Chicago.

Frazar and Company, San Francisco, has been appointed export representative for the UNIVERSAL MICROPHONE CO.

IS TALKING ABOUT

Stewart-Warner Announces Aggressive Radio Policies

Chicago, Oct. 22 (Special)—Stewart-Warner Corporation now occupies a stronger position in the radio and mechanical refrigeration industries than at any time in its history and is actively preparing for 1935 production, it was stated today by Joseph E. Otis, Jr., president. A group of the corporation's principal distributors has been in conference at the factory planning the sales campaign for the radio season now starting and discussing next year's refrigerator program.

This statement was made by Mr. Otis in answer to rumors that the corporation contemplated withdrawal from the field. Personnel in these departments recently has been reduced, due to the fact that most of the experimental and development work conducted over the last several years has been completed. Distribution facilities, however, have been expanded to a satisfactory degree so that sales problems on both the radio and refrigerator lines are now at a minimum.

The company is entering its active sales season on radios with a complete line, and is planning to introduce a new line of refrigerators.

G. E. Sets to be Made in Bridgeport, Conn.

Final arrangements have been made by the General Electric Company to inaugurate the manufacture of radio receivers at its Bridgeport, Conn., works. Production is scheduled to start the first of the year.

Since August 1 the radio engineering force has been located at Bridgeport. Its sales organization has been there for a number of years.

Preparations are now going forward for the completion of designs, tools and manufacturing equipment. Manufacturing space is being provided and equipped on several floors of the huge main building of the works.

Radio Music Rooms at Rockefeller Center

Radio as an integral part of the decorative scheme of the home is interestingly displayed at the Rockefeller Center building, New York City. Five (Philco) radio music rooms, harmonizing with the radio receiver as their central architectural motif, have been executed by the following designers: Elsie de Wolfe; L. Alavoine & Co.; French & Co.; Contemporaria, Inc., and Stair and Andrew. Each room presents a different conception, ranging from 18th Century French to Modern.

The exhibition is sponsored by the National Alliance of Art and Industry. It reveals the many artistic possibilities of the radio instrument which have only lately been realized by the public as a whole.



Perry and Podo

The one on the right being Perry Demarest, popular head man at Sylvania-Pacific, Los Angeles. We are told that Perry is doing one of the swiftest jobs of tube selling in the entire country.

Sylvania Has Tube Parts Factory

The Tube Parts Department of the Hygrade Sylvania Corporation, Emporium, Pa., now is installed in its own factory. Transfer of the necessary machinery was completed last month.

Started in 1932 for the purpose of controlling quality and costs in the manufacture of small parts for Sylvania receiving tubes, this department operates as a "factory within a factory" under the management of C. R. Razy. It reached, during the summer of 1934, a peak production of approximately 25,000,000 parts per month.

RCA Tube Agents to Receive Greater Compensation

New Discount Schedule Now Based on Dollar Volume

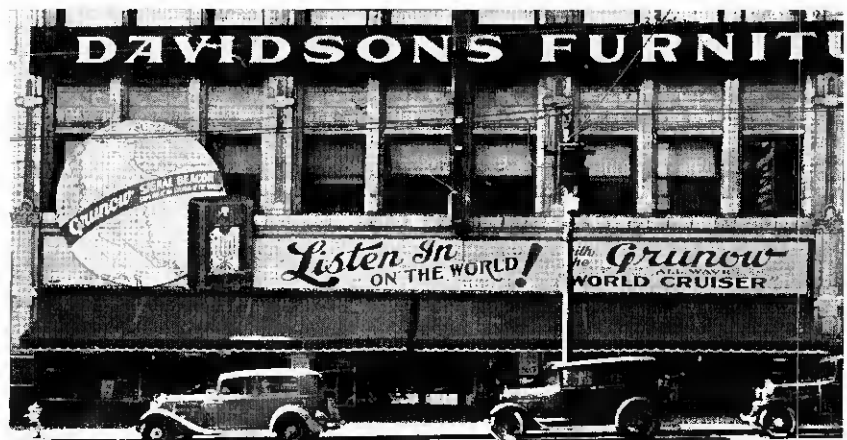
E. T. Cunningham, president of the RCA Radiotron Co., Inc., announces a new schedule of compensation for all RCA radio tube agents. This schedule will be effective Nov. 1, superseding the one in force since April 3, 1934. Under this new arrangement, dealers' compensation will be determined on the list value of tubes sold instead of the number of units.

In announcing this change in basic compensation schedules, Mr. Cunningham points out that the benefits accruing from this move will be three-fold: (1) All agents reaching a sales volume of \$450 list or over, during the first year of their agency agreement will enjoy increased compensation over that allowed by the schedule under which they have been operating; (2) Agents can now more easily increase their earnings on RCA tubes by more quickly reaching the short steps or compensation brackets interposed between 1 and 1,000 and 1,000 to 2,500 tubes; and (3) the amount of clerical work attached to reporting their sales will be greatly reduced in changing from unit sales to list value.

Under the new schedule the rates of compensation are increased, beginning with agents whose annual sales of RCA tubes exceed \$450 list value. The ascending scale of increase in compensation rate reaches a climax in the "over \$2,250" bracket, where the total compensation (including the 5 per cent for prompt reporting and remitting) is 48.70 per cent, as against 42.05 per cent for an equivalent unit sales volume under the former schedule—an increase of 15.8 per cent.

Agents in the "under \$250" bracket will continue to receive the compensation they have been getting throughout their first term of agency, unless they succeed in
(Please turn to next page)

Do You Believe in Signs?



"Davidson's, Kansas City, Mo., does," writes Jimmie Davin, Grunow promoter extraordinary. Deponent further states that this giant cut-out sign pulled plenty of business for this furniture house.

reaching a higher classification under the very liberal terms outlined later in this article.

The basic compensation rates which individual agents will operate under, beginning Nov. 1, will be determined by the total sales an individual agent has made from the signing of his contract up to Nov. 1. In the conversion from unit sales to dollar volume, an average list price of \$1 has been used.

New York IRSM Show Is Complete Success

The Institute of Radio Service Men's New York group conducted a convention and exhibit at the Hotel Pennsylvania, October 19-21, attendance fully satisfying both the Association's executives and exhibitors. Widespread distribution of advertising circulars, both by the Institute and by several of the larger exhibitors, brought servicemen and dealers out in greater numbers than heretofore.

The convention was honored by the following distinguished list of speakers: E. T. Cunningham, Dr. A. N. Goldsmith, T. F. Joyce and W. F. Diehl of RCA-Victor and RCA Radiotron; George Lewis of Arc-turus; Glenn Browning of Tobe Deutschmann; John F. Rider of "Manual" fame; Prof. P. G. Andres of Mallory and Yaxley; Kendall Clough of Clough-Brengle; Julius Aceves of Amy, Aceves & King; Arthur Lynch of Lynch Manufacturing and Walter Jones of Hygrade-Sylvania.

Pacific Acquires Lewol Mfg. Corp.

The Pacific Radio Corporation, 844 W. Adams St., Chicago, has purchased the Lewol Manufacturing Corporation, also located in Chicago. Pacific is licensed under RCA and Hazeltine patents to man-

Howard Ehrlich Elected McGraw-Hill Vice President

Howard Ehrlich, well known electrical publisher, has been elected vice-president in charge of the radio and electrical papers of the McGraw-Hill Publishing Company. Mr. Ehrlich brings to *Radio Retailing* a vast wealth of editorial and business experience. He has been for many years president of the Electrical Trade Publishing Company, publishers of *Electrical Contracting*, *Electrical Wholesaling* and *Mill Supplies*.

ufacture radio receivers. It now is specializing in a.c.-d.c. compacts and a.c. midgets. Carl Price is president; Benjamin H. Edelman, sales manager, and Leonard Gacki, chief engineer.

"Guide" Goes After More Readers

Indicative of the growing public interest in radio fan and program publications is the present full-page newspaper campaign by *Radio Guide*. This 5 cent weekly is offering souvenir silver spoons and a copy of "Guide" for 15 cents. For radio dealer use of radio personalities publications see page 30, last month's issue of *Radio Retailing*.

Majestic Service in N. Y.

The Mac-Adams Auto & Radio Equipment Co. of 601 W. 57th St., New York City, has just been appointed authorized factory replacement parts distributor for Majestic receivers, formerly jobbed in the Metropolitan area by Majestic, Inc. Mac-Adams is prepared to render complete repair service as well as to supply the trade with components.

Fada in Strong Hands

Entire Assets Purchased by New York Interests

Rumors as to the ultimate fate of the Fada Radio & Electric Company, Long Island City, N. Y., have been set at rest by the preliminary announcement, Nov. 5, that the entire assets of this well known concern have been purchased by a group of radio men in New York City. The financial strength of these men is more than sufficient to reestablish the Fada name as a prominent factor in the industry, it is stated.

Although the personnel of the new organization is not available as we go to press, plans call for the immediate production of a full line of radio receivers under the brand name "FADA." Negotiations are now under way for the purchase of a factory site on Long Island, where production can be geared to meet demand but not outrun it. Private funds are ample to carry on all manufacturing and sales operations without recourse to public stock selling. The new management starts clear of funded indebtedness.

An ample supply of parts for Fada sets now in use are available. The service maintenance department will be continued in charge of its present personnel.

"Former and present Fada jobbers will be given first opportunity to handle the new line," this announcement concludes.

Lee Hardware Signs with Crosley

Crosley Radio Corporation, announces that the Lee Hardware Company, Shreveport, La., has been named distributor for Crosley sets and refrigerators. The Lee Hardware Company is not new to Crosley as this company was formerly distributor for this line.

"HOW'RE WE DOIN'?" READ THESE ANSWERS AND GET GOING

"It's a Thrill to Be in the Radio Business This Year!"

In the following letter, received as we go to press, Fred Wiebe, expresses in admirable manner the sentiment of radio men everywhere. His conclusions check so closely with *Radio Retailing's* own survey of the public's buying attitude that we let this well known St. Louis jobber tell the story for us.

"In regard to the radio outlook, we have the best sales opportunity in years, in fact our salesmen have the enthusiasm they used to have six years ago. To sell sets today is merely a matter of education; educating the dealers, clerks and the public in the thrills of an all-wave receiver. This educational job must be done, however.

"Our radio business this season is so far ahead of last year that there is not even a comical comparison. It is a thrill to be in radio again—almost reminds me of the days when we were selling variometers—the interest and demand, I mean. And what happened then will happen again, I believe.

"The public wants better sets. In contacting our trade I find that the trend is

upward. Our average sale today is around the \$70 mark, retail. If the manufacturers can see their way clear to spend money educating the public in these new listening possibilities there is no question but that we all will enjoy the best winter we have had in six years."

Crosley's Men Report Improved Business Conditions

Improved business conditions is the story brought to Cincinnati by ten Crosley salesmen who were the leaders in radio and refrigerator sales for the two-month period of September and October. These men were guests of the Crosley Radio Corp., October 25.

A general improvement in fundamental conditions was reported by all the salesmen. Arthur Levy, of the Interstate Electric Company, New Orleans, reported business conditions in that city very satisfactory.

"The biggest radio season since 1928," is the way Joseph Hecht, Apollo Radio Corporation, Newark, N. J., described the situation. "Right now we are pushing the factory for shipments."

S. Rabuchin, of the Lappin Electric Co., Milwaukee, reports general conditions improved and the outlook very good.

The Crosley "100 Percenters," composed of crack Crosley distributor salesmen, formed a permanent organization at a dinner at the Netherland Plaza, that evening, electing M. H. Marshall, of Anchor-Lite Distributing Company, Pittsburgh, president, and F. R. Reynolds, Herman Sales Company, San Antonio, Texas, vice-president.

Excise Tax Collections Show Large Sales Increase

Substantial increase in radio sales are recorded by government reports of excise taxes collected on radio and phonograph apparatus. For the nine months ending September 30, 1934, the five per cent excise taxes on radio and phonograph apparatus totaled \$2,209,400, an increase of 48.6 per cent over the similar nine months period of 1933, during which collections were \$1,487,123.

During September, 1934, the radio excise tax collections were \$305,291.91 as against \$147,930.49 in September, 1933.

Know Your Costs (Continued from page 19)

the whole answer. Volume of business controls cost in the service industry only when the men who do the service work are not operating at full personal capacity. The service station is confronted with human labor and production, as against machine production in the manufacturing shop. If we assume that a serviceman can complete eight service calls per day increased business will not reduce cost to any great extent because additional help will be required. The only reduction in cost will be that portion of the fixed overhead which is applied against the job.

What represents cost? Perhaps it will be well to start with the individual who has for years believed that he has no costs because he operates during his spare time. There is no such thing as spare time. Work done during the evening, during hours which are normally employed for entertainment, pleasure, study, sleep, or rest, is done at a sacrifice. This sacrifice constitutes a cost. Perhaps it is difficult to establish definitely the dollar value of five hours of night work carried out at the sacrifice of sleep. But if we are to judge by standards established in all forms of business, night work usually represents overtime, which invariably is more expensive than day work.

It is true that the individual who does what is known as spare time servicing does not have the operating costs of the man who has his own store or shop. But the spare time worker requires equipment, even if he operates from his home. This equipment represents cost. Therefore a basic cost is present. The more equipment this man possesses, the greater this basic cost.

To work at home requires proper lighting. Hence, another cost. A telephone is also required. The amount of calls made in connection with the servicing operation further increases the cost. Working from the home or from a store, cards and circulars are necessary. The latter must be mailed, so here are three additional costs. Add to this the valuation of your time, based upon your hourly or weekly earnings during the day hours, and you have an approximation of the cost of your time. You are justified, because you work at night and sacrifice sleep or pleasure, which is necessary to a normal existence, to consider your time at least 50 per cent more valuable than during the day. If you sacrifice study, your costs are tremendous. It is therefore easy to see that there is no such thing as spare time servicing. Do not develop the idea that because you work from your home and because you may not be dependent upon servicing as a livelihood, that your costs are inconsequential. Neither does operating in this manner mean you can use inferior servicing equipment.

For the man with a shop, what items represent cost? We list all of those items which we know are involved. If you have any additional items, tack them on the list. If

we list more than you entertain carefully analyze whether or not you have those costs, before striking them out.

Associated with the shop itself are the following items:

- | | | |
|--------------|----------------------|-----------------|
| 1. Rent | 5. Insurance | 9. Salaries |
| 2. Light | 6. Testing Equipment | 10. Incidentals |
| 3. Telephone | 7. Servicing Data | 11. Stationery |
| 4. Fixtures | 8. Radio Library | 12. Billing |

Associated with the service car owned by the owner or supplied by the owner, are the following cost items:

- | | | |
|-----------------|--------------|--------------------------|
| 1. Depreciation | 4. Tires | 7. Testing Equipment (?) |
| 2. Garage | 5. Repairs | 8. Service Data (?) |
| 3. Gas and Oil | 6. Insurance | 9. License Fee |

Associated with the effort to do business, that is sales effort, are the following items:

- | | |
|------------------------------------|---------------------------|
| 1. Circulars, printed or purchased | 5. Stamps |
| 2. Stickers, printed or purchased | 6. Window display cards |
| 3. Advertising, where carried | 7. Personal calls (?) |
| 4. Telephone calls | 8. Free contact calls (?) |

Associated with labor are items which tend to increase costs during working hours and which represent costs. These are:

- | | |
|-------------------------------|--|
| 1. Lost motion | 5. Calls not completed because customer is out |
| 2. Waste of time | 6. Nature of defect difficult to locate |
| 3. Incorrect routing of calls | |
| 4. Repeat calls (free) | |

And finally associated with the proper administration of the business are:

- | | |
|---------------------------------|--|
| 1. Credit losses | of equipment (testing) |
| 2. Commissions | 4. Reserve fund for replacement of car |
| 3. Reserve fund for replacement | |

These five classifications include about 39 items. We repeat that some may not be within the operations of your business. However, it is also probable that items not included in these lists are found in your business. At any rate did you think that 39 items associated with a service business are related to costs? Each of these items means a direct expenditure of money or a reduction of income, per unit of time. Both constitute cost.

We are particularly concerned with impressing upon you the number of items that must be considered in addition to salary. The total cost, your cost for an hour of your time or your man's time, is far more than just salary. Failure to consider this has been one of the greatest handicaps of the service industry. Many owners have for a long time believed that if their time or the employee's time, based upon salary cost 75 cents per hour and each hour spent resulted in a gross income of \$2, the profit was \$1.25. As a matter of fact, the entire \$2 probably did not cover total costs.

"New Deal" Boosts Sales 40% (Continued from page 15)

business and occasional short talks on new lines. If there is something extensive to be taken up regarding new models, changes or improvements, etc., we conduct a school at night and spend several hours going into the business in detail.

We avoid premiums, sales contests and similar means which encourage forced selling. Observation has shown us that it places the salesman in an attitude of anticipation and that something extra must be continuously offered in order to get average results.

The only special inducement offered is one wherein a cash bonus is paid on certain sets which we are especially anxious to move or where a larger down-payment is secured than demanded. In each instance a cash

order is made out and the salesman gets his money from the cashier the minute the sale is approved. We have experienced considerable success with timely window displays. These displays are changed constantly, and often tie up with a local or national event in which radio will play an important part. The recent interest in short-wave sets for world-wide reception has given us an excellent opportunity for a tie-up and has resulted in some good sales.

We have had a good year. We are entering into what we believe will be one of our best selling periods. And we are looking forward to some good business for we have organized our department for production purposes only.

Merchandising



Grace Moore Under Contract for BRUNSWICK

Grace Moore, America's foremost operatic soprano, who has reached stardom on the operatic stage and on the screen, has been placed under contract to make Brunswick records. Miss Moore's initial recording is *One Night of Love*, the title song with which she does such outstanding work in the Columbia production "One Night of Love." Miss Moore is assisted by the Metropolitan Opera House Male Chorus under the direction of Wilfred Pelletier. This first record, No. 6994, reflects in superb manner the ability of Grace Moore and the assisting talent. The coupling is a well done rendition of *Ciribiribin*.

Comes In, from "Kid Millions," Eddie Cantor's latest screening, (2961-D). The Reliance picture with Jack Benny, "Transatlantic Merry-Go-Round," furnishes Coleman, for his second record, two fox trots: *Sweet of You and If I Had a Million Dollars*, (2960-D).

As their initial bow to Columbia fans, Mills' Blue Rhythm Band introduces two original fox trots, *Out of a Dream* and *Let's Have a Jubilee*—(2963-D).

With Johnny Green at the piano, his orchestra has produced a fine pair of recordings. The first, *The World is Mine*, from the new movie "The Count of Monte Cristo," and on the reverse, *Were You Foolin'* an unattached new popular with more than usual possibilities—(2959-D).

Musical Hits by COLUMBIA

Two big hits from two new pictures are announced by Columbia, now at 1776 Broadway, New York City. Emil Coleman and his orchestra records *An Earful of Music* and *When My Ship*

Rudy Scores for VICTOR

We would hesitate to accuse the Honorable Rudy Vallee of having a jag of any description, but he certainly gives a grand imitation in the *Laughing Version of The Drunkard Song*. This record is so convincing that Victor had to



Yvonne Printemps

Leading lady in Noel Coward's latest play success, "Conversation Piece." Miss Printemps sings Mr. Coward's gentle songs delightfully, particularly the prettiest one, "I'll Follow My Secret Heart," now available in record form and certain to be a "hit."

get special permission from Rudy to release it.

Laughing Version of The Drunkard Song and *The Tattooed Lady*—F. T. No. 24739.

De Luxe Radio Installation (Continued from page 25)

type of business, that there are many hundreds of well-to-do persons who would purchase luxurious radio equipment but who do not yet know that such apparatus is available. This particular job is the product of the Lanning Audio Laboratories, Belleville, N. J.

Specifications

"Five of the rooms are equipped with sound projectors and remote control boxes. An automatic phonograph record changer is mounted in a cabinet in one of the rooms and a centralized group of radio, phonograph, amplifier, power supply and remote control apparatus is installed in the cellar. The sound projector equipment and remote control boxes are so cleverly concealed that a casual visitor would not even suspect their presence in any of the rooms. All of the wiring and cable is installed in rigid conduit and every part of the installation is built to last as long as the house itself.

"A lover of music would undoubtedly choose the faithful reproduction of music as its most remarkable feature but many people would be even more interested in the mechanical perfection of the remote control apparatus. The master remote control boxes are only about the size of a small cigar humidor and contain the following:

1. On and off switch.
2. A three position key switch for selecting radio, phonograph or talking picture sound.
3. An automatic telephone dial for selecting radio stations.
4. A meter with a large dial calibrated in kilocycles for indicating radio stations.
5. A volume indicating meter.
6. A key switch for selecting automatic or manual volume control.
7. A key switch for selecting radio stations not tuned by telephone dial.

8. A key switch for regulating volume of phonograph and talking picture sound.
9. A button for rejecting undesired phonograph records.
10. Buttons for raising and lowering the level of automatic volume regulation.
11. A switch for muting the loud speakers.

"Some of the rooms have smaller boxes which do not contain items 4, 5, 7 and 10. All of the boxes are of mahogany bakelite panels and all of the metal parts showing above the panels are gold plated.

"The telephone dials have the call letters of ten radio stations printed at the finger holes and any of them may be tuned in by one flick of the dial, all of the succeeding operation being automatic.

"All sound projectors are muted the instant the dial is released. The mechanism tunes in the desired station with extreme precision and at the correct volume, resets itself to be ready for the next dialing and turns on the loud speakers. The tuning of radio stations is done in absolute silence and there can be no unexpected blasts of sound when the sound projectors are turned on because all stations come in at the same volume.

"Distant stations which are not selected for automatic dial tuning may be tuned in quickly and with vernier precision by means of the light-touch key switch. The tuning of a distant station is almost impossible with most remote controls but it is extremely easy with this one because the motion of the tuning condensers is stopped the instant the key is released and there is no coasting past the station.

"A large reserve of power is absolutely essential in exactly reproducing the music of a large orchestra, chorus or pipe organ and this requires apparatus that is entirely too heavy and bulky to be mounted in a decorative cabinet. Therefore, remote control is indispensable in this type of radio-phonograph installation."

Record sales soaring as new turntables go into thousands of homes!

NEW RCA VICTOR RECORD PLAYER SELLING FOR \$16.50 MAKES BIG HIT!



Transforms any modern AC radio into a fine electric phonograph—and doubles its value!

RECORD sales depend on the number of turntables in use—and the high prices of combination instruments have discouraged purchase—a vicious circle! Now, along come RCA Victor engineers with a turntable, selling for \$16.50, which transforms any modern AC radio into a fine combination machine! The result—thousands of new Victor Record Players are going into American homes—and record sales are climbing with dizzy rapidity.

The new Victor Record Player is priced to make quick sales—generous profits. But its priceless value to you is the golden market for records it opens up! Play the new "Higher Fidelity" Victor Records on this new Record Player for people! Let them hear the unrivalled crispness and definition—the purity and sweetness of tone never before achieved in any kind of reproduction! Sell the Record Player and keep following up on the records, and watch your sales curve rise! Fill out the coupon now to learn all the details of this business-building opportunity—also about the new Blue Birds, fastest selling low priced records!



\$16⁵⁰
LIST

Plays 10" or 12" records. The Record Player is neat, compact, size 5" high, 8" wide and 10 1/2" long. Beautiful walnut-finished chest.

GET THESE NEW VICTOR RELEASES

- 24724—IT'S ALL FORGOTTEN NOW—Fox Trot
LADY OF MADRID—Pasco-Doble
Ray Noble and his Orchestra
- 24735—THE CONTINENTAL—Fox Trot
(You Kiss While You Dance)
(From RKO film "The Gay Divorcee")
IRRESISTIBLE—Fox Trot—Jolly Coburn &
his Orchestra
- 36131—PARK AVENUE FANTASY
DEEP PURPLE—Paul Whiteman and his
Concert Orchestra
- Album M-236—SYMPHONY No. 9 in D Minor—(Choral)
Beethoven Opus 125—Leonold Stokowski
and the Philadelphia Orchestra with
mixed quartet and chorus.



RCA VICTOR COMPANY, Inc.
Camden, N. J.

I want to get in on this new sales opportunity—let me know all about the new Record Player and send me a complete list of the latest Victor Records.

Name _____

Address _____

H.K.

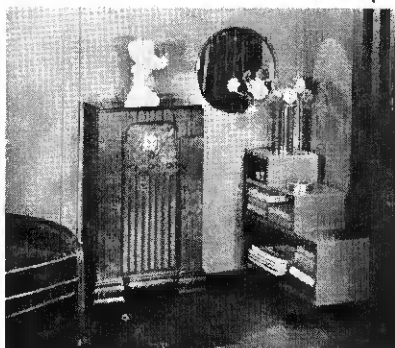
IT PAYS TO SELL

VICTOR RECORDS

THEY'RE "HIGHER FIDELITY"



NEW MERCHANDISE



Delco 32-Volt and 110-Volt Radios

Four "Delco" 32-volt all-electric radios, ranging in price from \$44.50 to \$96.50, may be obtained from the United Motors Service, Inc., General Motors Bldg., Detroit, Mich. There are two table and two console models, each using six tubes, with two covering police calls and the balance covering from 5.5 to 16 megacycles.

There are also four sets for 110-volt operation, ranging in price from \$34.50 to \$94.50. In this line 5, 6 and 7-tube models are available. Three cover from 5.5 to 16 megacycles, while the other set gets police calls.

The cabinets for all eight models are modern in design of matched and selected woods.—*Radio Retailing*, November, 1934.

meters. This set takes 6C6, 6D6, 42 and 80.

Model 70 is a split band 5-tube a-c super for short and standard broadcast. Tunes from 15 to 50 and 175 to 550 meters.

Model 60 is a compact set, dual wave, 5 tubes, for a-c operation. 75 to 550 meters. Suede carrying cases for both the 4- and 5-tube compact receivers, with zipper slide fastener, are available.

Pacific also makes two all electric, single unit auto radios with remote control. There is a 5-tube model and a 6-tube model.

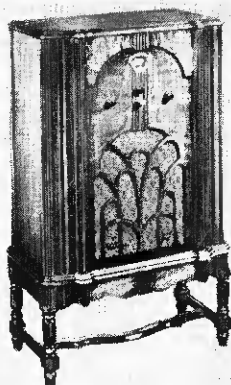
In addition this company offers a walnut finished radio table which can also be used as a smoking or end table, and a radio bench with padded top, covered with strong leatherette.—*Radio Retailing*, November, 1934.



RCA Victor "Magic Brain" Duo 322

The radio and manual electric phonograph of RCA Victor Co., Inc., Camden, N. J., known as the "Magic Brain Duo 322," has the same chassis as used in Model 224 with six tubes and covering three bands, 540 to 18,000 kc. The tube line-up consists of a 6A7, two 6D6, 6B7, 41 and 80.

The phonograph has a spring-mounted motorboard and rubber-floating tone arm. Plays 12- and 10-in. records at 78 r.p.m. Automatic stop. There is a record compartment below the speaker grille. \$154.50. *Radio Retailing*, November, 1934.



Stewart-Warner Battery Sets

In designing its new 1935 battery-operated radios, Stewart-Warner Corp., 1826 Diversey Blvd., Chicago, has incorporated several features to "catch the eye." These sets are air-cell operated, of course, and come in either the console or table models. The "Push-Lite" dial illumination which lights the dial only when the set is being tuned—turning off automatically after the station has been selected, saving battery current, is included. The cabinets have been designed to harmonize with any period or style of furniture.

Both models are superheterodynes with variable tone control, a.v.c. and doublet antenna input system. The table model lists for \$49.50. The tuning range covers from 530 kc. to 23 m.c. in four bands.—*Radio Retailing*, November, 1934.



Combination Earphone and Microphone

The newest product of the Universal Microphone Co., Inglewood, Calif., is a combination earphone and microphone which is mounted similar to French phone handsets. It is designed for five-meter transmitters and is also made for use in conjunction with the new five-meter transceivers.

Consists of a high output microphone in conjunction with 2000 ohm lightweight receiver. There is a 5 ft. cord terminal in three-phone tip terminals, which gives microphone and earphone connection with one common to both. This combination is extremely lightweight and compact, weighing 9 ounces.—*Radio Retailing*, November, 1934.



"Taco" Multiple Outlet Antenna System

A single aerial, swung high above the roof for maximum signal pick-up, may be used by several radio sets without interference or loss of efficiency with the inexpensive multiple radio outlet system available from the Technical Appliance Corp., 27-26 Jackson Avenue, Long Island City, N. Y. This community antenna system fulfills a growing need in the multi-set home of today or in the two-or four-family dwelling. This device is offered in kit form and installation may be made in a couple of hours. It handles broadcast and short-wave signals down to 15 meters.—*Radio Retailing*, November, 1934.

Hammarlund Short Wave Coil Forms

A revolutionary dielectric compound of unusual effectiveness, known as XP-53 is used in the new low priced, short wave coil forms just released by the Hammarlund Mfg. Company, 424 W. 33rd St., New York City. They come with 4, 5 or 6 prongs.

Complete kits of coils already wound to cover the entire range of frequency from 17 to 560 meters are also available, using this XP-53 material.—*Radio Retailing*, November, 1934.



Pacific Radios and Radio Furniture

Pacific Radio Corp., 844 W. Adams St., Chicago, Ill., makes four 4-tube a-c d-c compacts for standard broadcast and police calls. Each of these sets (models 41, 42, 43, 44) takes a 6C6, 6D6, 43 and 12Z3.

There is also a Gothic type four tube a-c set Model 51, standard broadcast and police calls, using a 6C6, 6D6, 42 and 80.

Model 52 is a dual wave four tube a-c Gothic table set tuning from 75 to 550

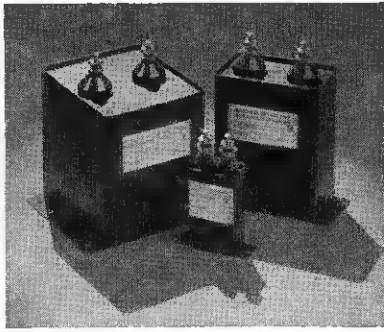
Jensen Peri-Dynamic Projectors

As an answer to the problem providing high quality sound reproduction with a horn-type device, the Jensen Radio Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill., has introduced its "Peri-Dynamic" projectors. The cone-type speaker is enclosed in an air-tight and weatherproof enclosure, there is no back side radiation toward the microphone, and it is convenient to install and suitable for every purpose, indoors or out of doors.—*Radio Retailing*, November, 1934.

Philco 201-X and Auto-Radio 802

Another high fidelity radio (10 tubes) has been added to the line of the Philco Radio and Television Co., Philadelphia, Pa., Model 201-X. It has an extended musical range of 50-7500 cycles. Also incorporates a new Philco feature known as sound diffusion whereby reproduction is diffused evenly throughout the room. Foreign and American stations may be brought as there are 2 tuning ranges: 540-1720 kc. and 4.2-12 mc. \$250.

Model 802 auto-radio will top Philco's line of motor car sets for 1935. It is a 2 unit job created for the higher price market. Comes in 2 types,—6 volt and 12 volt to make it adaptable to every kind of installation in auto or motorboat. 7 tubes. The retail price is \$85, completely installed.—*Radio Retailing*, November, 1934.



GE Pyranol Capacitors for Radio Transmitters

A complete line of "Pyranol" transmitter capacitors is now available to the radio amateur so that he can now obtain for his equipment the same high quality capacitor as is used in the largest GE transmitter. They are treated and filled with Pyranol, a non-flammable, non-explosive liquid dielectric developed by GE. They are very small in size, an important factor in the building of amateur radio equipment. Suitable for continuous operation at voltages 10 per cent above rated voltages, and will safely withstand temperatures up to 75° C. General Electric Co., Schenectady, N. Y.—*Radio Retailing*, November, 1934.

Sprague Bypass Condensers and Vibrator Condensers

An oil-impregnated, short wave, high frequency bypass condenser has just been put on the market by the Sprague Products Co., North Adams, Mass.

Sprague also make a line of vibrator condensers for auto radio use (oil impregnated) housed in specially designed metal cans, fully sealed.—*Radio Retailing*, November, 1934.

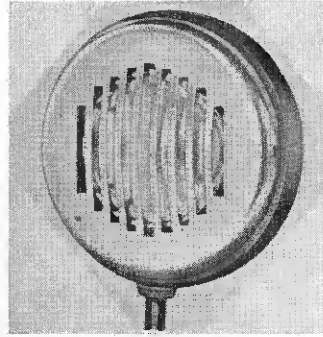
Jackson Radio Instruments

Model 440 portable test signal generator of the Jackson Electrical Instruments Co., Dayton, Ohio, is made for all r.f. and i.f. alignments, neutralizing, tracking, and receiver performance comparisons. The dealer's net price is \$33, less tubes (6F7, 37).

Model 435, counter and portable tube tester (mutual conductance system) is also a direct reading tester. Separate tests are provided for each section of multi-purpose types and both plates of rectifiers. Checks each diode plate separately in diode-amplifier types. A self-contained rectifier tube furnishes direct current to test circuit. \$39.50 less tube (84). Carrying case, \$5.

Model K, serviceman's portable tube checker, meets a popular need for a reliable instrument in the portable class and many features not usually found in a portable tube tester are included. \$22.85.—*Radio Retailing*, November, 1934.

Radio Retailing, November, 1934



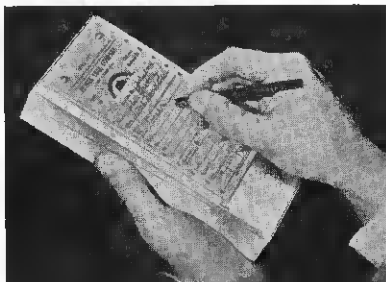
Turner Crystal Microphone

A new crystal microphone, which costs no more than a good carbon job, has just been placed on the market by the Turner Company, Cedar Rapids, Iowa. Known as Type "G", this piezo-electric device is particularly "flat" from 50 to 10,000 cycles, comparing favorably with expensive condenser types. Because of its minus 55 DB output rating, however, the unit will deliver carbon-type level when equipped with one stage of pre-amplification.

The Turner microphone requires no energizing current of any kind. Due, also, to its 80,000-ohm impedance rating (at 60 cycles) the type "G" can be worked directly into an amplifier tube without a matching transformer. It is well protected against heat and moisture, fully enclosed in a chromium-plated case and comes equipped with 6 ft. of shielded cable plus removable hooks for mounting.—*Radio Retailing*, November, 1934.

Autographic Register

Adapted particularly for radio distributors and dealers, the new style autographic register announced by the Standard Register Co., Dayton, Ohio, is no larger than an ordinary sales pad. This register can be used to issue sales records, estimates for repairs, delivery tickets, charge orders and other records used by radio dealers. It weighs but a fraction over a pound when fully loaded with 150 forms and is designed for use where sales pads are now used and where the conventional type autographic register is too large. Comes in two sizes, one with 150 forms, and the master model handling 300 forms at one loading.—*Radio Retailing*, November, 1934.



Freed Exact Duplicate Replacement Parts

Freed Transformer Co., 100 Sixth Ave., New York City, has available a comprehensive line of exact replacement power transformers, condenser blocks, audios, input and output transformers and chokes. Each unit is especially designed for installation in the receiver specified.—*Radio Retailing*, November, 1934.

Cornell-Dubilier Condensers

Condensers to meet any and every condition in the radio and electrical field can be obtained from the Cornell-Dubilier Corp., 4399 Bronx Blvd., New York, N. Y. Both mica and paper dielectric units are available from 12 volts to 100,000 volts.—*Radio Retailing*, November, 1934.

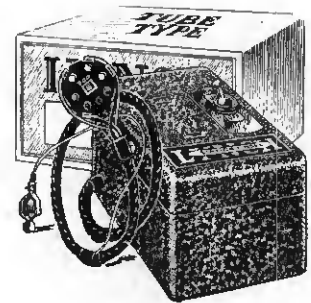
Lynch Station Locators

For older or less expensive allwave receivers which do not have an oscillator incorporated in the circuit, the Lynch Mfg. Co., 237 Fulton St., New York City, has introduced two new beat frequency oscillators of novel design which may be applied to any set and greatly simplify the locating of short wave and other stations. They may be attached in a minute or two without changing the receiver wiring or altering the performance.

One type is made to operate with a single tube and the tube secures its power from the receiver by means of a cable and wafer adapter.

The oscillator of the tube type produces a strong 500-cycle musical tone which is almost inaudible until the carrier wave from the desired station is tuned in and then the tone becomes very loud. A small switch is then thrown and the 500 cycle tone disappears, leaving the desired stations, accurately tuned at the correct position.

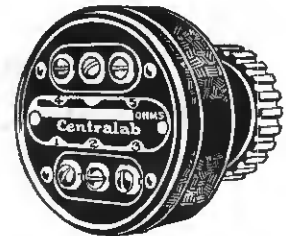
The second type is made without any tube and functions in the same way as the tube type but the beat note is very much lower in frequency.—*Radio Retailing*, November, 1934.



"Ord-O-Pam" P. A. Equipment

S. H. Couch Co., Inc., North Quincy, Mass. makes the "Ord-O-Pam", a simple, practical and effective apparatus for giving one-way messages or orders, particularly adaptable to cafeterias and restaurants, in offices for one-way communication, and in garages, warehouses, stockrooms, etc., where orders are to be issued from a remote point and reproduced in a clear amplified voice.

The system may consist of one or more microphones connected to one speaker-amplifier. When more than one microphone is installed the lamp signal on the hand, wall and counter type microphones will indicate when the system is in use. The system is operated from the regular lighting current and made for use in a.c. or d.c. districts.—*Radio Retailing*, November, 1934.



Centralab Controls

A new "Series II sound projection controls" covering a complete line of constant impedance "T" pad attenuators, "T" pad faders, "L" pad attenuators, gain controls and straight faders is announced by the Central Radio Laboratories, 900 E. Keefe Ave., Milwaukee, Wis.—*Radio Retailing*, November, 1934.

Working with one hand tied behind?

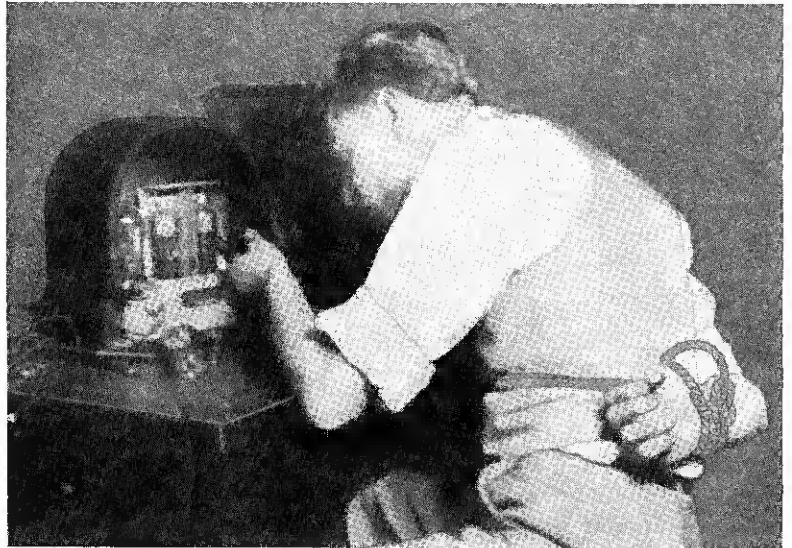
How often have you spent hours, perhaps days, trying to locate the cause of oscillation in a radio receiver? You checked the screen bypass capacitor — tried to lower the screen potential — removed the tuning capacitor and cleaned the wiping contacts, installed pig tails, bonded the shielding, and tried to re-align the tuning stages, but still the radio oscillated and refused to operate satisfactorily.

Then, you probably packed up the receiver and carried it to a jobber whose service department may have repeated your "cut and try" methods in an effort to locate the trouble. Finally, a procedure of substitution of parts was tried as a last resort, and it was found that the trouble cleared up when one of the electrolytic filter capacitors was replaced.

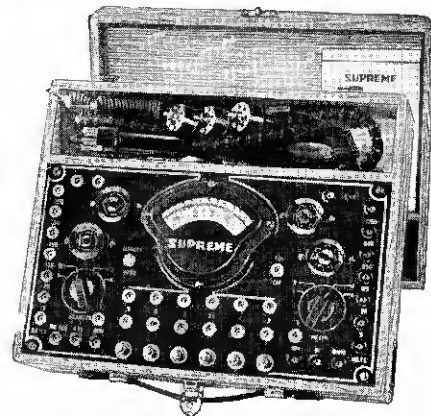
What was wrong with the original electrolytic capacitor? You probably assumed that it had "opened up" or lost some of its capacity, and you reasoned that you could have saved yourself a lot of time and trouble if you had been able to check the electrolytic capacitor, but you did not have facilities for measuring the capacity of electrolytic capacitors.

In other words, you did not have a Supreme Model No. 333 DeLuxe Analyzer which is the first and only analyzer to offer facilities to measure electrolytic, as well as paper capacitors, in six ranges from 0.001 to 12.5 mfd.

Under today's service conditions, if you are working with an analyzer that does not give you this facility, you are slowing up your own skill, shrinking your own income — it's like working with one hand tied behind you. And when you pay as much as \$40.00 for an analyzer, you are entitled to a complete electrolytic capacitor tester, as well as a complete analyzer. The Model 333-DeLuxe Analyzer is the only way to get it.



Ask your jobber to show you this supremely fine and complete, compact radio laboratory. Includes such additional exclusive features as circuit for compensating effects of temperature and other variations of the full wave rectifier unit, free reference point system of analysis, Supreme's 5" fan shape, full-vision meter. Meanwhile, send coupon for detailed technical data and complete catalog on Supreme instruments.



SUPREME 333 DELUXE RADIO ANALYZER

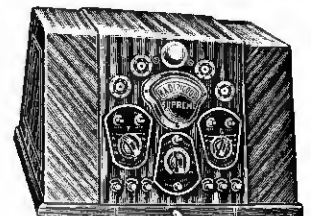
Dealers Net Cash **\$39.95**
Wholesale Price **\$29.95**

Supreme 333 Standard Radio Analyzer

Ends the mystery of certain noisy tubes

SUPREME NEONIZED TUBE TESTER 85-C

Supreme Neonized Tube Tester Model 85-C will soon pay for itself in the additional tube sales on faulty tubes that are now passing the simple "good" test on your ordinary tester. Gives a double check. Flashes a vivid neon signal between the elements where short circuits and leakages are hiding out. Ends the mystery of certain noisy tubes that have been worrying both you and your customer. Like buying a star tube salesman for life...only \$39.95. The authentic, accepted, original Neonized tester. Get a demonstration from your jobber.



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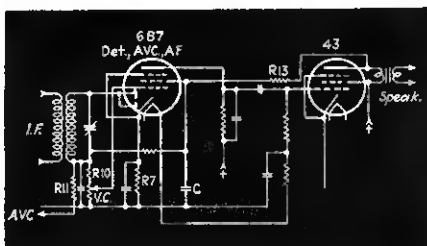
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SERVICE SECTION

Conducted by
W. MacDonald

Including
Installation Data

CIRCUITS of the MONTH



A. F. Regeneration

Crosley boosts low audio frequency response in chassis 5C2 (Model 51) by introducing regeneration in the a.f. amplifier. This is accomplished by feeding the screen of the 6B7 first a.f. pentode section from the plate lead of the final 43 through resistor R13. Some audio is fed to the 6B7, obviously, along with direct current. The small bypass condenser "C" removes most of the high-frequency feedback but is sufficiently ineffective as a low-frequency bypass to permit regeneration to take place on bass.

The a.v.c. system of this receiver is also of interest inasmuch as some control is exerted on the first a.f. amplifier (6B7 pentode section) as well as on the oscillator-first detector. Note that the diode circuit return goes to negative B rather than directly to the cathode. The drop across the cathode resistor therefore applies a slight bucking bias to the diodes. A signal overcomes this bias, the diode functioning very much as if the cathode resistor were removed. But because the pentode control grid is connected to the diode load resistor through the v.c. arm its bias is a combination of that provided by the drop across the cathode resistor and voltage developed by the a.v.c. system.

All d.c. developed by the diode across R10 and v.c. is applied through R11, a filter, to the first detector-oscillator. Only part of the d.c. developed and part of the a.f. appearing in this circuit is applied to the first a.f. control grid as the potentiometer arm is movable only on the v.c., R10 remaining permanently in the circuit.

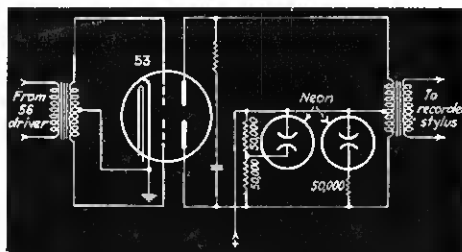
Neon Level Indicator

RCA-Victor's Model R-92 "Store Recorder" consists of a double-button carbon mike (energized from a tap on the power-

supply bleeder) transformer-coupled to a 56 first audio, in turn resistance-coupled to a 56 driver which swings the 53 Class "B" stage diagrammed. The device employs two small neon lamps in an interesting manner as recording level indicators.

The two lamps are connected in parallel across half the output transformer primary through a resistance network. Proper recording level is indicated when one lights to full brilliancy and the other emits occasional flashes. Apparently the lamp shunted by 50,000 ohms is the intermittent flasher while the unshunted lamp glows continuously when the proper level is reached.

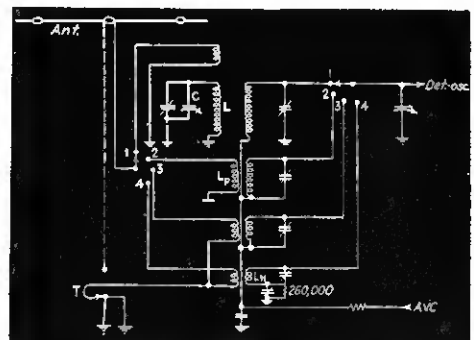
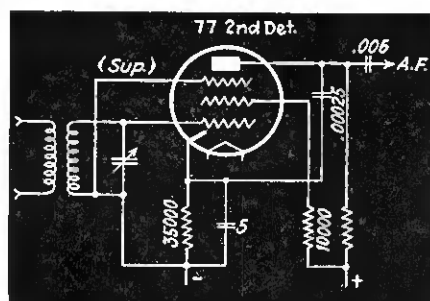
An 80, brute-force filtered, supplies power for the recorder.



Novel Suppressor Connection

The suppressor grid of a 77 pentode working as the second detector in Pierce-Airo's Model 56 is connected to ground instead of directly to the cathode, which is more usual. Thus the suppressor receives the same bias as the control grid.

Detector sensitivity is somewhat reduced by this procedure. It probably, therefore, assists in eliminating hum disturbances.



Receiver Uses Doublet, AVC Removed On 1 Band

Stewart-Warner's new Model R-127, the input circuit of which is diagrammed, works from a 25-meter doublet and simple twisted pair download without the necessity for coupling transformers. According to Jerry Golten, of the factory, the impedance of a typical doublet of this length is approximately 200 ohms. So the set designer has simply made the impedance of his antenna transformer windings match this value and recommends a download having about the same surge impedance. Ordinary twisted pair meets these requirements.

The input transformer primaries are carefully arranged so that they are electrically symmetrical with respect to capacity to ground.

When tuning in the broadcast band, as shown in the illustration, one lead of the twisted pair is not used, the antenna functioning as an "L" type, or, more correctly, as a "T" type, due to the capacity existing between the two downloads, which makes the open-circuited half of the doublet partially effective. In this position, it will be noted, coil "L" and condensers "C" form a pre-selector. The black coil-return lead "T" is connected to the chassis.

In position 2 coil L.p permits tuning of stations immediately below the broadcast band. Tap "T" remains grounded to the chassis, the antenna still functioning as a "T" type. The pre-selector circuit is omitted.

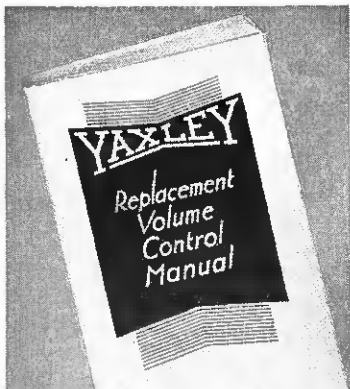
With the switch in position 3 and tap "T" connected to the download shown as a true doublet, the primary of the input transformer not being grounded. True doublet



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You can't afford to be without the kit—you can't afford to be without the wrench. And you'll certainly want your free copy of the Yaxley Replacement Volume Control Manual—the most complete and authoritatively accurate service manual ever published, which tells all about the 30 new Yaxley Replacement Volume Controls that will service 98% of the 3200 set models now in existence. Mail the coupon now!

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- Please send free copy of Replacement Manual.
- I enclose 6 carton tops for FREE Wrench.
- I enclose \$3.60 (which is 40% less than regular list price of Individual Controls) for Kit of 6 volume controls which entitles me to FREE Wrench.

Name.....

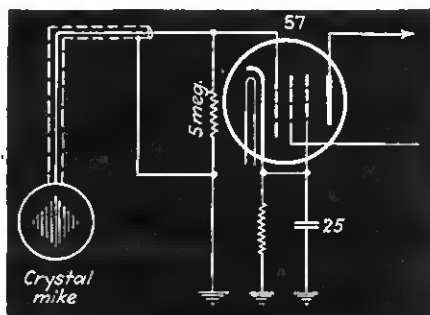
Address.....

My Jobber's Name is.....

SERVICE SECTION

operation is also obtained in position 4. Note, however, that a.v.c. control voltage is removed from the detector-oscillator in this position, fixed bias being used instead to increase available gain.

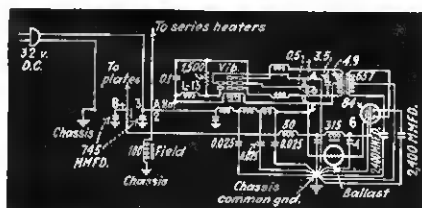
Model R-126 has a similar input circuit but a.v.c. is not removed from the detector-oscillator when operating in the highest frequency position due to the inclusion of an additional i.f. stage which assures ample gain.



Mike Works Directly Into Tube, Requires No Battery

The type "G" piezo-electric crystal microphone made by the Turner Company of Cedar Rapids, Iowa, has an impedance of 80,000 ohms at 60 cycles, hence may be operated directly into a high-gain amplifier without an intermediate matching transformer. A generator of minute electric currents, it requires no battery or other external driving voltage.

When connected as shown such a mike should be paralleled by a resistance or grid-leak of not less than 5 megohms. Use of a smaller resistor reduces low-frequency response. Care should, furthermore, be taken to avoid the application of d.c. voltage to the microphone terminals. The stage into which it feeds, for example, should not be permitted to draw grid-current, which would produce a voltage drop across the shunt resistor.



Ballasted Rectifier Heater

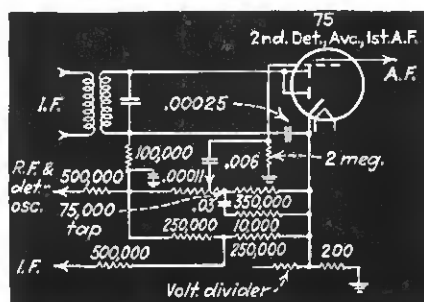
The six tubes of the main chassis incorporated in RCA's new model 223 form 32 volt d.c. job work in series. The speaker field is directly across the supply line. This is not unusual but the vibrator power supply device differs from systems we have seen in one detail. The 84 heater, which is not included in the series string, works directly off the supply line through an Amperite type 5-16 thermal voltage regulator. The ballast tube cuts down applied potential to the

correct value and also automatically safeguards against 84 failure due to fluctuations in the line between 26 and 40 volts.

6F7 As Beat-Oscillator And I.F. Amplifier

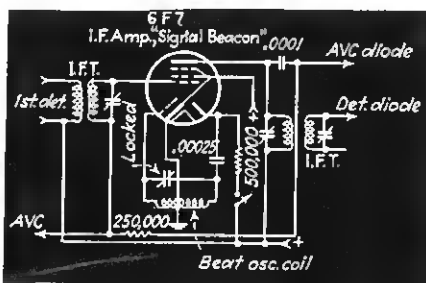
Grunow's chassis type 11-A (Models 1151 and 1152) uses a 76 triode as a separate "signal beacon," or beat-frequency oscillator, coupling being provided by feeding its plate from the lead running to the i.f. plate. This is a familiar method, employed by several other set makers. Chassis type 7-B (Models 750 to 753) differs in that a single 6F7 provides i.f. amplification and also a beat signal, the pentode section of the tube performing the first function and the triode section the second.

The accompanying circuit is self-explanatory. The switch (on the tone control) permits the signal-beacon to be turned off, cutting its plate supply lead, once the desired station has been tuned in. The 500,000 ohm resistor acts as a choke.



to drive the first audio grid is picked off the 350,000 ohm resistor by a movable arm, the .006 condenser serving as a blocking unit to keep a.v.c. voltage off this grid. The 2 megohm resistor is simply a grid-leak.

The 10,000 ohm resistor and .03 condenser connected between cathode and a tap on the volume control by-passes some of the highs when the set is operated at low volume level, bringing up apparent bass response. The 200 ohm resistor in the cathode to ground lead is obviously the usual self-bias device.



A.V.C. Voltage Divider

This formidable layout is the second-detector, a.v.c., volume-control and first a.f. network of Philco's Model 10 Transitone. It is complicated largely by the fact that different a.v.c. voltages are applied to the r.f. and first detector-oscillator grids than to the i.f. stage, requiring the use of an a.v.c. voltage divider. The following explanation of the various component functions will be helpful:

The 350,000 ohm resistor and two series-connected 250,000 ohm units are paralleled between the low potential end of the coil and cathode, d.c. automatic volume control voltage and a.f. developed by the diode appearing across them. Maximum available a.v.c. voltage is carried from the diode plate end of the divider system to r.f. and first detector-oscillator grid returns. A 500,000 ohm filter resistor inserted in the lead keeps a.f. from feeding through to these controlled stages. Something less than maximum available a.v.c. control voltage is fed to the i.f. stage from a tap between the two 250,000 ohm divider resistors, through a similar 500,000 ohm filter resistor.

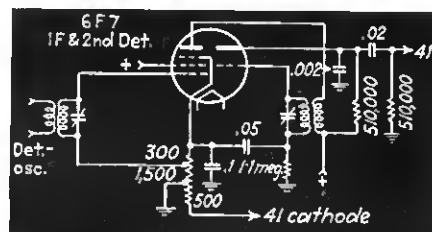
The 100,000 ohm resistor and associated .00011 condenser connected between the low-potential end of the coil and the divider keeps i.f. out of the a.v.c. and a.f. system, forcing it to return to cathode through the .00025 by-pass. A.f. voltage

6F7 As I.F. Amplifier, Detector

When the 6F7 triode-pentode was first introduced tube manufacturers' engineering bulletins noted that it could be used as a pentode i.f. amplifier and biased triode second detector. But few set makers have employed it in this manner to date. Here is the i.f.-second detector circuit of Stewart-Warner's Model R123 chassis (Models 1231 to 1239) in which the tube is so connected.

The drop across the 300 ohm cathode resistor provides bias for the pentode i.f. section while the combined drop across this same resistor and the 1,500 ohm unit connected in series is applied as bias to the detector triode section. The 500 ohm cathode resistor plays no part in the circuit of the 6F7, is shown simply because three resistors are in a single unit.

The .1 capacitor is the usual cathode by-pass, the .05 is the detector grid circuit return and the 1.1 megohm resistor is simply a filter, permitting application of bias to the triode grid and at the same time keeping i.f. where it belongs.



5E1, 6-1

Tube types 5E1 and 6-1 are ballast units used in the A-plus supply leads of Sentinel battery operated receivers. The first is found in 6-tube supers, the second in the 7-tube job.

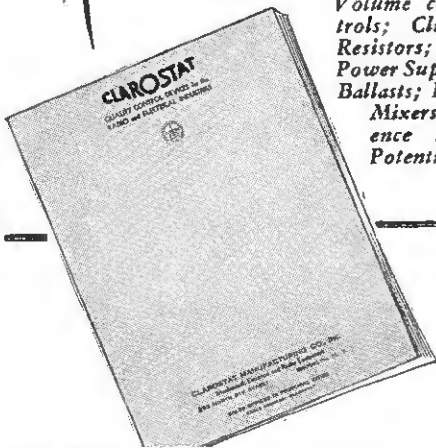
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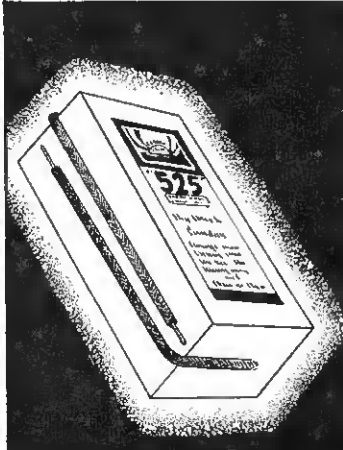
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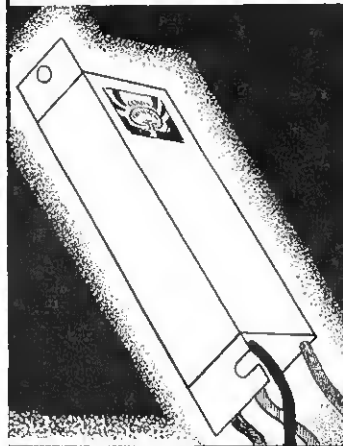
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DIAL DETAILS

A mechanical description of several new allwave types

A NUMBER of readers have expressed a need for mechanical details of new allwave receiver dials. Such details are extremely difficult, if not impossible, to fully describe owing to the large number of dissimilar mechanisms in use. The following photographs, showing constructional features of several popular types, will, however, be of some help.

And, may we remind servicemen who follow our writings that the "Tricks of the Trade" column will welcome all-wave receiver dial repair or adjustment data, if, or when, it develops.

RCA

Figure 1 is a side-view of the driving mechanism. A large disc mounted on the condenser gang shaft runs between two balls (in circle) which, in

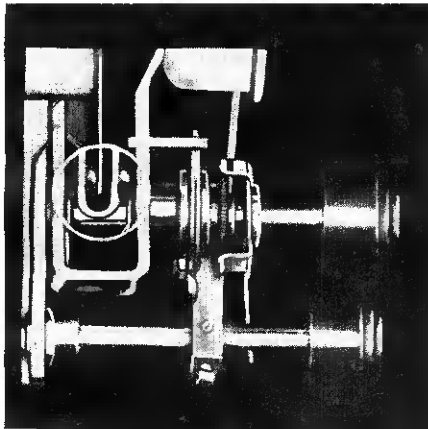


Fig. 1

turn, contact the main tuning drive. This drive arrangement guards against backlash and assures positive motion when the tuning knob is turned in either direction.

Figure 2 shows the internal gear arrangement within the dial drum itself.

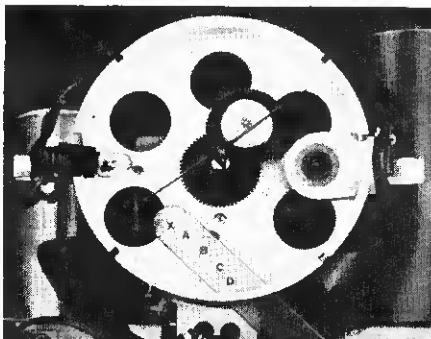


Fig. 2

When the tuning knob is pressed in, these gears give a 10 to 1 ratio for broadcast work and quick shortwave station finding. Pulled out, the knob engages an additional gear and jumps the ratio to 50 to 1. The main indicating

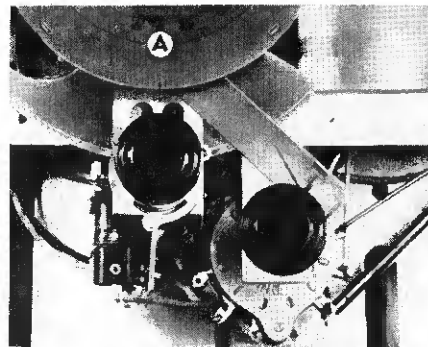


Fig. 3

needles may be clearly seen and close inspection will reveal the small, rapidly rotating vernier pointer.

Figure 3 shows the band-change knob and one of its associated switch decks, together with the lever automatically indicating the band in use. The lever is simply extended or shortened when the knob is rotated, causing the proper identification letter (see "A" in figure three, X, A, B, C and D exposed within the drum in figure 2) to appear.

PILOT

Figure 4 illustrates an interesting two-speed mechanism. With the knob raised, as pictured, the disc on its shaft fits into a slot cut into the upper roller which therefore turns at approximately the same speed as the knob. The rear end of this roller is similarly slotted and engages a large disc fastened to the condenser shaft.

Additional vernier action is obtained by pressing the control knob down. This disengages the disc on the knob shaft and, instead, the slotted rear end of the shaft rises, engaging a disc fastened to the rear of the roller. Thus on shortwaves step-down gearing is obtained between tuning knob and roller as well as between roller and condensers.

PHILCO

Figures 5 and 6, with descriptive lettering, show the principle of another interesting dial type. There are two shafts, one within the other. The outer shaft is coupled through an idler pulley directly to the large drive wheel, giving an 8 to 1 ratio for tuning standard broadcasts or locating a desired shortwave station channel quickly. The inner shaft is coupled through ball bearings to

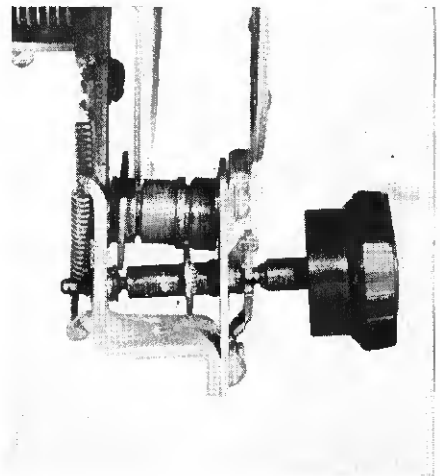


Fig. 4

the large shaft, giving an 80 to 1 ratio for fine tuning. The small knob nearest the operator is the slow speed control, the large knob the standard ratio.

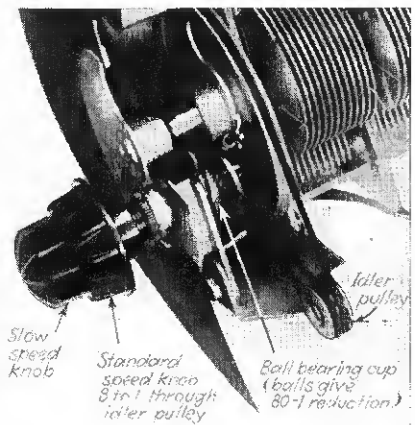


Fig. 5

The indicating arrangement is also of interest. In figure 6 part of the scale and a corner of the pilot lamp screen has been cut away to give a better view. A bank of four pilot lamps, one above the other, is employed, each covering one

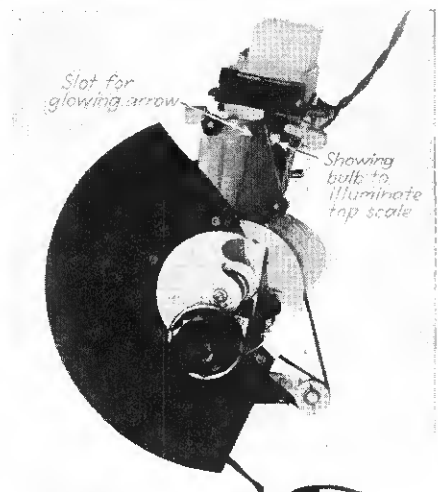


Fig. 6

2

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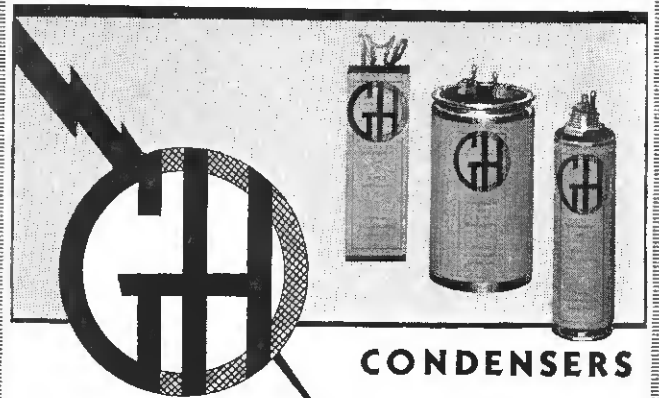
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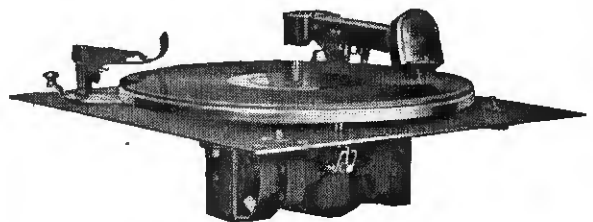
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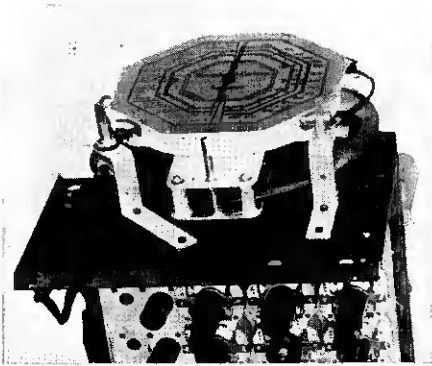


Fig. 7

of the four scales on the dial. A rectangular screen containing four slots, one above the other, is located in front of the lamp assembly. Each lamp illuminates a portion of the scale and the slots throw a glowing arrow in the center of the illuminated space, permitting close tuning. Extra contacts on the waveband switch connect the proper lamps in the circuit.

STROMBERG-CARLSON

Figure 7 shows another excellent example of the individually piloted dial sector type. Four pilots are used to achieve this effect, these being syn-

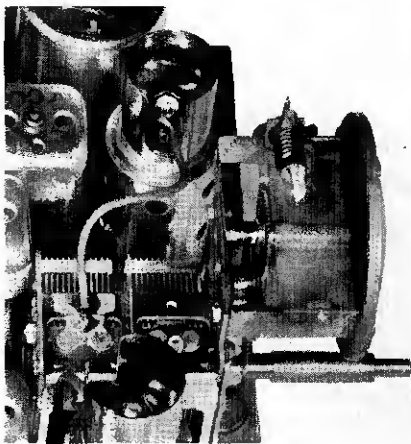


Fig. 8

chronized with corresponding coil positions of the band change switch.

AMERICAN BOSCH

Figure 8 illustrates a 'double-ratio' drive using gears and slot-type contact together. Close inspection will reveal that the upper gear not only engages teeth in the lower but that the lower gear has flanged edges to prevent the system from going out of alignment.

Two pilot lights are used in this job, one for the broadcast band scale and the other for shortwaves.

Figure 9 shows the operating details of another drive mechanism made by this same company. A ratcheted gear and bar arrangement on the shaft operating the band change switches moves the four scales up or down to corresponding positions. The tuning mechanism itself is slot and friction driven, the indicating pointer being coupled to

the gang condenser disc through a pulley and cord.

HOWARD

Figure 10 illustrates the mechanical details of a new band-spread system. The set is tuned by turning small knob "A," which drives condenser shaft "B" at all times through the friction disc at point "C." The large hand (see dial photo on page 16) is then set to the desired frequency on any of the bands. Band spreading is obtained by rotating (changing the capacity) of the variable condenser at an extremely slow speed. At the same time this small change becomes visual over a 320° scale by use of

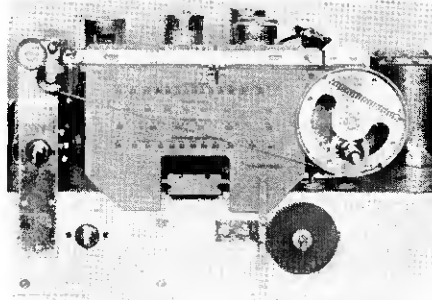


Fig. 9

a small hand. The full swing of this hand from 0 to 100 only rotates the main tuning hand about 8°. This is accomplished as follows:

After the main tuning hand is set to the desired channel the large knob "F" is pushed into the second position. The sleeve "G" slides over the shaft, forcing the spring cup "H" onto the knurled hub "I," which is secured to the drive shaft "J." It is important to note that the spring cup "H" is fastened to large drive disc "K" and floats freely over the "G" sleeve. The sleeve only acts to engage and disengage the clutch (H & I) by the push-pull action.

When the knob is now turned the sleeve drives the large disc "M" at point "L." This rotates the sleeve "N," which turns the small hand at all times. A higher ratio is again obtained as the sleeve "N" drives the large disc "K" at point "C." As shown above, with the clutch now engaged, the ratio is again increased as the main condenser shaft is rotated by friction drive at point "C."

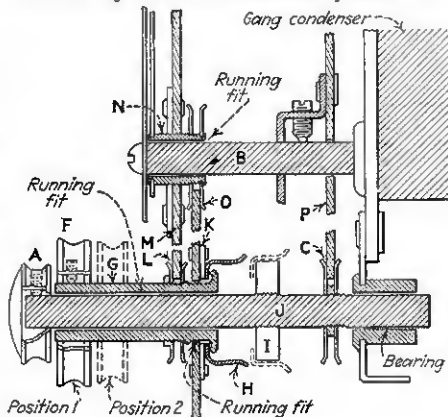


Fig. 10

ATTENTION! "HAMS"

If any of you servicemen who are also amateur operators hear W2TY (approx. 7290 kc.) give him a buzz . . . it's the "ham" station of "Radio Retailing's" technical editor. W2TY is also on the air with 56 mc. 'phone

A. F. Data

The engineering staff of the Aerovox Corporation has kindly supplied the following data, which should be useful to men primarily interested in the audio field:

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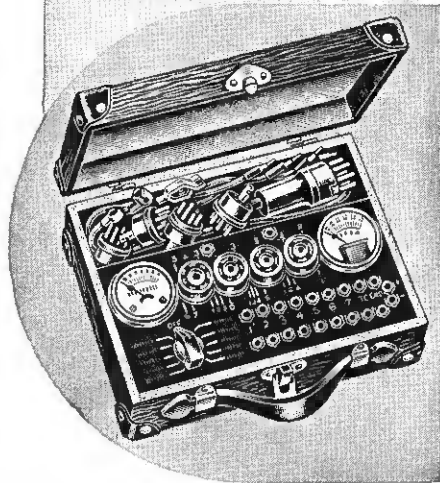
(Played very loudly)

Heavy Orchestra	70	Watts
Bass Drum	25	
Pipe Organ	13	
Snare Drum	12	
Cymbals	10	
Trombone	6	
Piano	0.4	
Trumpet	0.3	
Bass Sax	0.3	
Bass Tuba	0.2	
Bass Viol	0.16	
Piccolo	0.08	
Flute	0.06	
Clarinet	0.05	
French Horn	0.05	
Triangle	0.05	

Critical A.F. Points

Note	Cycles	Description
C ⁸	32,768	Beyond average ear's audibility limit
C ⁷	16,384	Telephone silent with 40 volts on receiver terminals
C ⁶	8,192	Considered ideal upper limit for speech and music transmission
C ⁵	4,096	Considered as satisfactory upper limit for high quality
G ⁴	3,072 3,000	Highest note of the piano. Approximate resonant point of ear cavity
C ⁴	2,048 1,500	Considered satisfactory upper limit for good speech. Maximum sensitivity of average ear
A ²	850	Mean speech frequency from articulation standpoint
E ²	600	Representative frequency telephone circuits
	200	Considered satisfactory lower limit for good speech
	80	Considered satisfactory lower limit for music
C ³	64	Lower note of average man's voice
B ₁	60	Lowest note of 'cello
C ₁	32	Lowest note of average church organ
	30	Considered ideal lower limit for perfect speech and music
A ₂	27	Lowest note of piano
C ₂	16	Lowest audible sound. Longest pipe in largest organ

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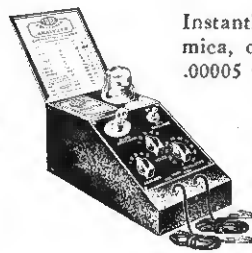
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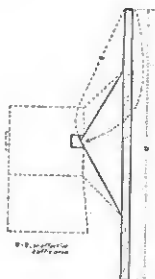
SHOP SHORTCUTS

How to Pick the Proper Baffle Size

By J. P. Kennedy

The low-frequency response of cone-type speakers is greatly influenced by the size of its associated baffle in addition to quality and size of the mechanism itself. Calculating the size of a baffle for a required condition is not difficult.

In normal room temperatures of from 70 to 72 degrees the speed of sound is approximately 1,120 feet per second. The baffle on which a speaker is mounted



must have a minimum diameter equal to one-quarter of the wavelength of the lowest frequency to be faithfully reproduced. This gives us a simple formula in which the lowest faithfully reproduced frequency is equal to the speed of sound in air, divided by the diameter of the baffle and then multiplied by four.

From this the following typical examples have been worked out. A 3 ft. diameter baffle is ok down to 94 cycles. A 4 ft. baffle will respond to a signal at 70 cycles. A 5 ft. baffle is good at 56 cycles. And a 10 ft. baffle works down to 28 cycles.

Where speakers are housed in a box-like frame or in a radio cabinet the diameter of the baffle may be assumed to be the distance in feet from the front, center of the cone, around the shortest path to the rear center of the cone.

The baffle material selected should be non-resonant and reasonably thick, although it is only rarely necessary to exceed $\frac{1}{2}$ inch in thickness. Five-eighths Celotex of Masonite presswood, obtainable at most lumber yards, is good material for the purpose and ordinary plywood, if reinforced with a thin layer of Celotex is quite satisfactory.

Cheap 32-Volt Generator

By Harold H. Stevens

Servicemen with shops located in 110 volt districts, who must frequently test and repair 32-volt d.c. receivers, will no doubt find the following description of an inexpensive generator interesting.

Secure a 32 volt motor with adjustable brushes and plenty of commutator segments. Drive this, using it as a generator rather than as a motor, with a 110 volt, $\frac{1}{4}$ hp. motor operated from the supply lines. Put a carbon pile rheostat in series with the shunt field of the 32 volt device and it should be possible to vary the output between 4 and 40 volts.

Use a filter system consisting of a .1 mfd. condenser connected from each brush back to the frame and a 4 mfd. condenser across output. Driven at about 3,600 r.p.m. the unit will operate radios, irons, toasters and other appliances designed for 32-volt systems.

Beat-Oscillator for S-W Sets

By J. R. Kearns

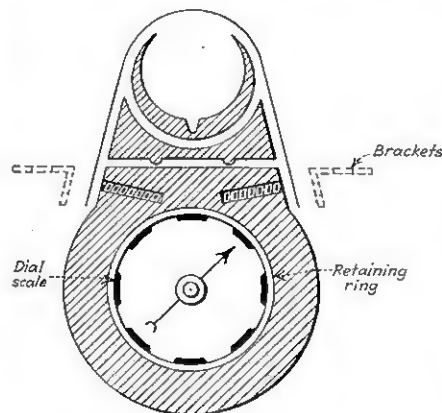
A beat-frequency oscillator may be easily added, right on the chassis to shortwave receivers not so equipped. Remove the last i.f. tube and socket and substitute a 2A7 or 6A7. Connect grids number 1 and 2 as an oscillator, using a small i.f. transformer, one of the single-tuned type with the grid circuit tuned to a frequency slightly off the i.f.

The transformer must be carefully shielded and a switch installed at some convenient point in the circuit to cut the oscillator when stations are finally tuned in. A shorting switch cutting out grid or plate coil seems more desirable than a plate supply cutout as this method may affect the operation of the other tube section.

Dash Mounting of Controls

By Irving Seideman

Many of the steering post controls supplied with auto-radio receivers may be easily adapted for installation flush with the dash where the customer prefers this position or where cables interfere with



ignition switches, radiator shutter rods or free-wheeling controls when mounted in the usual position.

Take the "Motorola" airplane dial, for example. This may be dash mounted by using two acute-angled brackets. These as shown, are fastened to the control unit where the strap is ordinarily screwed in place and then bolted to the under bend of the dash. The only change in the dial necessary is the turning of its scale 90 degrees from the original position. Remove the knob from the shaft, pry up the retaining ring around the glass cover, remove the glass, lift up the dial scale and pointer and replace in the new position. A drop of glue at one or two places around the edge of the scale will insure against turning.

Many cars have a cowl ventilator lever under the middle of the dash, which position makes an excellent position for radio controls. This lever can, in most instances, be bent toward the driver's side of the car. Care must be taken that controls mounted in this spot clear the shift lever in second speed. In the new Buick for example, the controls must be mounted far underneath to avoid breakage.

A Foolproof Bench Ground

By E. P. Waldo

The presence of a ground wire on an active service bench is sooner or later responsible for a pretty but destructive pyrotechnical display . . . fireworks to you. If the "raw" ground is brought up the back of the bench and carried through a 10 watt lamp before running to the front or "fighting" side of the bench trouble will be avoided, especially when working on d.c. sets.

If the a.c. 110 line is grounded to the chassis of a set tested on the bench the bulb will act as a telltale. A small shorting switch may be arranged to permit the bulb to be cut out when balancing up a job. This, however, is optional as I have never found that the added ground resistance makes any difference.

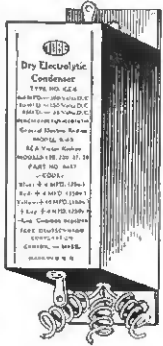
Velocity Mike for Close Talking

By Herbert J. Mayer

The usual, manufactured velocity microphone is not especially suitable for close-talking, I have found. Satisfactory results may be obtained, however, by connecting a .5 mfd., non-inductive condenser in series with the ribbon and the primary of the impedance matching transformer.

The condenser's voltage rating is not important but it should be nearly perfect with respect to leakage.

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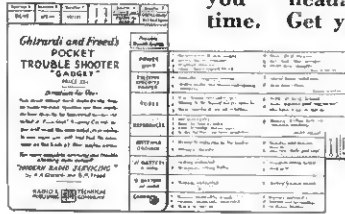
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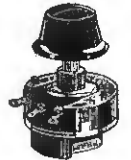
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"Since using your control I feel like a new radio" "never performed better in my life," writes another.



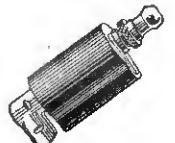
The new patented **RADIOHM**

And so it goes. . . . thousands of old, worn out, tired radios are being rejuvenated by alert servicemen with **CENTRALAB** replacement units.



The sturdy fixed **RESISTOR**

And remember you can do a better job with a smaller stock of controls if you stick to **CENTRALAB**.



The efficient **MOTOR RADIO SUPPRESSOR**

Every Radio Service Man should be a member of the Institute of Radio Service Men

Centralab

division of **Globe Union Mfg. Co.**

RADIOHMS
MOTOR RADIO SUPPRESSORS
RESISTORS
MILWAUKEE, WIS.

SERVICE SECTION

TRICKS of the TRADE

AIRLINE 62, 123, 131, 133, 142, 144. Failure to operate when new and in use only a short time . . . Most likely trouble is defective two-section armored wire-wound resistor. Replace with a 1-watt, 25,000-ohm and a 2-watt, 16,000-ohm type. (I.F. 456 kc.)

AK 55, 60. Aligning condensers . . . When pulleys are completely disconnected from shaft and condensers aligned replacement of pulleys generally throws the job out again. To overcome this loosen one screw completely and then loosen the other very slightly, just enough to allow the condenser shaft to turn when the pulley is held in place.

AK 84. Poor volume, or intermittent normal and low volume . . . If all voltages are normal check for an open in the i.f. stopping choke. The leads frequently break under the protective wax where they are soldered to lugs.

BRUNSWICK 15, 22. Noisy or intermittent reception . . . Check .02 mfd. coupling condenser in a.f. circuit and give set thorough mechanical inspection.

CLARION 220. Dead, 11,000-ohm and 4,100-ohm sections of divider ok, primaries of i.f. transformers ok . . . See if 4,000-ohm bias resistor of 24 autodyne has changed value, preventing tube from oscillating. This is half-watt carbon unit located near and soldered to one end of chassis, bypassed with .001-mfd. condenser. It often increases in value.

CROSLEY MUSICONES and DYNACONES. Repair data on types A to F, inclusive . . . If cone is crushed . . . Remove from speaker. Iron out with fairly hot flatiron, holding point of iron snugly in center of cone. Swing back of iron from side to side, pivoting on point. Iron out only a small portion at one time, shifting cone around. A large magazine should be placed under the cone. Do not use water to dampen as it may cause blisters. Too hot an iron will burn cone. Before replacing unit always straighten out the armature pin, put a drop or two of oil on the adjusting screw, center the adjusting screw accurately. After replacing cone be sure that base seats snugly without having a tendency for "star" to crush into it, or cause cone to bulge. Adjustments . . . Have speaker playing. Screw in until it rattles. Screw out until it rattles. Count the number of turns between these two adjustments and turn the screw back in half that number of turns. This centers armature.

EDISON R1, R2, C2. Intermittent operation . . . Most common causes are either one of the three 600 ohm grid

suppressors opening or a shorting trimmer condenser on the gang. Quickest way to locate these faults is to tune in a station, turn the volume control to maximum and then with insulated tool move each trimmer slightly, then move the suppressors, noting if there is any change. No signal, all resistors check ok, power transformer, audio units likewise ok and no grounds anywhere . . . Often caused by open 3 mfd., 1000 volt filter section. Connected from one side of high voltage secondary to 81 center tapped filament. Intermittent distortion and weak signals . . . Sometimes due to loose screws connecting speaker voice coil to output transformer. Tighten them with wrench and screwdriver. Weak reception is also due in some cases to slightly weak 26's, too short an antenna or improper alignment. The nut holding lug to antenna binding post sometimes comes loose.

EVEREADY 30, 40. Oscillation at high volume level . . . Check line voltage. If ok adjust variometer on end of condenser gang shaft by loosening mounting screws and turning variometer stator.

FORD-MAJESTIC. In types using separator vibrator, blown fuse or heavy "A" drain . . . Probably due to blown .01, 1000 volt condenser located across power transformer secondary. Replace with .01, 1200 volt unit made up of two .02, 600 volt tubulars if single unit is not on hand. Can containing transformer, rectifier tube and vibrator unit easily removed by unscrewing nut and lock washer holding down unit and lifting out. Before replacing check contacts for burned wires. Excessive current sometimes melts solder and burns two vibrator wires. File points, resolder and remount. Failure of 6Y5 in models using this type . . . Replace with 84, changing socket to 5 pin type and discarding wire originally connected to spray shield. If excessive noise is heard connect .25 or .5 mike low voltage paper capacitor directly across filament of rectifier. If filter blows . . . replace with dual 4, 4-6 or 4-8 dual as value is not critical.

MAJESTIC 20. Section of voltage divider heats excessively . . . Probably a shorted .1 mfd. bypass condenser in the intermediate transformer. Connect new unit externally.

MAJESTIC 90B. No plate voltage, trouble apparently in powerpack . . . Disconnect leads between pack and set, turn current on for 45 seconds.

MAJESTIC 400A SERIES. "Gurgling" variety of hum . . . Replace 6D7 detector with new tube, trying several and choosing best. Intermittent reception . . . Often due to loose filament in 46A or 46B ballast tube. Hitting set shows it up.

MOTOROLA 44. Power supply unit hums but set does not play . . . Take vibrator unit apart. Find 2 small, flat condensers on top of reed unit. The reeds may be identified from the outside by tracing red and green rubber covered wires. Remove original condensers. Solder a .01, 1600 volt d.c. tubular unit externally to each lead, joint the two together and ground the midpoint.

PHILCO 18. Intermittent fading . . . Primary of first i.f. transformer opens up. (I.F. 260 kc.)

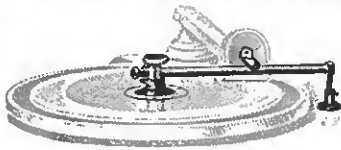
PHILCO 54, 80, 81, 84. Weak . . . First look for poor 77, then for open i.f. pickup coil. The one that is bank-wound is most deceptive as the set balances without it. (I.F. 460 kc.)

RCA 44, 46. To tune in police calls . . . Trimmers may be adjusted to pick up 1712 kc. stations and still get 95 per cent of the broadcast band. Trimmers are hidden at front of set chassis and it is necessary to remove the chassis from the cabinet to adjust them. Right hand trimmer, on the detector, has a habit of shorting. Install slightly thicker piece of mica and re-align.

SILVER-MARSHALL R (10 Tube). No signal when set is turned on, gradually starts to play during first 5 or 10 minutes . . . Replace 1st filter condenser with 8 mike electrolytic. Improper filtering in this circuit acts as a signal on the a.v.c. grid. Check for this trouble by removing a.v.c. tube (1st 227 of three in a row, next to 551). If volume booms up and distorts on locals trouble is as above if no signal or very little signal is heard before this tube is removed. For improved punch . . . Replace two 27's in parallel as detectors (second) with 56's. Motorboating or excessive hum . . . Usually caused by excessively high resistance in tone control (which is plate resistor in detector circuit). If control checks ok try replacing .5 mike condenser from lower contact to ground with .25 and connecting .25 megohm resistor across outer points of tone control.

SILVERTONE (Sears-Roebuck) 1712, 1713. Distortion, weak signals . . . With batteries disconnected check with ohmmeter from B minus (red and black) to chassis. It should read 700 ohms. If less test 35 mike, 20 volt condenser across 700 ohm, 1 watt carbon resistor for full or partial short. It is found, together with two 8 mfd. capacitors, in a square cardboard box bolted to chassis. Leads are brown and black. Fading . . . Sandpaper band change switch contacts. (I.f. 175 kc.)

STEWART-WARNER 102A. Quality poor, no volume . . . Check .1 mfd. condenser near 51 tube socket, detector audio coupling .02 and 2 megohm screen-grid second detector resistor.



UNIVERSAL Phonograph Recording Lead Screw

For simultaneous grooving and recording—Cuts 80 lines per inch—Quick, easy installation—Machine cut gears—Accurate—Drives from center of turntable. Dealers Net Cash \$5.88.

Also Blank Records, Cutting heads, etc. Write for Catalog and quantity prices.

UNIVERSAL MICROPHONE CO., Ltd.
424 Warren Lane, Inglewood, Calif., U.S.A.

CANDOHMS

STANDARD EQUIPMENT IN LEADING SETS

WIRE
WOUND
RESISTORS



TEN
MILLION
IN USE

Send Today for New Complete Catalog and
Free Resistance Calculation Tables

THE MUTER COMPANY

1255 South Michigan Ave., Chicago

MORE DEALER HELPS for the Asking

For your convenience "Radio Retailing" provides this digest of current dealer help material and makes it easy for you to order—on one blank—your selection of printed matter or display pieces desired. Please circle, on the coupon below, only those numbers you really will use.

1.—A most comprehensive "Radio Atlas" has been made up by PHILCO. A detailed map by continents shows position and call letters of every shortwave station. Vast amount of pertinent material such as comparative time between world cities, table of shortwave stations of the world, photos of foreign stars. Well worth the charge of 50c.

2.—TATRO has gotten up an attractive mailing piece (no envelope needed) on its 6 volt sets. Done in red and black. Full line is shown as well as the set chosen by the *Country Home* for display in the Model Farm House at the Century of Progress. Several small folders for mailing or counter use also offered.

3.—The 1935 edition of HAMMARLUND'S shortwave manual is off the press. Gives constructional details on its extensive line of shortwave sets. Send 10c.

4.—There are 150 sale promotional pieces for use in selling GENERAL ELECTRIC'S all wave radios. Everything from store

display material to novelties. Write us for a list and make your selection. If you're not getting GE's new monthly magazine, "The Band Wagon," let us know. You'll like it.

5.—Nicely bound in green paper, CLOUGH BRENGLE offers a new catalogue on its service instruments. Several graphs and charts for those with an inquiring mind.

6.—Dealers featuring the ALL STAR "build-it-yourself" shortwave set will want the three promotional pieces the cooperating manufacturers have made up . . . a four page copy of the *All Star News*, a parts list and a mailing piece in a vivid green and white.

7.—CENTRAL RADIO LABS will be glad to send you a copy of the booklet on its new Series II sound projection controls.

8.—MONTGOMERY WARD, now actively in the radio replacement parts, public-address and amateur equipment business, has just released a 36-page catalog. Ten pages are devoted to p.a., three to "ham" equipment, seven to replacement parts, four to testing instruments, four to auto-radio, manufactured shortwave sets and "build-up" kits and the remainder to miscellaneous tools and accessories. Illustrated throughout with actual photographs.

9.—Progressive radio dealers looking for a new side line will be interested in the "Serv-U-Fone" system of the AMERICAN

AUTOMATIC ELECTRIC SALES COMPANY (system for 2 to 8 stations for office, factory, store or residence, \$10 and up) described and fully illustrated in the literature this company offers.

10.—A complete catalogue of high grade globes in many different sizes has been issued by GEORGE F. CRAM CO. With shortwave's popularity, world globes are becoming a valuable dealer sales accessory—see feature article in this issue.

11.—A valuable book on practical job test procedure—over 20 radio tests fully explained—is available from the TRIUMPH MFG. CO.

12.—KINGSTON is out with three attractive mailing pieces on its brand new, 1935 line of radio sets. Appealing literature for mailing to prospects.

13.—Catalogue No. 1723 covers in detail BURTON WEBBER'S new all wave test oscillator, which covers 8 bands from 90 kc. to 25 mc.

14.—For high class consumer literature on de luxe combination sets, CAPEHART rings the bell with its pebble surface mailing pieces.

15.—Considerable worthwhile technical information on amplifier and filter design is included in UNITED TRANSFORMER'S new bulletin No. U1000C. Ten pages are given over to circuits, ten to a listing of transformers and chokes suitable for use in these.

16.—Four striking cut-out display cards for window trim or counter display, printed in bright yellow and red, will be sent to FAIRBANKS MORSE dealers if they circle this number. Each features FM shortwave sets with International "travelite" dial.

17.—"Successful Servicing" is the name of John F. Rider's new house magazine. Vol. 1, No. 2 is on our desk and in it we find material to keep Rider's Manual up-to-date—schematic diagrams of latest circuits, service kinks, etc. You may be put on the list to receive this 8-page house organ each month if you put your mark on No. 17.

CIRCLE . . . SIGN . . . CLIP . . . AND MAIL

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

RADIO RETAILING

330 West 42d Street, New York, N. Y.

Please see that I receive "Dealer Help" material from those concerns I have circled.

COMPANY

STREET ADDRESS

CITY

STATE



EBY Low Loss Sockets
Made of Isolantite—renowned for high frequency circuit use. Glazed upper surface—moisture-proof, dust-proof. A perfect socket with recessed contacts that hold securely.

EBY Patented Binding Posts
Have non-removable heads, preventing errors and loss of tops. The standard of the industry—they always insure a positive contact.

EBY Moulded Sockets
Sturdily built to withstand frequent tube insertions and withdrawals. Bakelite base. The Eby recessed ring minimizes effort and delay in inserting tubes.

Write for Bulletin 21 describing the complete Eby Line

"QUALITY"

Quality is the keynote of the entire line of EBY packaged products. The three numbers shown here are typical. Study them.

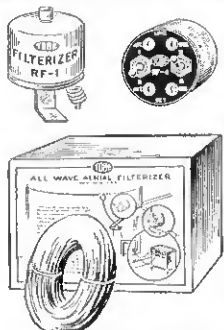
Your customers know EBY quality. They have known it for the past fifteen years. It has been proven to them by superior performance. Cash in on this fact.

EBY packaging has brought small parts to the fore—it has placed them up on the counter where they are seen and bought. Each EBY product is attractive and retains its clean, fresh look until sold.

EBY is your profit line. Ask your jobber for and insist upon EBY packaged products. You will find them better known, easier to sell and more profitable.

HUGH H. EBY, INC. "QUALITY"

2066 Hunting Park Ave.
PHILADELPHIA, PA.



TOBE UNIVERSAL ALL-WAVE ANTENNA SYSTEMS

Thousands of TOBE antenna kits are now in use. **HERE'S WHY!**
Can be used with ordinary flat tops or doublet antennas.
Receiver coupling transformer has two wave-band toggle switches.
Tremendous noise reduction.
Contains everything required for a complete antenna system.

Sold by leading parts jobbers at regular discounts.

Model 34—\$6.95 List.

TOBE DEUTSCHMANN CORPORATION
CANTON, MASS.

The Fit Still Survive

Did you ever compare the classified section of the 'phone book with the directory of the year before? It's an interesting if somewhat disheartening pastime. You find every year that some merchants have fallen by the wayside. The causes are usually bad management and poor merchandise.

Fortunately each trade has antidotes for business disaster and failure. Not the least of these antidotes are the business magazines of each trade. The editorial pages tell a merchant how to manage his business profitably—the advertising pages help a man buy good merchandise.

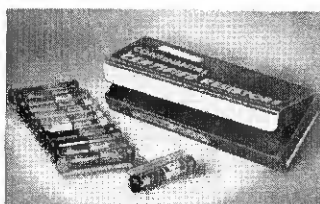
Try *Radio Retailing* as a prescription. Use its pages as a cure for failure, as a stimulant to business survival.

Radio Retailing

Look for this—
the Sign of Dependable



RESISTORS



CONTINENTAL Molded CARBORITE Resistors stand far above ordinary resistors because of important design advances developed by CONTINENTAL engineers through years of research.

To these advantages is now added another outstanding development—1000 Volt Ceramic Insulation. Ask your jobber for Certified CONTINENTALS—their new low prices make values never before equalled.

SUPPRESSORS



Full ignition noise suppression is now secured by CONTINENTAL engineers with only 10,000 ohms resistance—fully 50% less than used in suppressors of less advanced design. Replace with these dependable molded bakelite housed units for noise-free reception and full motor performance.

CONDENSERS

Replace condenser failures with the new CONTINENTAL Paper Dielectric Filter Sections. Available in Round Metal, Rectangular Metal, and Cardboard containers of standard dimensions. Write for free descriptive bulletin.

Write for Latest FREE Catalogs

CONTINENTAL CARBON Inc.

13902 Lorain Ave., Cleveland, Ohio
Toronto, Canada

LIQUIDATION SALE

of GRIGSBY-GRUNOW CO., Inc.

makers of *Majestic* Radios, Tubes, Refrigerators

by order of the UNITED STATES DISTRICT COURT

PURSUANT to an order of the United States District Court, the Trustee in Bankruptcy of the Grigsby-Grunow Company, Inc., offers for sale all of the machinery, equipment, inventory, good will, patents, trade marks and trade names of the Grigsby-Grunow Company, Inc., as well as real estate and buildings used in the manufacture of MAJESTIC radios, tubes and refrigerators.

The machinery consists of the very finest makes of all types of metal and wood working machinery, also a completely equipped tube, enameling and plating plant, all of which are in immediate operating condition.

The inventory consists of made-up parts, parts in process and raw materials for radios, refrigerators and radio tubes. The Service Department on all three items has been kept intact.

The GOOD WILL consists of the name "MAJESTIC" as applied to radios, refrigerators and tubes, which name has been extensively advertised throughout the world, and which is secured by copyrights in practically every country in the world including many other trade names, patents and copyrights.

The real estate consists of factory buildings having a floor area of approximately 950,000 square feet, suitable for any type of manufacturing.

The Trustee is authorized to sell at public or private sale, and is now prepared to receive offers for any part or parcels

of the assets, which offer, if satisfactory, will be approved. Competent salesmen will be in attendance at the plant, 5801 Dickens Avenue, Chicago, Illinois, at all times, and an early investigation of the property is solicited.

REFRIGERATION SERVICE DEPARTMENT

The Trustee, under order of the Court, has set up a Refrigeration Service Department, to maintain service and to sell service parts. This will maintain the name and prestige of "Majestic" and be an asset of major importance to anyone buying the "good will" of the company.

SERVICE PARTS FOR RADIOS

There is on hand a considerable quantity of service parts for radios which are staple merchandise and are being sold to the users of millions of Majestic radios now in service.

A COMPLETE CATALOG

available to any prospective buyer on request to Mr. Frank M. McKey, trustee in Bankruptcy. Grigsby-Grunow Company, Inc., 5801 Dickens Avenue, Chicago, Illinois.



how



helps you
to more **ANTENNA**
volume and profit . . .

We have ready for distribution a very helpful treatise on SHORT-WAVE reception and the new stellar role played by the aerial in everyday radio enjoyment.

There's a map of the world, with foreign stations located, also their calls and kilocycle designations.

CORWICO Antenna Kits and their usage are explained. The consumer is urged to refer to his Service Man for proper antenna installation.

Purely an educational job, which will be of heavy advantage to every dealer and service organization willing to utilize it properly. Your copy is ready for you.

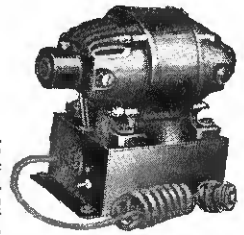
We suggest you request it at once.

CORNISH WIRE CO.

30 Church Street, New York, N. Y.

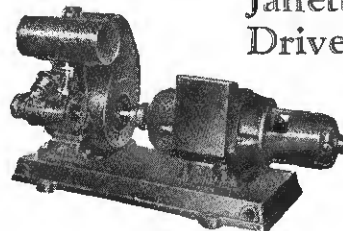
Janette

Rotary Converters



The choice of the discriminating user. Janette Dynamotor Type "Double-Wound" Rotary Converters are compact in design and assure quiet operation and sustained performance, equalling central station A.C. supply. These rotary converters are equipped with a special Janette filter. When used with short-wave sets, special short-wave filter must be specified. Possess every good feature required by leading radio manufacturers. In 15 sizes. Capacities from 30 to 2500 watts. Input voltages of 6, 12, 32, 115 or 230 volts. Write for Bulletin 13-25.

Janette Gas Engine Driven Generating Sets



The ideal unit for operation of radios, amplifiers, sound truck equipment, public address systems, etc. 300 to 5000 watts.

Janette Manufacturing Company

556 West Monroe St.

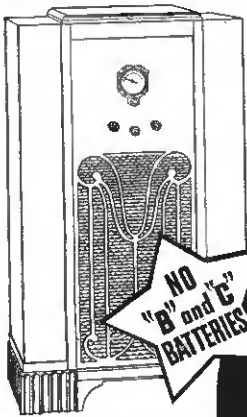
Chicago, Illinois

Revolutionizing RADIO SALES!

BIGGER PROFIT
POSSIBILITIES
THAN EVER BEFORE

NO "B" & "C"

BATTERIES
L'TATRO
6 VOLT



NO
"B" and "C"
BATTERIES

Operates entirely from 6-volt storage battery. High efficiency—low current consumption—UNBELIEVABLE ECONOMY!

The ideal radio for all homes without electricity. Actual operating cost less than 1c a day!

Here's the way to Greater Sales

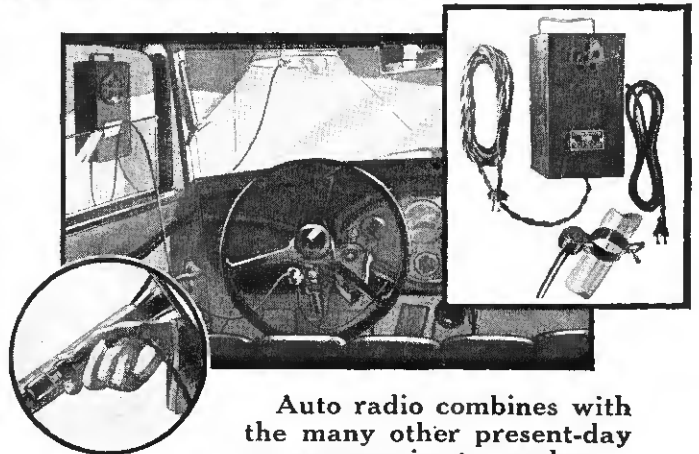
Write or wire for full details of this revolutionary new Radio—it's the profit opportunity of a lifetime! Full details will be promptly sent to you.

L. TATRO PRODUCTS CORPORATION
DECORAH—IOWA

Manufacturers of L. Tatro 32-Volt Farm Light Plant Radio

65

**EVERY AUTO RADIO OWNER
IS A PROSPECT FOR
. . . . A G-E TUNGAR
HOME CHARGER**



Auto radio combines with the many other present-day car accessories to produce a powerful drain on batteries.

In most cases your customers blame battery trouble entirely on their auto radio . . . the last item they purchased. Complaints naturally result. If you explain to them, however, that auto radio is not the entire cause of run-down batteries, but only one of many contributing factors, you can easily convince them of the need for a G-E Tungar Home Charger. Lists complete with wiring accessories at only \$12.95. (Prices slightly higher, West of Rockies.)

The new G-E Tungar, 5-amp., Home Battery Charger not only assures perfect radio reception and proper functioning of every car accessory, but also comes in mighty handy in the winter months when zero weather takes its toll of undercharged batteries.

Every auto radio owner is a hot prospect. Convince your customers of the need for a home charger and you will turn complaints into profitable sales.

For complete information, see your nearest G-E Merchandise Distributor, or mail the coupon.

Section A-3611, Merchandise Department,
General Electric Co., Bridgeport, Conn.

Please send me complete information on the new 5-amp. Mercury Tungar.

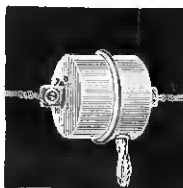
Name.....

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It's the New ACE SELLER!

Thousands now in use!

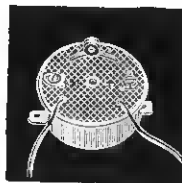


TACO **H-F** ALL-WAVE
(High-Fidelity)
ANTENNA
SYSTEM

COMPLETES any all-wave receiver . . . permits better reception . . . overseas short-wave programs . . . without noisy background . . . in any locality.

Hundreds of dealers use this system to demonstrate all-wave sets. Thousands of all-wave set owners use it to realize 1934-5 radio performance.

Make good on those all-wave set claims with TACO specialties. . . and make extra profits!



Send for Money-Making Proposition . . . literature, prices, discounts . . . on TACO All-Wave Antenna, All-Wave Line Filter, and Multiple Radio Outlet Antenna System.

TACO

● TECHNICAL APPLIANCE CORPORATION
27-26 JACKSON AVE., . . : LONG ISLAND CITY, N. Y.

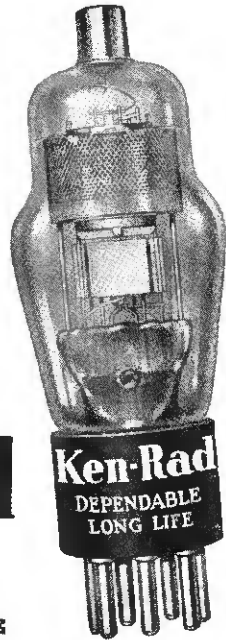
GENERAL  ELECTRIC

AUTOMOTIVE PRODUCTS

**MERCHANDISE DEPARTMENT,
GENERAL ELECTRIC COMPANY,
BRIDGEPORT, CONNECTICUT**

Accepted

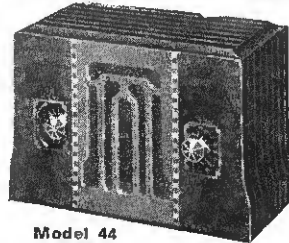
KEN-RAD is an established name among radio dealers and users. The dependable long life and high standard of manufacture of Ken-Rad Radio Tubes makes them popular, fast-selling merchandise. The complete satisfaction they give to customers reflects favorably on your business. Here is opportunity for profit. Complete details for handling Ken-Rad Radio Tubes furnished on request.



Ken-Rad Radio Tubes

DEPENDABLE LONG LIFE

THE KEN-RAD CORPORATION, Inc., Owensboro, Ky.
 Division of The Ken-Rad Tube and Lamp Corporation
 Also Mfrs. of Ken-Rad Incandescent Electric Lamps



Model 44

Manufacturers of a complete line of AC-DC compacts and AC midgets. We are in a position to serve distributors, dealers, and special accounts both large and small.

Send for literature describing our complete 1935 line.

R.C.A. and Hazeltine licensed manufacturer.

PACIFIC RADIO CORPORATION

844 W. ADAMS STREET, CHICAGO, ILL., U. S. A.
 Telephone: Monroe 0133 Cable Address: Paciradio Chicago

FLETON AERIAL ACCESSORIES



radio receptacles; Handy Taps; Lightning Arresters; Aerial Outfits; Wire for Aerial Lead-in and Ground; Masts; Ground Clamps; Screw Eyes; Aerial Tighteners; All sizes Porcelain and Glass Insulators; Lead-in Strips; Auto Aerials and Aerial Eliminators; Short Wave and All Wave Aerial Outfits.

Complete Line from One Source. Catalog R-655 free.

M. M. FLERON & SON, INC. TRENTON, N. J.

SEARCHLIGHT SECTION

(Continued on the opposite page)

LEGAL NOTICE

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF MARCH 3, 1933

Of Radio Retailing, published monthly at New York, N. Y., for Oct. 1, 1934.
 State of New York } ss.
 County of New York }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared B. R. Putnam, who, having been duly sworn according to law, deposes and says that he is the Secretary of the McGraw-Hill Publishing Company, Inc., publishers of Radio Retailing, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, McGraw-Hill Publishing Company, Inc., 330 West 42d Street, N. Y. C. Editor, O. H. Caldwell, 330 West 42d Street, N. Y. C. Managing Editor, Ray V. Sutcliffe, 330 West 42d Street, N. Y. C. Business Manager, M. E. Herring, 330 West 42d Street, N. Y. C.
 2. That the owner is: (if owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) McGraw-Hill Publishing Company, Inc., 330 West 42d St., N. Y. C. Stockholders of which are: James H. McGraw, 330 West 42d St., N. Y. C. James H. McGraw, Jr., 330 West 42d St., N. Y. C. James H. McGraw, 330 West 42d St., N. Y. C. James H. McGraw, Jr., 330 West 42d St., N. Y. C. Trustees for: Harold W. McGraw, James H. McGraw, Jr., Donald C. McGraw, Curtis W. McGraw, Curtis W. McGraw, 330 West 42d St., N. Y. C. Donald C. McGraw, 330 West 42d St., N. Y. C. Anne Hugus Britton, 330 West 42d St., N. Y. C. Mason Britton, 330 West 42d St., N. Y. C. Edgar Kobak, 330 West 42d St., N. Y. C. Grace W. Mehren, 33 West Grand Ave., Chicago, Ill. J. Malcolm Muir and Guaranty Trust Co. of New York, Trustees for Lida Kelly Muir, 524 Fifth Ave., N. Y. C. F. S. Weatherly, 271 Clinton Road, Brookline, Mass. Midwood Corporation, Madison, N. J. Stockholders of which are: Edwin S. Wilsey, Madison, N. J. Elsa M. Wilsey, Madison, N. J.
 3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (if there are none, so state.) None.

LEGAL NOTICE

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest

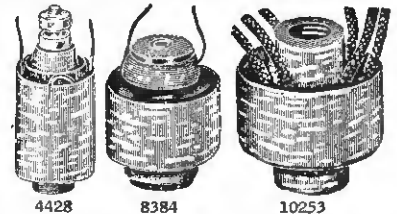
LEGAL NOTICE

direct or indirect in the said stock, bonds, or other securities than as so stated by him.
 5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the month preceding the date shown above is. (This information is required from daily publications only.)

B. R. PUTNAM, Secretary,
 MCGRAW-HILL PUBLISHING COMPANY, INC.
 Sworn to and subscribed before me this 28th day of September, 1934.
 [SEAL] H. E. BEIRNE,
 Notary Public, Nassau County. Clk's No. 66, N. Y. Clk's No. 118. Reg. No. 6-B-73.
 (My commission expires March 30, 1936)

EXACT-DUPLICATE MAJESTIC REPLACEMENT I.F. TRANSFORMER

These transformers have been engineered to replace the original. These transformers have both primary and secondary tuned for maximum selectivity and are peaked at 175 kilocycles. Sensitivity of less than one microvolt. Hot climate or moisture, will not affect the accuracy and precision of these coils.
 They are wound of a superior grade of double coated enameled wire on a kraft paper tubing and treated with a special solution of beeswax and rosin that will withstand moisture and excessive heat. No glue or oxide tape is used in the making of these coils that will cause electrolysis to form in hot climates. These coils are supplied less tuning coil and can.



Majestic Part No.	Model	Majestic Part No.	Model	Majestic Part No.	Model
4428	15-1st I.F.	6123	210-2d I.F.	10253	460-2d I.F.
8384	15-2d I.F.	6127	210-3d I.F.	6250	200-1st I.F.
5326	25-1st I.F.	10149	460-1st I.F.	7812	310-2d I.F.
5337	25-2d I.F.	7187	Pri Coil used as R.F. plate coil in Model 290, 300, 310, 330, 520, 490, 460.	5257	120-2d I.F.
6506	55-1st I.F.			11014	800-2d I.F.
4429	55-2d I.F.			7812	330-2d I.F.
6119	210-1st I.F.	7785	Dimmer Reactor plate coil.		

Your Cost, Each

Send for your free copy of Our New 104 Page Catalog—listing a complete line of Public Address Amplifiers, Short Wave Sets, Replacement Parts, etc.

BALTIMORE RADIO CORPORATION

721-Y Broadway

New York, N. Y.

90c

SEARCHLIGHT SECTION

EMPLOYMENT and BUSINESS OPPORTUNITIES—SURPLUS STOCKS—DISCONTINUED MODELS

UNDISPLAYED—RATE PER WORD:
Positions Wanted (full or part-time salaried employment only), 10 cents a word, minimum \$2.00 an insertion, payable in advance. (See ¶ on Box Numbers.)
Positions Vacant and all other classifications, 15 cents a word, minimum charge \$3.00.
Proposals, 40 cents a line an insertion.

INFORMATION:
 Box numbers in care of our New York, Chicago and San Francisco offices count 10 words additional in undisplayed ads. Replies forwarded without extra charge.
 Discount of 10% if one payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

DISPLAYED—RATE PER INCH:
 1 inch\$8.00
 2 to 3 inches..... 7.80 per inch
 4 to 7 inches..... 7.60 per inch
 Rates for larger spaces, or yearly rates, on request.
 An advertising inch is measured vertically on one column, 3 columns—30 inches—to a page. Radio Retailing

SPECIAL NOTICE:

TO THE RADIO INDUSTRY

Advertising in connection with legitimate offers of surplus stocks and discontinued models of radio merchandise is acceptable in this section of "Radio Retailing."

Extreme care will be exercised by the publishers to prevent the use of advertising in the Searchlight Section to encourage price cutting on current models of merchandise or equipment. Nor will advertising which invites violation of the dealer's contract with the manufacturer be acceptable.

All merchandise offered in the Searchlight Section must be accurately and fully described and must be available on order.

Genuine Grebe Parts

Since operations ceased at the Grebe Factory almost two years ago, we, the former employees and Factory Manager, have successfully carried on the Service Department of A. H. Grebe & Co., Inc., which was purchased by us in its entirety, including test equipment.

We manufacture and furnish only genuine Grebe parts made in strict accordance with the original specifications.

We suggest that you use only genuine Grebe Parts in the servicing of these sets in order to maintain the original quality and performance for which they were noted.

Write for Price List

Grebe Radio Sales & Service Co.
 137-28 Jamaica Ave., Jamaica, N. Y.
 Owner and former General Factory Manager of A. H. Grebe & Co., Inc.

FREE WESTON EQUIPMENT

No matter how efficiently you can service radio sets, your primary purpose for being in business is to make money! Besides ability and modern test instruments you must sell service at professional prices to be a success. Use a CHUCKER to eliminate guess-work in what is wrong and what to charge. \$1.00 postpaid. Also, request free details on Free Weston equipment.

FREED'S RADIO CO., Dept. E.
 5053 Baltimore Ave., Philadelphia, Pa.

When It's Needed in a Hurry!
 Servicemen—Amateurs—Experimenters
 Depend on

BURSTEIN-APPLEBEE CO.

America's Livest Radio House in America's Handiest Shipping Point.
 1012-A McGee St.
 Dept. 171
 Kansas City, Mo.

148 Pages
 Write us if you haven't a copy.
 1935 Catalog

SERVICEMEN-DEALERS

"Send for our Handbook and Catalog"
 Complete Stock of NEW Radio Replacement Parts
 Hard to Get Parts in Stock
 Power Packs and Speakers Repaired
 GRANT RADIO LABORATORIES
 6521-R South Halsted St., Chicago, Ill.



ONE OUT OF EVERY FOUR

SERVICEMEN WILL FAIL THIS YEAR!

It is estimated that at least 25% of all servicemen fail or go out of business every year. Today this percentage may be even higher. Increased competition plus a demand for quality work from customers who have more money to spend will see to that. More than ever, rewards are going to the man who KNOWS HOW!

And that is one of the reasons why registrations are now pouring in for Spray-

GET THESE NEW DATA SHEETS AT NO EXTRA COST

Sprayberry Data Sheets need no introduction to thousands who have built new jobs, new profits through them. Now comes a NEW SERIES telling exactly how to modernize 16 old analyzers for 6-, 7-prong tubes, etc., 14 popular receivers for new tubes, A.V.C., etc., etc. Sold for \$3 or given to my students at no extra cost.

berry's Practical Mechanics of Radio Service—an inexpensive 28-lesson post-graduate course for those already in the service business. . . . I don't claim to help you get rich quick. However, I DO show how to handle all types of service work in the BEST, MOST PRACTICAL way—how to modernize old equipment—how to get the "jump" on competition. No "fluff" or fancy bindings. Just a sound, how-to-do-it course that will prove of untold practical value—and sold at a price you can well afford to pay! The attached coupon will bring full details of an opportunity which you owe to your business future to investigate.

F. L. SPRAYBERRY 2548 University Pl., N. W. WASHINGTON, D. C.

Please send full details of your course, also tell how I can obtain the new series of DATA SHEETS at no extra cost.

Name

Complete Address

RR-11-34

SPRAYBERRY'S PRACTICAL MECHANICS OF RADIO SERVICE

New RADOLEK 1935
 148 PAGE CATALOG
 Is Now Ready

Know What You Are Buying

- Radolek's 1935 Radio Profit Guide accurately describes every piece of merchandise required in Radio Service.
- Radolek's Engineering Staff examines every new item! These technicians write the descriptions published in the Radolek Profit Guide. When you choose merchandise from this big catalog, you are assured of reading an accurate description of what the item consists and what purpose it serves!

- Lowest Prices! Our Engineers compare Radolek's merchandise with competition. Our prices are determined by comparative quality and are equal to or lower than any similar quality offered by any other Distributor of fresh new merchandise. If prices are reduced on any items after you receive the Radolek Profit Guide, you will always receive the benefit of these new lower prices.

- Radolek protects your interests by restricting distribution of the Radolek Profit Guide to active and legitimate Radio accounts. Full co-operation is extended to Radio Dealers and Service Associations to restrict wholesale prices to the Trade only.

Secure Greater Radio Profits! Send for your copy of the 1935 Radio Profit Guide! Just out . . . "The Radolek Broadcaster"—a 16-page bulletin of ideas, new Merchandise, and valuable information; ASK for it!

RADOLEK Co., 578 W. Randolph St., Chicago, Ill.

JOBBERS · DISTRIBUTORS

EXACT DUPLICATE

Majestic I.F. Transformers

We can supply a complete line of EXACT DUPLICATE Majestic I.F. Transformers. Write for our 16 page folder listing a full line of exact duplicate Power Transformers—Condenser Blocks—Audio Transformers, etc.

Attractive Discounts to Bona-Fide Jobbers.

FEDERAL ENGINEERING CO.

286 Y Mercer St., New York, N. Y.

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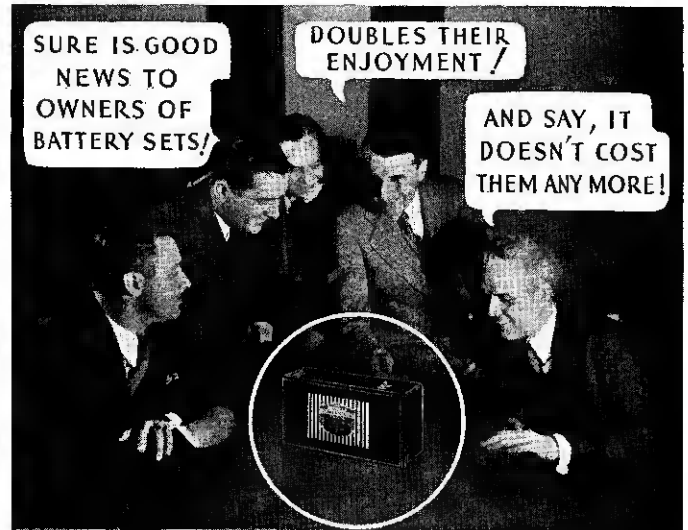
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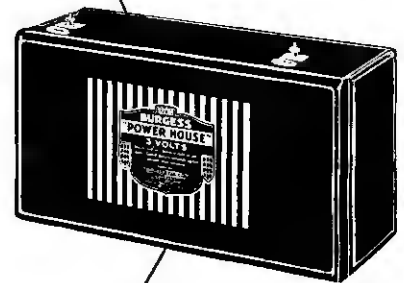
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SERVICE MEN VOTE FOR THE BURGESS 8 HOUR DAY



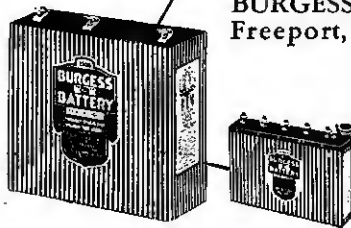
SERVICE MEN KNOW

that many owners of battery-operated sets still have the old-fashioned belief that batteries give fewer hours of service when used more than 3 or 4 hours a day. That belief has been exploded by BURGESS engineers. Repeated tests in our laboratories and in actual use have proved that you can use BURGESS Batteries 7 or 8 hours a day—and get maximum service!*



When battery-operated sets need new batteries, tell your customers about the BURGESS "8 hour day". They will be glad to know they can double their enjoyment at no increase in their battery cost per hour!

Owners of 2-volt sets can buy 400 hours of dependable "A" power in the BURGESS Power House for only \$3.20. The Power House is 100% DRY, requires no attention and is not affected by weather. Like the world-famous BURGESS "B" and "C" Batteries, it costs no more per hour when operated 7 or 8 hours a day. BURGESS BATTERY COMPANY, Freeport, Illinois.



*For economical operation of 7 to 8 hours a day, sets should be powered by batteries of proper capacity. Set owners should ask their Service Men to recommend type and size of batteries best suited for their use.

BURGESS

BATTERIES AND FLASHLIGHTS

McGraw-Hill Publishing Company, Inc., 330 West 42d Street, New York, N. Y. Branch offices: 520 North Michigan Ave., Chicago; 833 Mission St., San Francisco; Aldwych House, Aldwych, London, W. C. 2; Washington; Philadelphia; Cleveland; Detroit; St. Louis; Boston; Greenville, S. C. James H. McGraw, Chairman of the Board; Malcolm Muir, President; James H. McGraw, Jr., Vice-President and Treasurer; Howard Ehrlich, Vice-President; B. R. Putnam, Secretary. Member A.B.P. Member A.B.C. Printed in U. S. A. Printed by The Schweitzer Press, N. Y.

3 Fast-Moving Leaders of the 1935 CROSLLEY Line

CROSLLEY invites comparison. The exquisite beauty of the cabinets, marvelous performance, wide range of prices make the Crosley line, when compared set for set, stand head and shoulders above competition. There is a model for every requirement and a price to suit any income. A. C. D. C. and STANDARD BROADCAST models range in price from only \$19.99 to \$33.00, complete with tubes. DUAL RANGE models for all American broadcasts, including police, aviation and amateur reception are priced from \$29.95 to \$47.50 in both table and console models,

complete with tubes. Models for AMERICAN and FOREIGN reception, in table and console models are priced as low as \$39.95 and up to \$79.50, complete with tubes. An ALL-WAVE chassis is incorporated in a table model at the low price of \$79.50 and in a gorgeous console at only \$99.50, complete with tubes. Battery sets priced from \$19.99 to \$49.95, complete less batteries. Crosley continues its amazing success with this exceptionally complete line. No dealer can afford NOT to handle Crosley. Get in touch with your Crosley distributor immediately.

The FIVER

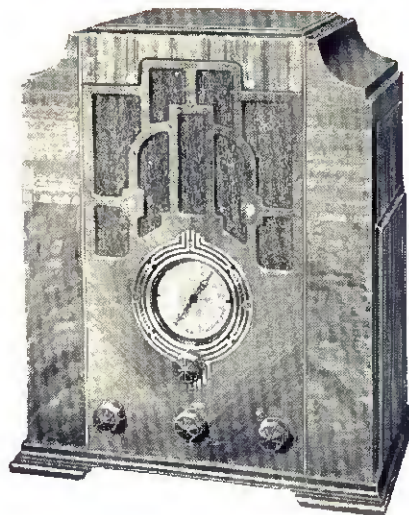


5 Tubes \$19⁹⁹
COMPLETE

SUPERHETERODYNE

A history-making receiver, improved and perfected, and a greater value than ever. Superheterodyne, full floating, moving coil electro-dynamic speaker, beautiful cabinet, one dual purpose tube making it the equivalent of a 6-tube set. It covers the entire band of American broadcasting and top police band. Excellent tone. Highly sensitive. Priced remarkably low.

The SIXTY-ONE AMERICAN and FOREIGN

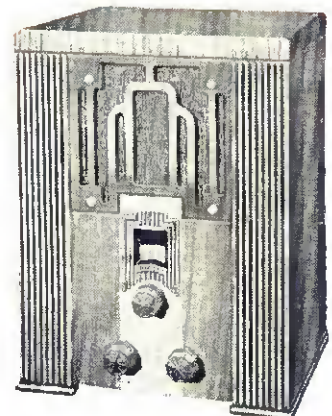


6 Tubes \$39⁹⁵
AMERICAN & FOREIGN
COMPLETE

SUPERHETERODYNE

Another smashing leader—a 6-tube American and Foreign receiver at only \$39.95—the most startling radio announcement of the year. Covers standard band from 510 to 1750 Kc., short wave band from 5700 to 15,500 Kc. Gorgeous cabinet, illuminated airplane type dial—30 to 1 high ratio drive, continuous tone control, automatic volume control, three gang tuning condenser, full floating moving coil electro-dynamic speaker. Two dual purpose tubes provide 8-tube efficiency.

The DUALFIVER DeLuxe DUAL RANGE



5 Tubes \$29⁹⁵
DUAL RANGE
COMPLETE

SUPERHETERODYNE

A 5-tube receiver having the performance of a 7-tube. Three gang condenser, automatic volume control (steady volume on distant stations), new and beautiful cabinet. A startling value in a long range, sensitive, beautifully toned receiver. Dual range for American broadcasts—all police, aviation and amateur reception.

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

THE CROSLLEY RADIO CORPORATION

Home of "the Nation's Station" WLW 500,000 watts—most powerful in the world—70 on your dial

POWEL CROSLLEY, Jr., President

CINCINNATI

WHATEVER HAPPENS...YOU'RE THERE WITH A CROSLLEY

CROSLLEY RADIO

PACKED WITH THRILLS!

The new General Electric All-wave Radios
and the dramatic advertising behind them

They sang the song together...6,000 miles apart...



A baritone in London...Diana Wynyard in California



GENERAL ELECTRIC RADIO

Exiled...miles off Nova Scotia's lonely coast



—yet the world is his at the turn of a dial



GENERAL ELECTRIC RADIO

Rockwell Kent, with the Eskimos in Greenland...



...hears the tango played in distant Argentina



GENERAL ELECTRIC RADIO

THE desire for new radio thrills and new radio adventure, created by these General Electric advertisements, is fully realized when the new General Electric All-wave sets are shown and demonstrated.

For these new General Electric sets look exciting . . . are exciting . . . live up to every promise made in the advertising.

Prospects are enthusiastic when they enter the G-E dealer's store . . . and "sold," by G-E quality and performance, before they leave it.

The result is obvious: General Electric Radio sales are mounting daily.

An enthusiastic market demands action. So be ready to give it. Stock the full General Electric line. See your General Electric Distributor. Or write the General Electric Co., Section R-3611, Merchandise Dept., Bridgeport, Conn.

GENERAL  ELECTRIC RADIO

