

# RADIO TODAY

\$1 Yearly

Caldwell-Clements, Inc., 480 Lexington Ave.

New York City

## Auto Radio

- “silver spoon” for dealers, service men

## Radio Trade

- weather delay
- pent-up sales
- active Spring

## Broadcasting

- political buzz
- new programs
- sales up 15%<sup>o</sup>

## Receivers

- new gadgets
- controls
- monthly sales

## Salesmen

- advertising
- earnings
- qualifications

## Servicing

- modernizing
- intermittents
- circuits

## Gen'l Business

- steady at 95%<sup>o</sup>
- signs are OK
- Bonus cash



FEBRUARY

• 1936 •

# To SELL MORE and BETTER SETS— STRESS the FINER PROGRAMS!



## *National Broadcasting Company is working for you!*

Appearance, tone, price, features—all these things influence a purchaser in the final choice of a radio. And there is one more that should receive far greater emphasis from the dealer—the PROGRAM!

Above all else, people want to know: "What programs can he heard?" and "How well can they be received?"

Countless dealers now know that better programs are a definite aid in selling the better sets. They have learned that feature programs constitute a primary appeal to the customer. And they are using the National Broadcasting Company as a shining example of consistent program quality.

Thus, an old principle has become a new and powerful sales keynote, giving alert merchants a great leverage

in moving the higher priced sets. For with the public, radio has no stronger appeal than this: "The finest programs are worthy of the finest possible reception."

This close tie-up alone shows the strong bonds of mutual interest between the broadcast system and the 15,000 dealers who annually contact and sell four to five million listeners.

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Look to National Broadcasting Company for the highest possible standard of programs.

Use National Broadcasting Company programs to impress your customer with the really superfine entertainment he can get.

Use National Broadcasting Company programs to demonstrate receivers, and swing the sales to a better type of instrument.

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## NATIONAL BROADCASTING COMPANY, INC.

AN RCA SERVICE

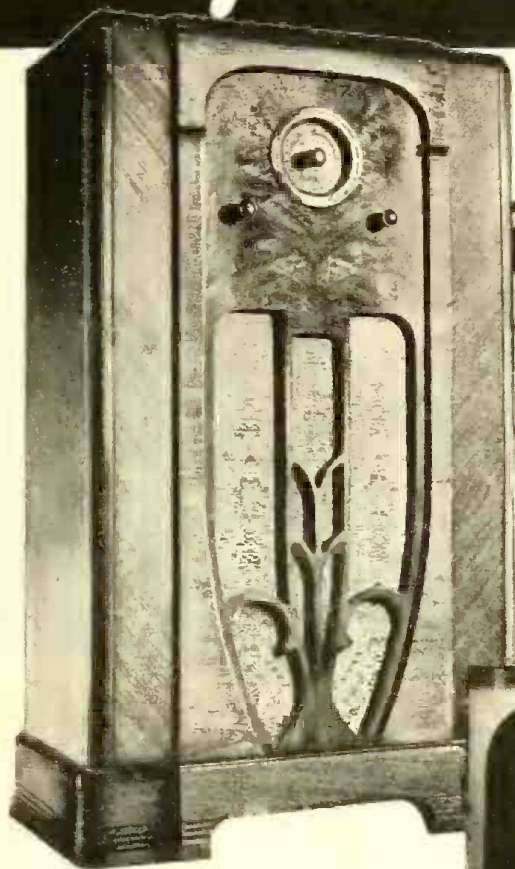
NEW YORK

WASHINGTON

CHICAGO

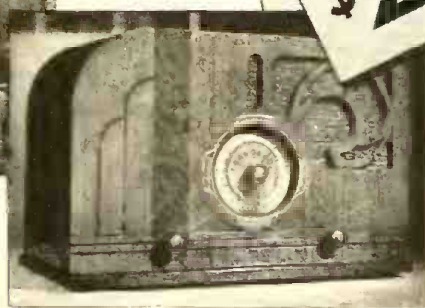
SAN FRANCISCO

# Yes! GENUINE FERRODYNES... WITH ALL-METAL TUBES... at Glass-Tube Prices!



MODEL 1425 LISTS AT  
**\$39.95**  
\$42.90 IN FLORIDA  
AND WEST COAST

MODEL 1421 LISTS AT  
**\$25.95**  
\$28.50 IN FLORIDA  
AND WEST COAST



## Again STEWART-WARNER Offers YOU a Sales Scoop in Record Value and Performance

**YOU BET** these radios are news! When you start with genuine metal tubes . . . use them in Stewart-Warner's special *Ferrodyne* circuit to bring out all their advantages . . . house them in cabinets like these . . . and their price these *brand new* models where you'd expect glass tube

models to be priced for clearance . . . it adds up to a perfect answer for the late-season price market!

These Stewart-Warner's are stand-outs in every detail, too. Their genuine Craft-Built cabinets are hand-rubbed to satiny beauty. Their tone, range, volume and selectivity are tops, because of the 5-metal-tube Ferro-

dyne construction. And they have such high-priced-set features as line and code-elimination filters, seven tuned circuits, illuminated glass-covered dial, tone control and others.

They're sets you can *sell* . . . against the best values competition has offered . . . and sell at a profit. Get the complete story from your distributor . . . at once.

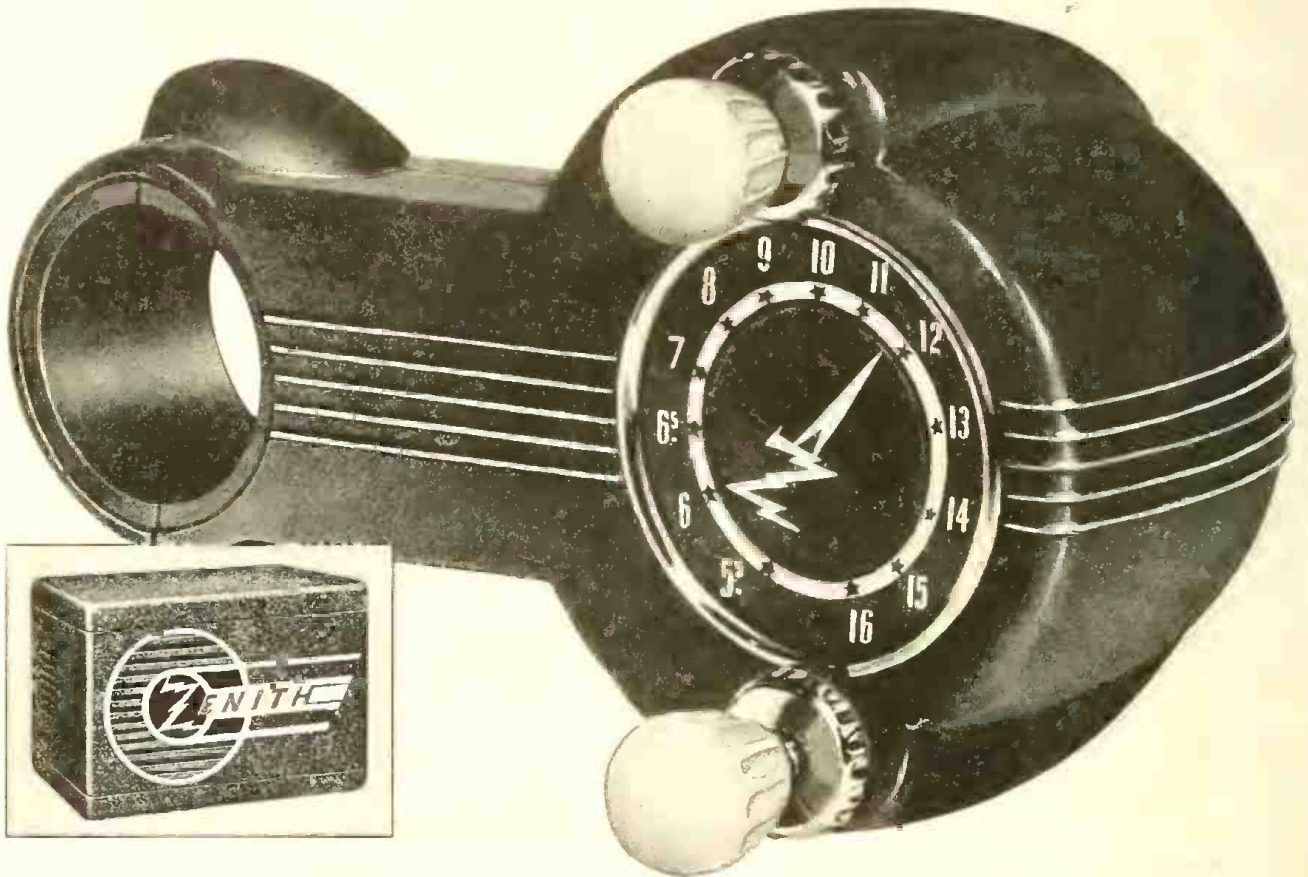
STEWART-WARNER CORPORATION, 1828 Diversey Parkway, CHICAGO

# STEWART-WARNER

## *Ferrodyne* RADIO

# ZENITH announces

## AMERICA'S SAFEST AUTO RADIO



**H**ERE IT IS—the auto radio you've wanted and America's motorists have wanted for years and years! Yes—it's an *absolutely* safe radio with unique, patented features that eliminate every known objection to auto radios. Think of it! Eight sensational safety features! Including: a dial light that goes on only while dialing . . . lighted pointer . . . big, black safety dial . . . true vision turn table tuning . . . true dial reading from any angle. Never any glare to blind the driver. Safety engineers call it the finest and safest auto radio ever manufactured. And it is!

ZENITH RADIO CORPORATION, 3620 IRON ST., CHICAGO, ILLINOIS



ORDINARY DIALS



BIG BLACK SAFETY DIAL

But in addition to its safety features, Zenith offers the most beautiful Auto Radios on the market. And they feature house radio reception . . . twin speakers . . . panel control to fit all cars! The line is complete . . . prices are right. Get in touch with *your* Zenith Distributor.



# DISTRIBUTORS

## ALABAMA

R. P. McDavid & Co., Inc.  
2104 First Avenue  
Birmingham

## ARIZONA

Tidmarsh Engineering Co.  
P. O. Box 2425  
Tucson

## ARKANSAS

The Mills Morris Company  
Little Rock

## CALIFORNIA

Ray Thomas, Inc.  
1224 S. Hope Street  
Los Angeles  
Thompson & Holmes, Ltd.  
2701 Sixteenth Street  
San Francisco

## COLORADO

Intermountain Appliance  
Co.  
1508 Cleveland Place  
Denver

## CONNECTICUT

Northeastern Radio, Inc.  
181 Ann Street  
Hartford  
Plymouth Electric Co.  
401 Chapel Street  
New Haven

## FLORIDA

Peaslee-Gaulbert Corp.  
220 East 14th Street  
Jacksonville

## GEORGIA

Peaslee-Gaulbert Corp.  
550 Glenn Street  
Atlanta

## ILLINOIS

Zenith Radio Dist. Co.  
680 North Michigan Blvd.  
Chicago

## INDIANA

Rodefeld Company  
96 West Main St.  
Richmond  
5 W. North Street  
Indianapolis  
Walker Electric Supply Co.  
817 Ohio Street  
Terre Haute  
Wayne Hardware Company  
Fort Wayne

## IOWA

A. A. Schneiderhahn Co.  
Des Moines  
123 W. Third Street  
Davenport

## KANSAS

The S. A. Long Electric Co.  
146 No. Market St.  
Wichita

## KENTUCKY

The Ferguson Co.  
10th & Broadway  
Paducah  
The Otis-Hidden Company  
529-35 W. Main Street  
Louisville

## LOUISIANA

Monroe Hardware Co.  
204 N. Third Street  
Monroe  
C. T. Patterson Co., Inc.  
800 S. Peters Street  
New Orleans

## MAINE

R. B. Dunning & Co.  
54 Broad Street  
Bangor  
Radio Service Laboratory  
34 Free Street  
Portland

## MARYLAND

Baltimore Gas Light Co.  
111-113 E. Lombard St.  
Baltimore

## MASSACHUSETTS

Northeastern Radio, Inc.  
281 Columbus Avenue  
Boston

## MICHIGAN

Republic Supply Corp.  
421 Beaubien Street  
Detroit  
Soo Hardware Company  
Sault Ste. Marie  
Soo-Marquette Hdwe. Co.  
Marquette  
J. A. White Dist. Co.  
219 Ottawa Ave. NW  
Grand Rapids

## MINNESOTA

Reinhard Bros. Co., Inc.  
Minneapolis

## MISSOURI

Electric Lamp & Supply Co.,  
Inc.  
1900 Washington Avenue  
St. Louis

Federal Distributing Co.  
2004 Grand Ave.  
Kansas City

## MONTANA

Midland Implement Co.  
Billings  
Great Falls

## NEBRASKA

Major Appliance Co.  
2059 Farnam Street  
Omaha

## NEW HAMPSHIRE

John B. Varick Co.  
809 Elm Street  
Manchester

## NEW JERSEY

B & O Radio, Inc.  
23 Sussex Avenue  
Newark

## NEW YORK

Colen-Gruhn Co., Inc.  
387 Fourth Avenue  
New York City  
Onondaga Auto Supply Co.  
353 E. Onondaga Street  
Syracuse

Joseph Strauss Co., Inc.  
25 High Street  
Buffalo

## NORTH CAROLINA

Southern Bearings & Parts  
Co.  
315 N. College St.  
Charlotte

## NORTH DAKOTA

Reinhard Bros. Co., Inc.  
Minot

## OHIO

Appliance Distributing Co.  
(Div. of Tracy-Wells)  
165 N. Ludlow St.  
Columbus

Arnold Wholesale Corp.  
5209 Detroit Avenue  
Cleveland

V. J. McGranahan Dist. Co.  
135-17th Street  
Toledo

Tafel Refrigerator Co.  
530 Walnut St.  
Cincinnati

## OKLAHOMA

Peaslee-Gaulbert Corp.  
203 Compress Street  
Oklahoma City

## OREGON

Electrical Distributing Inc.,  
404 N. W. Tenth Street  
Portland

## PENNSYLVANIA

Trilling & Montague  
24th & Walnut Streets  
Philadelphia, Pa.

J. A. Williams Company  
401-433 Amberson Ave.  
Pittsburgh

## RHODE ISLAND

Northeastern Radio, Inc.  
34 Broadway  
Providence

## SOUTH DAKOTA

Reinhard Bros. Co., Inc.  
Aberdeen

## TENNESSEE

Braid Electric Co.  
143 Eighth Ave. North  
Nashville  
The Mills-Morris Co.  
171-175 S. Dudley Street  
Memphis  
East Tennessee Electric Co.  
612 E. Depot Avenue  
Knoxville

## TEXAS

Momsen-Dunegan-Ryan  
& Company  
El Paso

Peaslee-Gaulbert Corp.  
Atlanta & Logan Streets  
Dallas

152 S. Adams Street  
San Antonio  
2150 Winter Street  
Houston

## UTAH

Flint Distributing Co.  
253 E. Third South Street  
Salt Lake City

## VIRGINIA

Thurman & Boone Co., Inc.  
405 S. Jefferson Street  
Roanoke  
R. F. Trant, Inc.  
12th & Monticello Ave.  
Norfolk

## WASHINGTON

Brown-Johnston Co.  
118-20 N. Lincoln Street  
Spokane

Seattle Hardware Co.  
501 First Avenue So.  
Seattle

## WEST VIRGINIA

Eskew, Smith & Cannon  
Charleston

Persinger Supply Co.  
Third Avenue  
Williamson

## WISCONSIN

John Pritzlaff Hdwe. Co.  
333 N. Plankinton Ave.  
Milwaukee

## WYOMING

Lower Auto Supply Co.  
Riverton



## CRASH THE BIG-SET MARKET IN 1936!

**L**AST YEAR, according to the latest available information, the public bought more Philcos at \$100 and up than all other makes combined!

The excellent work of The Radio Institute of the Audible Arts is responsible in a large measure for these higher-unit sales.

And, this year, Philco Dealers can get an even greater percentage of sales in the higher brackets by actively identifying themselves with the R.I.A.A. The Radio Institute is helping dealers everywhere by stimulating keener interest in radio . . . by creating a new high in the public's desire for new and better receivers . . . and by

building a tremendous preference for Philco!

Increase your store traffic by using the new R.I.A.A. decalcomania seals . . . program window streamers . . . counter stands . . . program guides . . . booklets and manuals . . . direct mail folders . . . news letters . . . and other helps which will enable you to make new contacts, increase your big-set sales and enjoy greater prestige in your community.

Get in touch with your Philco distributor for complete details and information on how to use The Radio Institute of the Audible Arts to the best advantage. The stage is set for the greatest big-set buying activity in radio history!

**PHILCO RADIO & TELEVISION CORPORATION**

Staff—

DARRELL BARTEE  
 RANDALL R. IRWIN  
 G. H. MAYORGA  
 M. H. NEWTON  
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# RADIO TODAY

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 New York City  
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Vol. II, No. 2

## POLITICS BUILD-UP FOR RADIO SALES

★ Big political events are ahead for American listeners during 1936. And the radio industry is going to take advantage of all this priceless hoorah to *sell more radio sets*.

Already the political welkin is being ripped wide open. Charges and counter-charges are nightly hurled across the air-waves. New hats have been tossed into the Presidential ring.

As a result, people are listening as never before. Load curves of electric light companies testify unmistakably to this; even indicate the relative audience each orator attracts.

*Radio is going to elect the next President.*

## BAD WEATHER SLOWS RETAIL SALES

★ Retail sales of radio during January were held back by the extremely cold weather and bad traffic conditions general throughout the nation. As a result January retail radio totals probably fell back 10 to 15 per cent behind the same month last year.

But dealers contacted by RADIO TODAY all agree that this is only delayed buying. A good deal of this postponed purchasing is breaking out into February. And February, 1936, apparently will be one of the biggest months ever for radio sales at this time of year.

Retail radio dealers are facing increasing competition from catalog houses and mail-order firms. In some communities Sears-Roebuck is pushing radio volume to a point paralleling the leading regular radio line sold in the community.

Radio dealers who get out and sell, seem to be worrying less about mail-

order competition than dealers who sit in their stores and wait for business.

## CONVENTIONS PROMISE LIVELY SPRING

★ Political broadcasts so far are just curtain-raisers to the bigger events ahead. The major contestants and the runners-up are now "setting the stage."

The June conventions will start the real fireworks.

This means that the radio trade must be ready to handle new business during that month. Distributors and dealers will have to get their stocks refilled and in order. Meanwhile some manufacturers are pushing introduction of their new lines far ahead, bringing them out in May instead of July, to be ready for the rush of convention listeners.

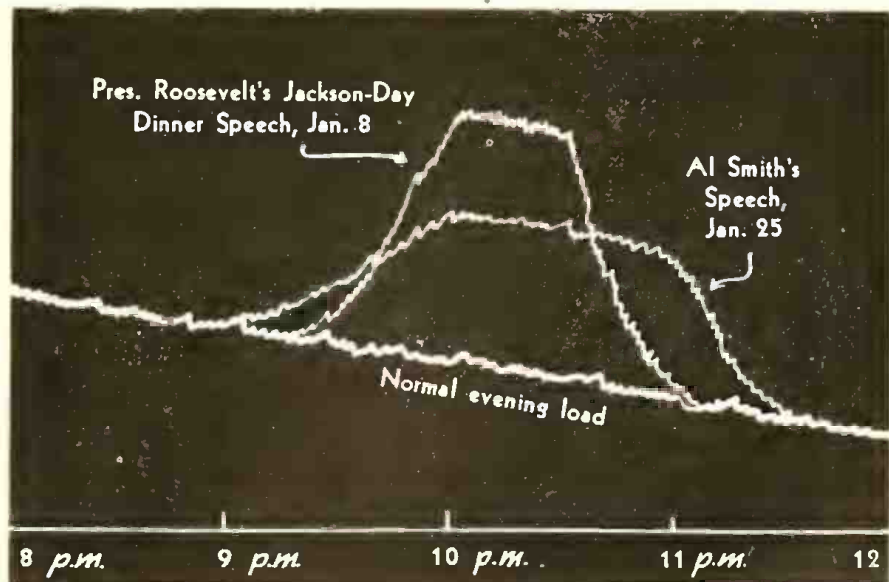
An abnormal season is promised for radio throughout 1936. Sales will be pushed ahead into the Spring; the summer will be active, and larger sales totals than ever are in sight for the year.

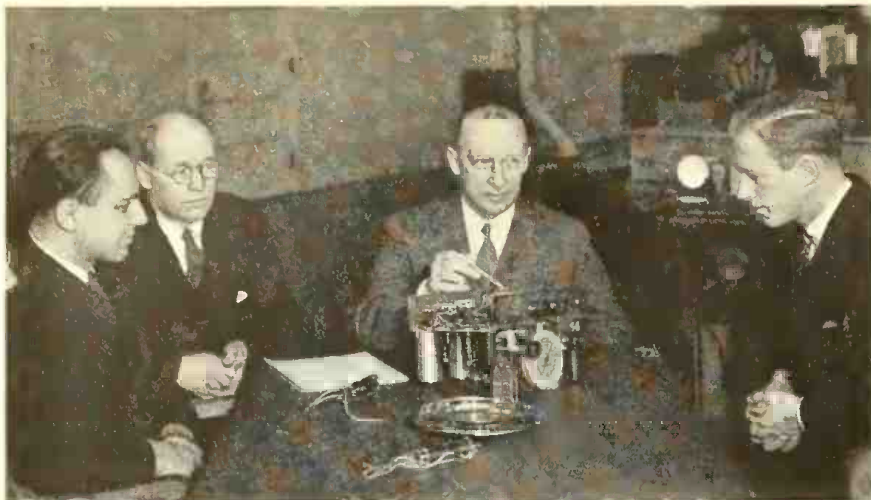
## POLITICAL SPEECHES SHOW ON POWER LOADS

★ When a third of a million extra radio sets were turned on in New York City, Jan. 25, to listen to New York's beloved Al Smith belay the New Deal, the big meters of the New York Edison Company showed an increased power load of 35,000 kw., which continued while the Governor talked from 10 to 11 p.m.

The effect of the Smith speech is shown on load-chart below.

Meanwhile an independent canvass of listeners in 33 cities showed that 23 per cent of the set owners interviewed heard Governor Smith that evening on CBS. In comparison, 19 per cent heard Senator Robinson's reply over the same system. And 33 per cent of the listeners heard President Roosevelt's Jackson Day Dinner half-hour speech of Jan. 8, over three networks. Governor Smith had comparatively more listeners in the East and Far West. Senator Robinson rated highest in the Mid-West, and next highest in the East, with the West Coast and South following.





Huddle in the AK camp, with the chief A. Atwater Kent (center) back in the stir. Otherwise, left to right, are S. Tarzian, Frank Aiken, and A. Atwater Kent, Jr., AK execs.

## GET IN ON THE 2 BILLION

★ Radio biz is certain to feel a stimulus when the veterans get their much manhandled bonus—3,000,000 of them to the tune of about \$565 apiece. Total cash thus put into circulation will be about \$2,015,000,000, and a little more than half of that will be spent in cities over 100,000 population.

American Legion questioned 50,000 vets on what they expect to do with the money. Debts, home improvements and payments, furniture, clothing, cars, machinery and insurance came first. But radios and refrigerators were next.

Cities leading in amounts of cash received are: New York City, \$121,000,000; Chicago, \$84,000,000; Philadelphia, \$44,000,000; Detroit, \$35,000,000; Boston, \$34,000,000; Pittsburgh, \$34,000,000; Cleveland, \$27,000,000; San Francisco, \$25,000,000; St. Louis, \$24,000,000; Baltimore, \$20,000,000, and Buffalo, \$19,000,000.

## SPEAKER STRUGGLE

★ Rumbings are heard in the speaker business. Old timers in the manufacturing end of it complain about the entrance of "indiscreet" newcomers, price-slashing their way into the racket with policies which the vets think can't last long. Quotations on speakers as low as 71 cents are a major headache to the pioneers who insist sternly that speakers can't be made for that.

Whatever the ethics of the situation may be, comfortable levels in speaker prices have been disturbed

and production circles thrown into uproar. And it had to happen just as the business was getting the tonic which is always forthcoming at election time.

## POLITICS AND "PUBLIC ADDRESS"

★ Swift-witted engineers at WOR, Newark, N. J., have made a dignified success out of a special "public-address" service offered by the station to local speech-makers, meeting-holders, and entertainers. Jack Poppele, WOR's chief engineer, reports that the service has been applied to everything but births. Wed-



Edward Klauber, while general managing CBS, ably writes and speaks for the rights of radio.

dings, sport events, and private entertainments are already on the list.

System is complete with amplifiers ready to handle both outdoor and indoor effects; prices range from \$20 per occasion. Jobs of the sort are expected to appear in increased numbers as political candidates begin to storm the voters with elaborate ballyhoo on the 1936 presidential campaign.

## CRISIS OF THE MONTH

★ Exporters of American radio sets regard with interest the turbulent affairs of the German radio industry. Dope is that German competition has been repeatedly encountered in such cities as Madrid, Lisbon, Casablanca (French Morocco), and Istanbul (Turkey), but it now appears that Germans have new difficulties at home.

Confusion in national finance, price-cutting, overproduction and allied matters have resulted in such a vogue of insolvency among important radio companies that the German government has moved to protect what is left. Other protective measures within the industry have failed utterly, sales have fallen, and on top of that the insolvency of the huge Owin Radio Company has been reported.

## ARCHITECTS URGE NEW HOMES BE WIRED FOR RADIO

★ All apartments and private dwellings built from now on should have special built-in wiring for radio and even television, it is advocated in a recent report by the Royal Institute of British Architects made for the British Broadcasting Company. Dr. E. E. Free, summarizing the report, explains that it followed complaints of London apartment dwellers about poor reception of ordinary radio. Believing most of these complaints due to difficulties with the houses or neighborhoods rather than with the quality of their broadcasts, the Broadcasting Company asked the Institute to investigate.

A scientific committee did this and places most of the blame, as was expected, on poor penetration of the radio waves inside houses or on interference from local electric machinery, just as has been found to be true for similar conditions of bad reception in American cities, comments Dr. Free. The London committee, how-



ever, went further into the matter and recommends several methods of installing antenna systems in apartment houses, so that each tenant can be supplied with antenna service without interfering with others. Means of preventing local interference from elevators, refrigerating plants and so on also are suggested. Builders and architects are urged to provide such radio facilities when houses are built.

## PRIVATE LIVES

★ Nest-feathering notion on the part of listeners in homes where there are two or more radio sets is the simple revival of the headphone. Clashes in listening schedules, it is true, do not often end in Reno, but many a subzero glance has traveled around the family circle because somebody wasn't in the mood.

Some set makers have made provision in one way or another for plugging in a headphone, and there will be more of this activity than ever now that there are 3,000,000 homes with two or more sets.

## N A B FUNCTIONS

★ Board of Directors of the National Association of Broadcasters names Chicago for next annual membership meeting of NAB, to be held during the last half of July, 1936, after the national political conventions. Board also considered reports on Federal and State legislation, State litigation, and matters arising from the famous case of United States vs. American Society of Composers, Authors, and Publishers.

From Washington NAB headquarters came announcement of committees. The commercial group:

Arthur B. Church, chairman, KMBC, Kansas City; Edwin M. Spence, WBAL, Baltimore; H. K. Boice, CBS; Edgar Kobak, NBC; I. R. Lounsberry, WGR-WKBW, Buffalo; H. K. Carpenter, WHK, Cleveland; W. W. Gedge, WMBC, Detroit; Martin B. Campbell, WFAA, Dallas; Hugh A. L. Half, WOAI, San Antonio; Herbert Hollister, WLBF, Kansas City, Kan.; John J. Gillin, Jr., WOW, Omaha; Harold Wheelahan, WSMG, New Orleans; Campbell Arnoux, WTAR, Norfolk; S. A. Cisler, WJTL, Atlanta; D. E. Kendrick, WIRE, Indianapolis; J. O. Maland, WHO, Des Moines, Ia.; C. Ellsworth Wylie, KHJ, Los Angeles; Ralph R. Brunton, KJBS, San Francisco; Fred A. Palmer, WBNS, Columbus; C. W. Myers, KOIN, Portland.



World's tiniest transmitter, pocket size, but it reaches 4 miles. Built by NBC engineers, under Boss Hanson.

Ore.; Carl Haverlin, KFI, Los Angeles.

The engineering group:

J. A. Chambers, chairman, WLW, Cincinnati; C. W. Horn, NBC; E. K. Cohan, CBS; E. L. Gove, WHK, Cleveland; John E. Burrell, KJBS, San Francisco; J. H. DeWitt, Jr., WSM, Nashville, Tenn.; Carl Meyers, WGN, Chicago; John E. Fetzer, WKZO, Kalamazoo, Mich.; John V. L. Hogan, W2XR, New York, N. Y.; H. C. Harvey, KFAB, Lincoln; James M. Nassau, WIBG, Philadelphia; L. A. Benson, WIL, St. Louis, Mo.; Hugh S. McCartney, WCCO, Minneapolis; J. L. Middlebrooks, WAPI, Birmingham; Gerald W. Cooke, WBAL, Baltimore.

## RADIO RAIN 'ROUND WCKY

★ L. B. Wilson, WCKY's president, had no idea of producing rain when he ordered a new 350-foot Blaw-Knox tower installed at the transmitter near Cincinnati. However, Charles Topmiller, chief engineer, has just reported an interesting phenomenon.

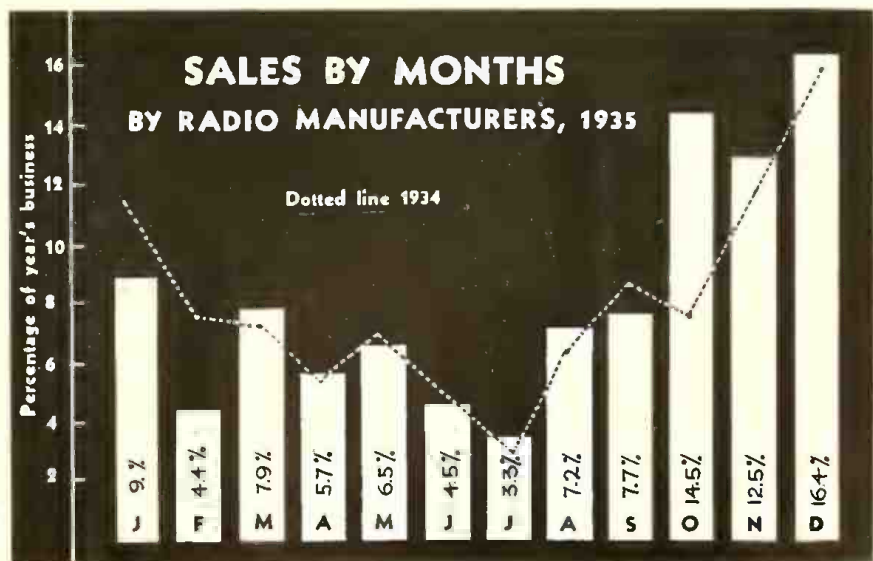
After the tower had been set up, rain clouds began passing the upper section. Hitting the steel structure, the moisture was condensed and rain fell within a radius of about thirty feet about the tower. This happened on four consecutive days, Topmiller reported.

## MONTHLY RADIO-SET PRODUCTION; EXCISE TAXES

★ Excise taxes paid by radio manufacturers on factory sales of radio receivers, give the only available month-by-month index of radio-set production. These tax figures do not, however, include automobile radio sets which are taxed under another classification as "auto accessories."

The chart of receiver sales by manufacturers, on this page, is based on U. S. Treasury tax reports for 1935 and 1934. For 1936 it is expected that the production and factory-sales curves will be considerably higher in the spring months, owing to earlier models, larger automobile-radio output, delayed January and February purchases, and above all intense mid-year political activity, starting with the June conventions.

The Republican national convention will be held at Cleveland, June 9; the Democratic convention at Philadelphia, June 23.



# MAKE RADIO HANDY ALL DAY LONG

- equip families for "complete listening" this political year of 1936
- auto radios, office radios, prolong listening; keep business men in touch
- sell extra home sets for kitchen, bedrooms, youngsters, servants

★ RE-SHUFFLE the cards a little, and radio dealers will have a perfect hand for 1936.

The game will be more brisk than ever, in spite of the alarmist philosophy that the high point of radio interest has been reached already.

\* \* \*

Because America has no virgin frontiers to absorb its expansion, the depression arrived, according to some economists.

Because the radio industry has only a narrow margin of radioless homes left to sell to, radio can never again run up the big sales it made in 1928 and 1929 — according to some business prophets.

They look at the 31,000,000 total homes in the United States, and see that 22,500,000 of them already have radio sets. So, they say, the big job of equipping America with radio sets is about finished. They conclude that this country has little further radio frontier to develop and expand into. Saturation is upon us, they think. And from now on, radio, they insist, will be chiefly a replacement business.

Of course they are right about the big replacement business. This must go on. For even at the present level

of the radio-receiver business — 5,700,000 to 6,000,000 sets sold annually — we are putting only about 3,000,000 sets a year as replacements into homes that already had radios. So, each year, we are replacing only one existing radio set out of every seven sets in use. Surely this replacement business can be speeded up, with all the new features and new items 1936 radio offers to make old sets obsolete.

## Listeners out of touch

But there is still another vast frontier for new radio-set sales.

This is measured by the many hours each day that *present radio listeners are out of touch with their sets.*

The Smiths have a radio in their living room. But when Mr. Smith goes off to work or business, the use of that radio set is lost to him, and continues lost until he returns in the evening.

Mrs. Smith has household duties in the kitchen or in another part of the house. So except for a little period of the afternoon, Mrs. Smith is also out of touch with radio and all the splendid informative programs.

Already Mr. Smith has taken a

step to correct this situation as it applies to himself. He and 3,000,000 other Mr. Smiths have installed radio sets in their automobiles, to prolong their radio contacts. So, as they motor to town or to the office, they tune in on the morning news, and market reports, and are able to take advantage of these invaluable radio services. And if Mr. Smith has to be running about in his car much during the day, he can also pick up news bulletins and keep in touch with the world.

And that evening on his way home in his car, he can again get radio news and steal a beat on his newspaper reading for the evening. Some business men are known to leave their offices regularly in time to pick up the market returns by auto radio as they motor home. Thus they combine the times needed for travel and market reports.

But though Mr. Smith has his automobile radio and so has prolonged the hours of his listening to some extent, he is still radio-less all day long at his office. Or at least, most business men are. Yet all day long the air channels are filled with business news, market reports, Washington events, statements by public officials, and other news events of vital interest to every executive and business man.

## Office radios

In many cities, important executives pay sums up to \$100 per month for automatic tickers to get direct reports of the news events of the world as fast as they happen. Yet for the price of a radio set, and at a carrying charge of 15 cents a month, the busy business man can have an office radio and tune in on all the important news features that are streaming through the ether.

No business man would think of being without a telephone. Yet his telephone permits him to get messages from only a limited number of nearby callers. His office radio set, on the other hand, enables him to get messages from the whole world outside, and so to obtain a general picture far broader than telephone and daily paper together can bring him. An



Hot from Wall Street, or other key spots, come the news flashes for the office man who is wise enough to keep a radio on the job. Picture shows new Western Electric public-address panel with Stromberg-Carlson radio.



Cars without end, and every last one a job for the auto radio dealer, are being rolled out by the big auto manufacturers — Chrysler, in this case.

office radio is as essential today as an office telephone.

(And remind Mr. Smith, too, that next summer the radio set will come in handy afternoons during the baseball season!)

With an automobile radio and an office radio, Mr. Smith is pretty well fixed to keep in nearly continuous contact with the restless air waves. One additional facility he still needs between times—a “pocket radio”—something that can be whisked out of his pocket like a fountain pen or watch, and that will bring in news broadcasts, market reports, time, etc. Such pocket radios are now being worked on in several laboratories, and by the time the radio trade has gotten most of the Mr. Smiths properly equipped with auto radios and office radios, there will undoubtedly be pocket radios on the market and in the dealers’ hands, to fill in the remaining gaps in Mr. Smith’s listening.

### A radio in the kitchen

But while Mr. Smith is making use of his automobile radio and office radio, what about Mrs. Smith and the other members of the Smith family at home?

Probably there is a first-rate radio set in the living-room (even if it is three or four years old!). But this living-room set may not be heard very conveniently in the kitchen or other workrooms of the home where the household chores are to be done. So it is left silent. Then put it down in your notebook that *Mrs. Smith needs a kitchen radio set*. And if she has a maid, this set can serve as the maid’s own source of independent entertainment.

Upstairs, too, there is women’s work to be done. The sewing room needs a radio receiver, too.

### Sets for young, for old

The daughter of the house probably likes to listen to jazz orchestras long after bedtime for the rest of the family. Fix her up with a separate set. And arrange it with a headphone connection, so that she can listen long after the rest of the household is asleep. Slipping the headphone under a pillow, makes a handy “radio pillow” which enables the listener to follow late programs without disturbing anyone else. And if there is a boy in the house, his taste in radio programs will be absolutely opposite to that of his sister—so he will need another radio! And be sure it’s “all-wave,” and installed with a proper short-wave antenna capable of receiv-

ing everything that Europe offers!

Old folks in the family have their own special tastes in programs. Mostly they like talks, and lectures and speeches. Or perhaps music of a particular kind which may boor the younger crowd. So, a little set for the old folks!

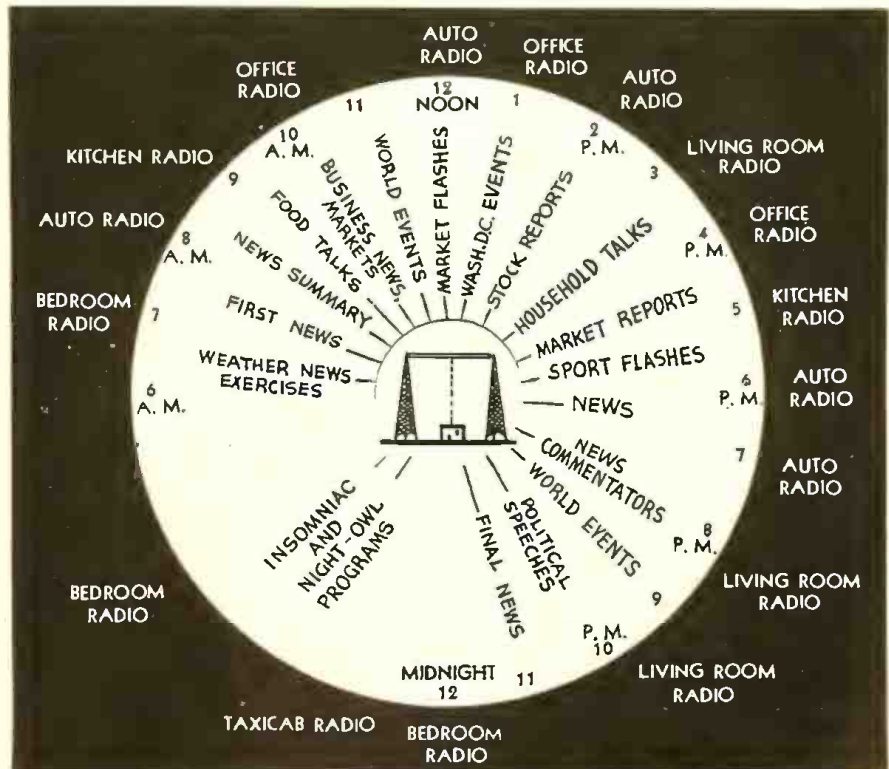
### Game-room, chauffeur

Then there’s the game-room to be fixed up with radio, as a background while the iced glasses tinkle and the billiard or ping-pong balls click. So check off another set for the game-room.

If there’s a chauffeur, or gardener or hired man on the place, he will need a radio. Its small cost will keep him satisfied and happy with his job, and be worth many times the outlay.

And so the radio dealer can go on, studying the living conditions and radio needs of his customers and offering to provide the radio equipment necessary at each point. For radio is now thoroughly “sold” to the American public and the American Family. The radio man simply has to show each comfortably fixed household *how to make the best use of the fabulous riches of the air*, showered freely over the landscape by the benign broadcasters.

And 1936 is the year, above all years, to get the Smiths’ and all other American households fully equipped with radio listening facilities.



Different sets, conveniently located, are needed for a full day of listening.

# RECEIVERS TODAY

- set manufacturers turn to new mechanical features
- attention focussed on tuning dials, controls

★ **GADGETS** seem to be the keynote of this year's designs in radio sets. Many circuits and devices, adding to convenience in receiver operation, are to be incorporated to make for easier adjustment and better performance. Catch phrases and names used to describe these features will make selling easy, particularly in the case of replacements, for the customer will be conscious of their advantages in common every-day broadcast reception.

## Volume expansion

Automatic volume expansion has stepped out of the laboratory and will find considerable use in the over-one-hundred-dollar sets, at least. Crosley has just announced several models employing a simplified volume range expander known as the "auto expressionator." The principle involved is extremely simple and has no critical adjustments to complicate servicing.

Two special bulbs are employed in the speaker circuit which take about half of the power output at normal volume levels. As the output increases the resistance of the bulbs changes and they consume a smaller percentage of the total power. In this way the power delivered to the speaker increases faster than output of the radio.

Other methods of expansion, prob-

ably electronic in nature, will be utilized as the year progresses. RCA-Victor had an electronic expander in last year's 22-tube phonograph combination.

## Telephone dial tuning

Telephone-dial and push-button tuning are being seriously considered. This most needed improvement will do away with difficulties in properly tuning the set—it will no longer be necessary to tune back and forth to bring the station into resonance. A push of a button or twist of the (telephone) dial tunes in the station quickly—no effort, no careful watching of a resonance indicator are required. A limited number of stations, predetermined by and set for the customer's location, will be available.

Drift of the oscillator and its consequent detuning of the set will be eliminated by automatic frequency control.\* This arrangement is electronic in nature and keeps the set in perfect tune even if the original tuning, without this control, were slightly incorrect. Inaccuracies in manual tuning, oscillator drift, line voltage variations can be corrected so that the actual error is only a few cycles. The main use of automatic frequency control will probably be in connection

\*One method is described by Charles Travis, *Proc. of I. R. E.*, October, 1935.



"Dial your station" as the Radio City officials do. This may become latest radio style before 1936 is over.

with high-fidelity and automatic tuning receivers.

## "Static eliminator"

Announcement of a "static eliminator" received considerable attention in the daily press this month. While primarily designed for use in code reception, the scheme proposed has possibilities for use in broadcast receivers. However, it is not a cure-all for static of all descriptions. The static is eliminated by "blocking" (rendering inoperative) the set for the duration of the crash or click through the application of an extremely large negative bias to one of the i-f. amplifiers. The device is limited to static of greater strength than the received signal; fortunately this is quite often the case.

Tests by the American Radio Relay League of Hartford, Conn., have demonstrated that most of the annoying static crashes are many times greater in signal strength than the signal and of extremely short duration, less than 1/1000 of a second. In the receiver the crashes seem longer because the speaker and baffle vibrate after the crash has gone. It is claimed that the blocking of the set for extremely short periods of time is not noticeable.

Among other developments in receivers is automatic selectivity control, whereby the set is allowed to pass the high frequencies only when the signal level is great enough to overcome background noises. If there is not sufficient signal strength for satis-



A resistance-variation of volume-range expansion is used in Crosley's "auto expressionator." Maximum-minimum limits are extended, adding brilliance.

factory high-fidelity reception the selectivity of the circuits in increased to what is normal fidelity.

Large dials are being used with an ever increasing number of receivers. One manufacturer, it is rumored, will introduce a set with a dial some fifteen or eighteen inches in diameter, around which the cabinet will be styled. Dials with figures on a dark background are in vogue.

Such things as line filters, electrostatic transformer shields, i-f. wave-traps are being utilized more generally, in an effort to better short-wave reception. And most of the big outfits have all-wave antennas designed to operate with their sets.

Cabinets reflect a modernistic styling; sharp, square corners have been replaced by smooth roundings. In table style receivers the rather flat, elongated cabinet with symmetrically placed speaker and dial on each side of the center is being featured.

More metal tube receivers in the AC-DC types will be the result of recent developments in tubes for these sets. Already automotive receivers utilizing the metal tubes have been introduced.

With the manufacturers incorporating many new improvements—really tangible to the public—selling new radios should be simplified, although some of the new circuit features will give headaches to many a serviceman.

## EMPLOYEES CRAVE RADIOS

★ Graybar Electric, in an ambitious survey among employees, found out that 3,708,000 radio sets would be purchased in the United States from the time that business conditions began to improve, until the end of 1935. Figures were arrived at from a deferred-purchase survey of 1,110 people, "located in 73 principal commercial centers of the United States, extending from coast to coast and covering every important state in the union," representing typical American wage earners.

Graybar executives, back in 1932, asked the 1,110 what they would buy, when they could, and the results are interesting today because many are now in position to do that shopping. Eighteen per cent of them said they'd buy radios, which ranked ahead of heating equipment and ironing machines. Convincing, it seemed, that so many rated radio above stark necessities, and it has been pointed out that with radio reception so enhanced today with improved sets and programs, the interest in sets would be even greater, if recorded again.

# METAL TUBES; GLASS TUBES

- price changes narrow differences in costs
- wider margins for dealers and service-men

★ The all-metal tube comes into its second year with its manufacturing problems pretty well solved. Some eight million all-metal units were turned out in 1935.

Price reductions during the first two months of 1936 have narrowed the differences between glass and metal-tube schedules, but a considerable section of receiver manufacturing output still adheres to glass tubes and probably will continue to do so, for the first three quarters of 1936 at least.

## RECEIVER-DESIGN SHAKE-UP

★ Introduced as a stimulant to radio-set buying on the part of the public, metal tubes have also served to shake-up receiver design in various directions. The introduction of such a radically new idea into the tube end has opened designing engineers' eyes to new possibilities and new departures in circuits, materials, mechanical attachments, etc.

In the wake of the metal tube for several seasons to come, will undoubtedly be found new receiving-set refinements which owe their existence psychologically, at least, to the more open state of mind of set designers.

## "METAL" REPLACEMENTS FOR GLASS TUBES

★ Ingeniously taking advantage of the great public interest aroused by metal-tube publicity, and the consequent desire of many listeners to put "some of those new metal tubes" into their old pre-1935 receivers, the Arcturus company has just brought out a new line of Coronet-seal replacement tubes having characteristics of familiar glass tubes. These new type replacement tubes have the octal base, but adapters or "modernizers" are supplied, which fit into the old sockets and so provide receptacles for the new replacement tubes. Prices of the new tubes are comparable with the metal-tube line. The "modernizers" retail at 30 cents each.

These new replacement tubes therefore provide a needed feature of wider profit margin for the dealer and service man. While the performance of the new tubes closely parallels glass-tube performance, on short-wave, they are claimed to give even greater sensitivity. Replacements for about 20 of the most-used glass tubes are now being made available in Arcturus line.



How the new metal-type replacement tubes are installed in an old chassis. An Arcturus Coronet tube being inserted into a "modernizer" or adapter. Center socket shows tube and adapter in place.

# SHORT-WAVE; ALL-WAVE

- half of present receivers mute to European stations
- scientific antennas needed by 90% of listeners
- European news listed by Short Wave Institute

★ "SHORT-WAVE" offers the radio dealer and service man opportunities for extra sales and service, which are still being generally overlooked.

A year or two ago the broadcast listener who acquired short-wave reception was left to his own devices as to what programs from abroad he might hear. He had to fiddle with dials, and tune long hours until he located the dependable stations regularly received in America.

But now short-wave listening is made easy. The principal radio manufacturers have issued splendid guides to the short-wave channels, and point out stations and programs which will be found most satisfactory. The Radio Manufacturers Association issues a complete short-wave program service for the benefit of newspaper editors all over the country, and now has hundreds of these dailies printing its advance schedules. The Chicago Shortwave Club has prepared excellent schedules. And a newcomer in short-wave circles is the Shortwave Institute of America, with headquarters at Wash-

ington, which has just issued a most useful list of news broadcasts from Europe, in both English and other languages.

News has now become one of the most popular program features on the air. But with the abbreviated news broadcasts, which are the only news offerings available in some territories, listeners are seeking more complete and more prompt news. For these listeners the news services of Europe provide the answer. With Europe five to six hours ahead of the United States in time, news broadcasts are on the air for early risers before American newspaper presses have started rumbling out their city editions.

## News while it's hot

The tabulations below, compiled under the direction of Oswald Schuette, president of the Short Wave Institute, Press Building, Washington, D. C., and copyrighted by the Institute, will be found of great value to short-wave listeners desiring to get their international news from Europe while it is still hot.



Battle news now comes direct from firing-line to American listeners, for these tanks have short-wave transmitters to send back news from the very front.

## NEWS BROADCASTS FROM EUROPE IN ENGLISH

| Eastern Standard Time | Country | Frequency (megacycles) |
|-----------------------|---------|------------------------|
| A.M.                  |         |                        |
| 4:30                  | Germany | 9.54 & 15.2            |
| 4:45                  | France  | 11.88                  |
| 5:15                  | England | 9.51 & 15.14           |
| 7:00                  | France  | 15.24                  |
| 7:00                  | Germany | 9.54 & 15.20           |
| 8:00                  | England | 15.14 & 17.79          |
| 8:45                  | Germany | 9.56                   |
| 10:45                 | Italy   | 11.81                  |
| 11:15                 | Germany | 9.56                   |
| 11:30                 | England | 9.51 & 11.86           |
| P.M.                  |         |                        |
| 1:00                  | England | 9.51 & 11.75           |
| 1:30                  | Italy   | 9.64                   |
| 2:00                  | Germany | 6.02 & 11.77           |
| 2:30                  | France  | 11.88                  |
| 4:00                  | Germany | 6.02 & 11.77           |
| 5:15                  | Spain   | 9.87                   |
| 5:25                  | England | 9.51 & 9.58            |
| 6:00                  | Italy   | 9.63                   |
| 6:30                  | Spain   | 9.87                   |
| 7:45                  | England | 6.05 & 9.58            |
| 8:00                  | France  | 11.72                  |
| 8:15                  | Germany | 6.02                   |
| 11:00                 | England | 6.11 & 9.58            |
| 11:20                 | France  | 11.72                  |

## NEWS BROADCASTS IN OTHER LANGUAGES

| Eastern Standard Time | Country | Frequency         | Language   |
|-----------------------|---------|-------------------|------------|
| A.M.                  |         |                   |            |
| 4:15                  | France  | 11.88             | French     |
| 5:45                  | Germany | 9.54 & 15.2       | German     |
| 8:00                  | France  | 15.24             | French     |
| 8:45                  | Germany | 9.54 & 15.2       | Dutch      |
| 10:15                 | Germany | 9.54, 9.56 & 15.2 | German     |
| 11:15                 | France  | 11.88             | Arabic     |
| 11:15                 | Germany | 9.54              | Dutch      |
| 11:30                 | France  | 11.88             | French     |
| P.M.                  |         |                   |            |
| 12:15                 | Germany | 6.02 & 11.77      | German     |
| 1:30                  | France  | 11.88             | French     |
| 2:00                  | Italy   | 9.64              | French     |
| 2:45                  | France  | 11.88             | Italian    |
| 3:00                  | France  | 11.88             | French     |
| 4:00                  | Germany | 6.02 & 11.77      | German     |
| 5:30                  | France  | 11.88             | Spanish    |
| 5:45                  | Germany | 6.02, 9.54 & 9.56 | German     |
| 5:45                  | France  | 11.88             | Portuguese |
| 5:45                  | Spain   | 9.87              | Spanish    |
| 6:15                  | Italy   | 9.63              | Italian    |
| 7:15                  | France  | 11.72             | French     |
| 7:15                  | Germany | 9.54 & 9.56       | Spanish    |
| 7:30                  | Italy   | 9.63              | Italian    |
| 7:40                  | France  | 11.72             | Spanish    |
| 8:15                  | Germany | 9.54 & 9.56       | Spanish    |
| 9:00                  | Germany | 6.02, 9.54 & 9.56 | German     |
| 10:30                 | Germany | 9.54              | Spanish    |

All news broadcasts are parts of longer programs.

These schedules have been compiled from advance information issued by official sources. They are subject to magnetic conditions and to program variations, both as to time and frequency.

Tune SLOWLY and PRECISELY to the megacycle indicated. If one frequency fails to respond, try the others allotted to the same country—using higher frequencies in daytime, lower at night.

For the principal countries, these follow, in megacycles:

England—6.05; 6.11; 9.51; 9.58; 11.75; 11.86; 15.14; 15.26; 17.79.

France—11.72; 11.88; 15.25.

Germany—6.02; 9.54; 9.56; 11.77; 15.2; 17.76.

Italy—6.08; 9.64; 11.81.

# SELLING AUTO RADIO

- three kinds of drivers; their listening habits
- like "reading a newspaper as you drive"
- high points of the new 1936 auto-radio lines

★ VALUABLE insert into auto radio salesmanship today is the matter of driving habits, to be used seriously and consistently as an indicator of listening interest.

Time was when everybody who owned a car and showed signs of buying a radio set for it, was treated exactly alike. Now, there is a special way of dividing them up and giving the sales chatter a more specific and concentrated tone.

There are, clearly enough, a group of drivers who make long trips regularly and swiftly; second, a class of car owners who drive almost exclusively to and from their business, and a third batch of auto owners who regard driving as a sort of mild adventure.

## Best bets for each

Big-scale drivers, makers of long trips, should be told that they had better get the weather reports from areas into which they are headed; radio is always quickest on the trigger in such cases. Otherwise, when the drive is to last for hours at a stretch, there is enough variety in broadcast features to make the hours pass in a hurry.

Goers and comers among the business men who live at a distance from their work should have it pointed to them that to be able to listen in while driving is equal to reading a morning or evening newspaper. Market reports and business news flashes are popular among these drivers, and political news is beginning to have such a sting to it these days that nobody wants to miss it.

These listeners will find that broadcast schedules are pretty well adapted to such listening; the news flashes come at about the right time.

Thousands of persons drive around for the fun of it, no matter what the season. This is an age of heaters, ash-trays, wind-shield wipers, overstuffed seats. Livelier air bills will intrigue this group, and if they are inclined toward casual and aimless driving they should be encouraged to try some stirring radio programs amid the luxurious fittings of their cars.

If a salesman wants to get lyric about such apparently non-lyric ob-

jects as auto receivers, he may go into a romantic description of the peculiar charm of listening to music while the entertaineer is in motion on balloon tires.

## Special appeals

With many new and valuable technical advances reinforced by appealing phrases from the ad-writer's desk, 1936 auto radios will find popular acceptance.

A slogan that might well be adapted to selling auto radios was originated by one manufacturer, "Every mile is a happier mile with a Philco in your car."

The outstanding technical feature this year is that the customer can have a receiver with custom-designed instrument panel controls for his particular type of car. By purchasing his auto set through a radio dealer he can have the choice of a number of different chassis and speaker arrangements.

The Arvin tailor-fit series of radios boast some 23 types of panel controls, 9 different speakers, and three chassis as well as several standard steering-column models. There are approximately 275 combinations which may be installed in the cars on the market today. A noise filter known as filter-

loc does away with the need of ignition suppressors. One model has metal tubes.

Motorola key their sales appeal on the magic eliminode—a rather complicated, but efficient filter system giving noise-free reception. Dash mountings and various speaker combinations are available, with special emphasis placed on twin speakers for even sound distribution. Two metal-tube and two glass-tube chassis are available.

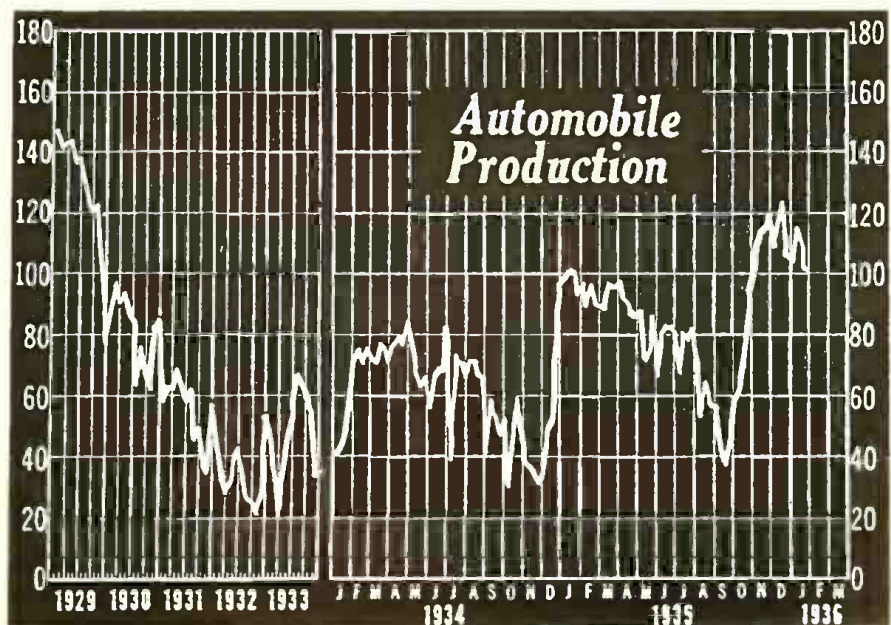
Safety is Zenith's main theme. The big black dial of its home radio is modified for automotive use. An illuminated pointer makes for easier and safer tuning because less attention is required, and when the station is tuned in, the dial light may be turned off so that there is no blinding effect. Metaglas tubes in five chassis with numerous panel controls and speakers round out the Zenith line.

## Short-wave bands

From the West Coast comes the announcement of a dual-wave receiver by Remler. This set covers both the broadcast and shortwave bands. It employs metal tubes and derives its plate power from a dynamotor instead of the conventional vibrator-rectifier system.

Practically every radio is designed for use with either a roof antenna or running-board antenna. Many of the sets have antenna filters to eliminate noise, some use iron-core radio frequency transformers for higher gain and better selectivity. Trav-Ler employs a method of introducing a rejector voltage into the antenna sys-

(To page 22)



This chart, compiled by N. Y. Times, shows how auto production was pushed both upward and two months ahead, this season.

# RADIO REACHES OUT



Picture telephoned—above (left) is a photo “played” into a distant phone mouthpiece and received at the N. Y. Mirror Labs of Walter Howey and Ben Woodward. Below (left) is a skeleton violin with its tones being amplified by a radio loudspeaker, with which Arthur Allen starts things.

Above (right) is the receiver which directs the radio-controlled model of “Old Ironsides,” only miniature vessel so equipped. Below (right) is a scene in the television studios of the “Safar” Radio Corp., Milano, Italy. Mussolini is determined that British shall not out-televiser Italy.



# BUSINESS CONTROL

- radio dealer must know facts about his operations
- “percentage ratios” important in studying dollar volumes
- limits of expense, beyond which dealer must not go

★ PLANS for the future of any business are of value in exact proportion to the extent and the correctness of the data on which they are based. No amount of hope can replace facts in real plans.

The starting point should be an actual physical inventory, at retail price, of current stocks.

The inventory should be classified by line and by price group, and should be analyzed by model, and age, so that you may know just how much you have invested, just where it lies, and the degree with which it is turning over.

Check your sales and purchase records against your inventory (if you do not operate a unit stock control) to learn exactly the rate of sale of the several models and price groups and the trend of these sales.

## Don't pile up loss

With this information available, you should mark down the prices of non-moving and slow-moving models to a level that will insure their elimination from your stock in a reasonable time, and without an unreasonable loss.

With knowledge of the models that do move, you can buy with confidence, maintain your assortment of wanted models, and not lose sales by reason of being out of stock.

This is an excellent time to put into operation the stock control method as outlined in December RADIO TODAY. This record will serve as a constant source of reliable data for the guidance and control of your business, and the basis for future planning. It is worth many times its cost.

Your books should also be closed as of the inventory date and a classified profit and loss statement prepared. Each classification of expense should be expressed in dollars, and in % of sales for the purpose of comparison and control.

If you are to intelligently plan your business for 1936 and the future, facts are necessary. Your books of account and record should provide specific and accurate answers to the

following, and if they do not, an accountant should be invited to organize them so they will readily provide this data.

1. What was the annual sales volume?  
(a) Gross. (b) Net. (c) % change from last year.
2. Gross Margin?  
(a) In dollars. (b) In % of sales.
3. What was the expense of conducting the business?  
(a) In dollars. (b) In % of sales.
4. Did the business show a profit or a loss?  
(a) How much, in dollars and in % of sales? (b) Why?
5. Was stock maintained in proper relation to sales?
6. Was stock assortment adequate?
7. Were markdowns heavy. If so, why?  
(a) Assortments wrong. (b) Stock too heavy. (c) Competitive price cuts. (d) Price lines wrong.
8. Did stock turn uniformly?  
(a) % of total sales in each price group. (b) % of total sales in each line. (c) % of sales by type of model (compact, table, console, etc.).
9. Were expenses in line with accepted standards?  
(a) In total. (b) In each major classification. (c) If not, why not?

If your total expenses, including your own salary, are in excess of

35% of net sales, you should carefully check your classified expense accounts to see where reductions can and should be made. As a rough guide in the control of expense, the following figures, taken from many years' experience, indicate the maximum % of sales which may appropriately be expended in each classification:

|  |     |
|--|-----|
| RENT and OCCUPANCY, including heat, light, power, cleaning ..... | 8%  |
| DELIVERY, including receiving and handling.....                  | 4½% |
| And 15% depreciation of equipment.                               |     |
| ADVERTISING .....  | 5%  |
| SELLING, including ½ owner's salary .....                        | 8%  |
| SERVICE, including ½ owner's salary .....                        | 8%  |
| And 15% depreciation of equipment.                               |     |
| Miscellaneous, including interest, insurance and bad debts ..... | 1½% |

The TOTAL is..... 35%

Please bear in mind that these figures are *not* goals, but are the *maximum which should be permitted* without swift and certain action. The author of these lines has operated a radio business at an expense of less than half the above limits.

It is, of course, a well known fact that expenses, as expressed in % of sales, vary rather substantially with sales fluctuations. It is usually the case that a business which is being operated at a small loss or profit can be put on a satisfactorily profitable basis better through increase of sales volume than through reduction of expense.

### FROM EACH DOLLAR YOU COLLECT

|                                |                 |
|--------------------------------|-----------------|
| Rent, occupancy                | ¢ ¢ ¢ ¢ ¢ ¢ ¢ ¢ |
| Delivery, handling             | ¢ ¢ ¢ ¢         |
| Selling                        | ¢ ¢ ¢ ¢ ¢ ¢ ¢ ¢ |
| Advertising                    | ¢ ¢ ¢ ¢ ¢       |
| Service                        | ¢ ¢ ¢ ¢ ¢ ¢ ¢ ¢ |
| Misc. (int., ins., bad debts)  | ¢ ¢             |
| <b>Total not over 35 cents</b> |                 |

# THE RADIO "DEALER'S DIGEST"

Boiled-down essence of successful sales campaigns and merchandising plans

## *Radio for radio's sake*

★ Dealers and distributors of three radio lines dropped the competitive spirit in Seattle recently and staged a wow of a radio show and broadcast series. Representatives of the RCA-Victor, General Electric, and Grunow makes were joint sponsors of a week-long series of afternoon variety shows presented by artists from Seattle stations KOMO and KJR. Interest ran high and the sponsors noticed a buying streak of considerable importance.

Auditorium at the Frederick & Nelson department store was the center of the works. Programs were broadcast by the two local stations, and sales demonstrations for the three makes of radios were made after the broadcasts. Sponsors emerged from the event to declare that radio itself is one of the best possible advertising media for the sale of new models.

## *Advertising for dealers*

★ New source of sales stunts and merchandising ideas for dealers is an afternoon broadcast which began middle of last month and will continue until June 27 on WOR and Mutual stations.

Series, which dealers may tune in

on at their stores from 4:45 to 5 p.m. on Saturdays, will present advertising experts, outlining new trends and devices in the field. Specific suggestions are being made as to ad tricks and novelties.

Feature is sponsored by the magazines *Advertising Age*, *Printer's Ink*, *Advertising and Selling* and *Tide*, with the co-operation of the Mutual Broadcasting System.

## *Wax for dealers*

★ Flashing analysis of the music copyright situation, concerning music which may be broadcast without legal rumpus, has been made by Standard Radio, Inc., Chicago, makers of transcriptions. Stations which subscribe to the Standard program library have been told, in one-syllable words, the plain facts of the case. Broadcasters in New York, Colorado, Texas, North Carolina and Montana have recently subscribed to the service.

Here may be a spot for radio dealers to connect with local stations who own the libraries, select a program and plug their business on the air. The device has been highly successful among dealers who have thus advertised tune-up offers, trade-in specials, and new model announcements along with a lively program.

## *Nifty tube display*

★ Radio tube display in the wall is increasing sales of tubes for Leyden-Jameson & Co., Denver, Col. The testing machine is fitted into the wall, with a large opening the shape of a tube over it. With a light behind the glass in this large sign, "Radio Tubes" is always illuminated. Mirrors to the left and right are also set into the wall to give depth to the store.

Mass merchandising effect of tubes is created with the shelf cut into the wall just the height of the width of a box. The boxes are stacked in the back room, so that pulling one out lets another fall into place — slot machine style.

## *Dealers fete women's clubs*

★ Bright work is being done in some quarters in the matter of afternoon musical programs, with dealers as hosts to local fans among the women. Club leaders become interested very readily if the program details are attractive, prominent names become associated with the project, and the series thrives.

Clubs will often take over the programs and sell tickets for the benefit of the organization. Thus the group solves the problem of attendance for the dealer. Names of all guests are kept by the dealer-host to add to his prospect lists.

## *Name display has pull a-plenty*

★ Eddie's Wireless Exchange is cashing in on the fact that many of Newark's big shots are among its regular customers. Edward I. Trachtenberg, manager, 29 years at the spot and once dubbed "the Mayor of Bank Street" because he knows everybody in town, keeps the names of his well known customers in a huge display on the wall. It catches the eye, and Mr. Eddie says that people actually try to get on it by buying radios or parts. Seventy-five names, all of them known to Newark folk, appear on the list, including the New Jersey governor, senators, bankers, business and civic leaders, brokers and political biggies.



Mexico presents — a method of display, featuring a massed effect of receivers. This arresting sample brought from Mexico City by Ovid Riso, of RCA.

## L. A. dealers do time

★ Throwers of radio parties may have the feeling that everything's been done before, but the W. Bert Knight Co., Los Angeles, broke into the headlines with an utterly new way to be a host. Knight Co. is the West Coast sales representative of the Clough-Brengle Co.

Knight's fixed up their place to represent a prison, complete with cells, bars and stripes. Invitations were issued in the form of commitment orders, which looked impressive with their official phrases, "plaintiff," "defendant," "Order No. 1234-567," "detention barracks," etc.

W. Bert Knight added: "Through political help we went so far as to have a police squad car pick up those who were undecided as to whether they could be present or not."

## Hinterland doubles sales

★ By extending its sales horizon, E. E. Forbes & Sons in its Decatur, Ala., store doubled its sale of radios last year and expects to do even better this season. Although located in a medium sized city and in a small store that rents for only \$25 per month, this concern sold 300 radios in 1934, also a quantity of electric refrigerators and pianos.

"Since we are located some 100 miles from a large city, we decided to go after the hinterland business and placed salesmen in a half-dozen adjoining small towns," said George Jordan, manager. "People out in these places had not been worked to death by appliance salesmen and be-

sides they had the money from crop benefits with which to buy. Our sales immediately jumped.

"As an aid to these territorial agents we began to use the classified columns of the newspapers in a half-dozen towns including our own and we obtained prospects by the hundreds. We would for instance advertise a radio which could be obtained for the 'balance of the payments.' This would bring numerous inquiries to be distributed among our salesmen. We have made as many as 16 sales from one classified display and mostly new radios.

"We pay our salesmen a commission of 10 per cent plus expenses. They also act as our collectors for all merchandise including refrigerators and pianos sold by the store."

## Program streamers

★ Radio Institute of Audible Arts has made a lively move to help dealers sell programs in a big way. Theory is similar to that involved in *RADIO TODAY's* editorial emphasis on the fact that "Million Dollar Programs Go With Every Set We Sell," and the RIAA will dramatize program values as a selling device for the "big sets" of 1936.

Patron dealers will be furnished special window seals, streamers, counter displays, program guides, connections with listening groups, and direct mail pieces. Happy angle is that this move by the Philco-founded Institute is backed by the enormous amount of work it has already done in the matter of public

acceptance of radio. RIAA address is 80 Broadway, New York City.

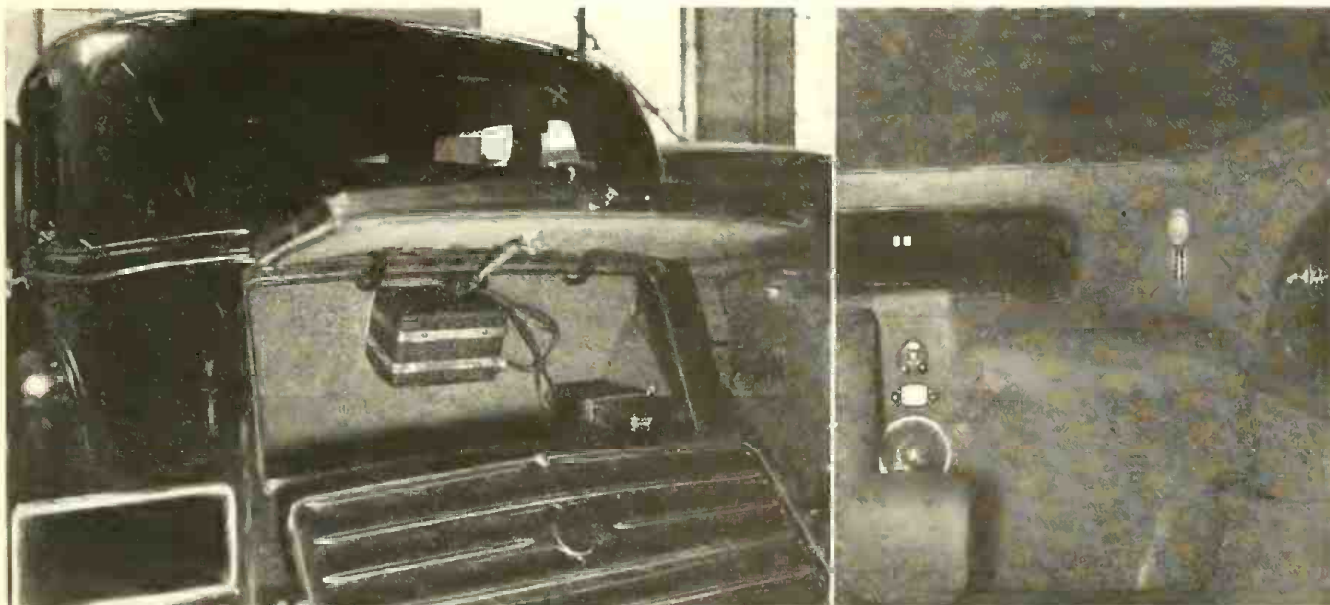
## Dealer frowns on follow-ups

★ "Sell 'em the first time you see 'em" is the sales philosophy gathered by Louis Funke, radio sales manager at Lightning Electric Company, 481 Broad Street, Newark, N. J., for the disposal of the new radio sets.

Anymore, Mr. Funke has decided, the staging of a second sales argument is too expensive, so he and the Lightning salesmen are shooting the works with demonstrations and service features on first meeting the prospect. The Funke organization deliberately advises old customers to lead new ones to the store, and the fun begins.

## Card trick draws 6,000

★ Stephen P. Argyris and brother Thomas P. have massed a list of 6,000 new customers for their Market and Broad Radio Music shop, Newark, N. J., by the use of a "courtesy" card. Patrons of the Argyris store are given the blank card, with instructions: "Suggest to your friends and relatives that they make a purchase here. If they buy we will give you the sales commission." Cards have been used for 18 months now and so far 6,000 New Jersey radio fans got in on the offer. The brothers Argyris believe in displaying an unusual number of sets on their sales floor. Another policy detail is the Argyris personal signature on all mailed matter.



Tony job of rear-seat installation turned out by Krauss Bros. Auto Radio Corp., New York City. Two Philco sets are involved; one police, one standard, with separate aeri-als. Sets have a single speaker, but will work separately.

# SELLING RECORDS

★ SMASH songs are rare!

For dealers who wish to move the popular-music discs off their shelves at this time, there is a selling angle of an extra special nature. It amounts to a study of the record market when it is dominated by a single sensational seller; an analysis of what methods may be adopted when the public is devastated by the appeal of one particular tune.

Tune, of course, is the Reilly-Farley rocket-seller. *The Music Goes 'Round and Around*. That record is being bought by the thousands, but the problem is, how to use that remarkable vogue to stimulate the whole biz. Otherwise that record will be bought at the expense of other selections, and when the hit-mood is over and done the sales curve will sink back to a dismal level to await the coming of another smash song.

## Move in on the hit

Suggestion is that when buyers come in for the hit stuff, sell them other records also. Experts in charge of record departments report that sweeping popularity of one tune will get persons into the record aisles when nothing else will—it is a chance to interest them in a regular buying, and to make disc fans out of them.

It seems discreet to keep a sharp lookout for what tunes are most played on the air, although these will not always take a sales accent. Frequent broadcasts of some tunes will in some cases educate a listener to the charm of the selection, and send him to the record store for the wax on it. In other cases, the song gets old and loses its pull.

Any prospect, however new in the process of becoming a record fan, deserves being given the works by a fast-witted salesman even if the prospect did come in the store only because the whole world was whistling *The Music Goes 'Round and Around*.

## Talk artists

Trend is toward selling the artists, rather than the selections, where it is possible to make a choice. Many fans will buy anything that was recorded by Ray Noble; others appear in the store specially to inquire, what has Guy Lombardo made recently?

When the exploitation of artists is to be done jointly with producers of movies and musicals in which the stars appear, it may be better not to get excited about the ballyhoo of a premiere and wait until the shows get around in good shape before extensive plugging. Dealers report that "Top Hat" tunes are still selling, and yet they grow about not getting results from plugs connected with "Collegiate"; the answer is poor timing. Obviously, there may be a great difference in the merit of the tunes from the two pictures, probably is, but the timing will help.

## FOLLOW THE FLEET

★ That Fred Astaire and Ginger Rogers have made a sensational new musical movie should mean plenty to the record business. If the vogue of "Follow the Fleet" is at all similar to the run of "Top Hat" the new tunes will soon be leading the lists of best-selling records.

For RCA Victor, Ray Noble and his orchestra have made three of the "Follow the Fleet" hit tunes: "We Saw the Sea," "Let's Face the Music and Dance," and "Let Yourself Go." Two others have been recorded by Guy Lombardo: "I'm Putting All My Eggs in One Basket" and "But Where Are You." Two hits were assigned to Richard Himber—"I'd Rather Lead the Band," and "Get Thee Behind Me Satan."



Decca went places with this Reilly-Farley team.

## Best sellers as we go to press

### BRUNSWICK

**The Broken Record**—Fox trot. VC by The Martinettes. **Too Much Imagination**—Fox trot. VC by Elmer Feldkamp. Both by Freddy Martin and his orchestra—7591.

**The Music Goes 'Round and Around**—Fox trot. VC by Saxie Dowell. **Dinner for One, Please**—Fox trot. VC by Skinny Ennis. Both by Hal Kemp and his orchestra—7587.

**I Wanna Woo**—Fox trot. VC by Honey Dean. **A Beautiful Lady in Blue**—Waltz. VC by Phil Ducey. Both by Leo Reisman and his orchestra—7534.

### DECCA

**The Music Goes 'Round and Around**—Fox trot. VC by Mike Reilly. **Looking for Love**—Fox trot. Reilly-Farley and the Onyx Club Boys—578.

**Moon Over Miami**—Fox trot. VC by Lee Bennett. **Beautiful Lady in Blue**—Waltz. VC by Lew Palmer. Both by Jan Garber and his orchestra—651.

**The Music Goes 'Round and Around**—Fox trot. **I'm Gonna Sit Right Down and Write Myself a Letter**—Fox trot. Both with vocal trio by Boswell Sisters with orchestra—671.

### VICTOR

**The Music Goes 'Round and Around**—Fox trot. **Rhythm in My Nursery Rhymes**—Fox trot. Both by Tommy Dorsey and his Clambake Seven—25201.

**The Broken Record**—Fox trot. **Alone at a Table for Two**—Fox trot. Both by Guy Lombardo and his Royal Canadians—25210.

**Lights Out**—Fox trot. **Moon Over Miami**—Fox trot. Both by Eddie Duchin and his orchestra—25212.

## CONTEST LAUNCHED

★ Some bright, attractive label for a new electrical pick-up will win \$100 in cash for some lucky person in the radio trade, now that the Audak Co. has decided to pay handsomely for name suggestions for a new product.

Any word which describes a highly improved sort of pick-up reproduction may win the first prize, or one of the five consolation prizes. Audak address is 500 Fifth Avenue, New York City; company is headed by Maximilian Weil.

## ST. LOUIS WOMEN

★ "Symphony Record Club" has been briskly launched by the Aeolian Co. of Missouri, St. Louis, reports H. B. Levy, vice-president. Invitations are sent to likely quality-music fans for afternoon periods of fine recorded music programs, free, and plans are made to review at the club meetings the selections to be played at future performances of the local Symphony.

To the first such affair at Aeolian flocked 35 women, to the second 55, to the third 70.

# VICTOR RECORD ARTISTS WIN UNDISPUTED LEAD IN RADIO POLL!

Victor Record artists came out with flying colors in the recent New York World-Telegram Radio Poll of the country's 239 radio editors. Results proved that a winning majority of the nation's dance and classical favorites are Victor artists. This is one of the reasons why Victor Records are enjoying their tremendous sales increase!

People demand Victor Records not only so they can hear their favorite artists, but because they know that they hear them as they should be heard—for Victor's tone quality is unsurpassed in the record field. And Victor Records are up-to-date, offering the favorites of the moment, in addition to the greatest artists and compositions of all time.

Victor Records offer you the greatest sales and profit opportunities. These great artists themselves broadcasting all over the country—are stimulating record sales for you. And RCA Victor is behind you with advertising and promotion. You have a wonderful opportunity to build a profitable record business with the leader—Victor Records.



# VICTOR RECORDS

RCA Manufacturing Co., Inc., Camden, New Jersey • A Service of the Radio Corporation of America

February, 1936

## DANCE BANDS

Ranking

- \*1 GUY LOMBARDO
- 2 WAYNE KING
- \*3 RAY NOBLE
- 4 CASA LOMA
- 5 WARING'S PENNSYLVANIANS
- \*6 RICHARD HIMBER
- \*7 EDDIE DUCHIN
- \*8 PAUL WHITEMAN

## VOCALISTS

Ranking

- \*1 LAWRENCE TIBBETT
- \*2 LILY PONS
- 3 GRACE MOORE
- \*4 NELSON EDDY
- \*5 GLADYS SWARTHOUT
- \*6 JOHN CHARLES THOMAS
- \*7 RICHARD CROOKS
- \*8 NINO MARTINI

## SYMPHONIC CONDUCTORS

Ranking

- \*1 LEOPOLD STOKOWSKI
- \*2 ARTURO TOSCANINI

## INSTRUMENTALISTS

Ranking

- \*1 ALBERT SPALDING
- \*2 JASCHA HEIFETZ
- \*3 JOSE ITURBI
- 4 RUBINOFF
- \*5 MISCHA ELMAN
- \*6 FRITZ KREISLER
- \*7 JESSE CRAWFORD

\* Denotes artists now recording for Victor

# "A \$300,000 SHOW EVERY NIGHT"

"RADIO TODAY estimates broadcasting costs at \$110,000,000 a year. Looked at another way, this means a program outlay of about \$300,000 every nite."

—Louis Reid, N. Y. American

★ SPECIAL sales devices, ranging from the powerful to the putrid, will certainly have their vogue among radio-set salesmen as long as they can think up fancy angles on methods of approach.

But with the broadcasters and the sponsors working over-overtime to doll up the current broadcast features, there is at the moment a method of approach which deserves a brisk adaptation today.

Radio prospects are obviously buying radio entertainment—radio programs—a fact which gives the radio dealer a sensational advantage over vendors of other merchandise. Since they are buying entertainment, their preferences in the matter, as to types of programs, will stand looking into. Prospects, of course, do not know which particular programs they want to hear on the new set, since they are very early in the process of becoming fans, but from their mood, type and general interests, it will be apparent to the salesmen that their tastes run in definite directions.

## Variety on the air

Prospects will very readily reveal their preferences, or give the salesmen a sure-fire clue. These preferences may be classified under the heads of sports, comedy and variety, opera, symphonies, talks, news flashes, popular orchestras or amateur programs.

Broadcasters are pouring millions of dollars each week into these various groups, putting the peak artists in each division before the mike in a staggering progression of features. Finding that the prospect has a special interest in one sort of entertainment, the salesman may be sure the program builders have done the rest and it only remains for him to tell the customer the details.

## The amazing details

For prospects who are interested in comedy and variety, here is a list of features which are likely to clinch sales: Jack Benny, Phil Baker, Mrs. Wiggs of the Cabbage Patch, Eddie Cantor, Amos 'n' Andy, Camel Car-

van with Walter O'Keefe, Billy Rose's Jumbo, Burns and Allen, Rudy Vallee and his Connecticut Yankees, Fred Allen, Paul Whiteman's Musical Varieties, Maxwell House Show Boat with Lanny Ross, Bing Crosby, Hollywood Hotel with Dick Powell, Shell Chateau with Al Jolson, Oscar Shaw's Broadway Varieties, Kate Smith, the National Barn Dance and others.

For patrons with hi-hat inclinations toward opera there are: Metropolitan Opera Saturday Matinees; a constant string of operatic guests appearing on the Ford, General Motors and RCA Magic Key programs; Understanding Opera, and regular appearances of Lawrence Tibbett, Richard Crooks, Nelson Eddy, Grace Moore, Lily Pons, James Melton, Sigmund Romberg, Kirsten Flagstad, Dusolina Giannini, Gladys Swarthout, John Charles Thomas, Nino Martini and others.

## Swing artists

Up-to-the-minute tunes by the leading popular orchestras of the day are on the dial regularly, selling sets to the fast-music fans. The list of leaders includes Guy Lombardo, Wayne King, Ben Bernie, Fred Waring, Ray Noble, Jimmy Dorsey, Red Nichols, Richard Himber, Al Goodman, Victor Arden, Jose Manzanera, Abe Lyman, Bob Crosby, Harry Reser, Ozzie Nelson, Hal Kemp, Ray Block, Glen Gray, Isham Jones, Leon Be-

lasco, Horace Heidt, Ted Fio Rito, Enric Madriguera, Eddie Duchin, Jan Garber and a score of others.

## "Musts" for sport fans

Prospects with a flair for sport news should be reminded of the Olympic broadcasts from Germany, and radio coverage of the Santa Anita Handicaps in California. Broadcasts of current basketball matches, hockey games and prize fights are important. The sports reporters of the air, Hal Totten, Lou Little, Stan Lomax, Ted Husing, Graham McNamee, Bob Elson, Dick Fishel, have an enormous appeal for sport fans.

Some patrons will indicate that they would like to be able to keep up with the news of the day via the radio. In such cases, salesmen may mention these dramatized news features: March of Time, Five Star Final, Human Side of the News, Washington Merry-Go-Round and Radio News-Week.

News commentators with a huge pull are Walter Winchell, Edwin C. Hill, Gabriel Heatter, Boake Carter, Lowell Thomas, John B. Kennedy, H. V. Kaltenborn.

## Blaze of symphonies

Certain group of serious-minded prospects will be wondering what symphonic music is on the air. If a dealer will mention these, this group should buy readily: Frank Black's NBC Symphony; Ford (Detroit) Symphony; Philharmonic of New York; General Motors Symphony; those of Boston, Minneapolis and Chicago; Rochester Philharmonic; Standard Symphony; Alfred Wallenstein's Sinfonietta, and the WOR Little Symphony.

There are times, too, when a radio salesman should have the "talks" broadcast schedule ready to help him sell receivers. These include Hendrik Van Loon, Albert Payson Terhune, University of Chicago Round Table, National Home and Farm Hour, Voice of Experience, Science Service, Poet's Gold, Edward A. Guest, Warden Lawes, Robert Ripley and Tex O'Reilly.

Amateur program vogue may be a selling point—prospects may be reminded of the Major Bowes Hour, National Amateur Hour, Harlem Amateurs and local amateur hours.

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## PROGRAMS THAT HELP

### YOU SELL RADIOS

*People buy radio sets because they want to listen to programs now on the air.*

*RADIO TODAY gives you news of latest broadcast features each month, so that you can "sell up" to your customers the musical and entertainment features they want to enjoy.*

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RADIO'S OWN artists, microphone experts who enjoy the sponsorship of radio manufacturers. Directly above is Boake Carter, Philco's ace commentator; at the left is Harriet Hilliard, beautiful wife of, and singer for Ozzie Nelson, RCA Magic Key guest.



Helen Jepson, opera star, another guest on RCA's sweeping Sunday matinee series; regular items are Frank Black's Symphony and flying newshound John B. Kennedy.

Above is the indigo singer, Mary Alcott, of the Crosley Follies, on WLW, Sunday nights. Below, Horace Heidt, paid by Stewart-Warner for a Thursday feature.

Grim scene from Ken-Rad's Unsolved Mysteries, a Wednesday night series of thrillers become a "must" feature for mystery story fans, now in its third year as a plug for the tube manufacturers.

# AUTO RADIOS FOR 1936—Compiled by Radio Today

| Model No.  | List Price | Kilocycle Range | Int. Freq. | Tubes | Ant. | Const'n Features | Controls |
|--|------------|-----------------|------------|-------|------|------------------|----------|
| <b>Allied Radio Corp., (Knight) 833 W. Jackson Blvd., Chicago, Ill.</b>            |            |                 |            |       |      |                  |          |
| B101   | 35.00      | 550-1500        |            | 5g.   | Any  | SU               | BP       |
| B102   | 41.50      | 550-1500        |            | 6m.   | Any  | SU               | SC-BP    |
| U6   | 44.50      | 550-1500        |            | 6c.   | Any  | SU               | SC-BP    |
| <b>Autocrat Radio Co., 3855 N. Hamilton Ave., Chicago, Ill.</b>                    |            |                 |            |       |      |                  |          |
| 505  | \$30.00    | 540-1500        | 456        | 5g.   | Any  | SU               | UP       |
| <b>Automatic Radio Mfg. Co., 112 Canal St., Boston, Mass.</b>                      |            |                 |            |       |      |                  |          |
| A5   | 19.95      | Broadcast       |            | 5g.   | Any  | SU               | BP       |
| A6   | 39.95      | Broadcast       |            | 6g.   | Any  | SU               | IP       |
| <b>Belmont Radio Corp., 1257 Fullerton Ave., Chicago, Ill.</b>                     |            |                 |            |       |      |                  |          |
| 566  | 39.50      |                 | 465        | 5m.   |      | SU               | IP       |
| 666  | 49.50      |                 | 465        | 6m.   |      | SU               | IP       |
| 880-C  | 69.50      |                 | 465        | 8g.   |      | 2U               | IP       |
| <b>Consolidated Radio Products Co., (Royal) Box 23, N.W. Sta., Detroit, Mich.</b>  |            |                 |            |       |      |                  |          |
| RTA  | 33.95      | 540-1600        | 456        | 5g.   | Any  | SU               | SC       |
| <b>Corona Radio &amp; Television Corp., 420 N. Sacramento Blvd., Chicago, Ill.</b> |            |                 |            |       |      |                  |          |
| 105  | 34.95      | 540-1650        | 456        | 5g.   | RB   | SU               | IP       |
| 122  | 42.50      | 540-1650        | 456        | 6g.   | RB   | SU               | IP-SC    |
| <b>Crosley Radio Corp., 1329 Arlington St., Cincinnati, Ohio</b>                   |            |                 |            |       |      |                  |          |
| A-156  | 39.95      |                 |            | 5     |      | SU               | SC-BP    |
| A-166  | 54.50      |                 |            | 6     |      | 2U               | SC-BP    |
| <b>Emerson Radio &amp; Phonograph Corp., 111 Eighth Ave., New York City</b>        |            |                 |            |       |      |                  |          |
| 5A   | 49.95      | 545-1500        | 172.5      | 5g.   | Any  | SU               | SC-BP*   |
| 6A   | 44.95      | 545-1500        | 172.5      | 6g.   | Any  | SU               | SC-BP*   |
| * Instrument panel controls available for General Motors Cars.                     |            |                 |            |       |      |                  |          |
| <b>Fada Radio &amp; Electric Co., 30-20 Thompson Ave., Long Island City, N. Y.</b> |            |                 |            |       |      |                  |          |
| 266  |            | 530-1500        | 175        | 6c.   | Any  | SU-2U            | IP       |
| <b>Fairbanks-Morse Home Appliances, Inc., 430 S. Green St., Chicago, Ill.</b>      |            |                 |            |       |      |                  |          |
| C-6  | 42.95      | 530-1700        | 177.5      | 5g.   | Any  |                  |          |
| 64   | 49.95      | 530-1700        | 177.5      | 5g.   | Any  |                  |          |
| <b>Federated Purchaser, Inc., 25 Park Place, New York City</b>                     |            |                 |            |       |      |                  |          |
| 259B   | 39.90      | 550-1500        | 175        | 5g.   | Any  | SU               | SC       |
| 260B   | 47.90      | 550-1500        | 175        | 6g.   | Any  | SU               | SC       |
| <b>Galvin Mfg. Corp., (Motorola) 847 W. Harrison St., Chicago, Ill.</b>            |            |                 |            |       |      |                  |          |
| 50   | 39.95      |                 |            | 6g.   | Any  | SU               | IP*      |
| 60   | 49.95      |                 |            | 6g.   | Any  | 2U               | IP*      |
| 80   | 67.50      |                 |            | 8m.   | Any  | 2U               | IP*      |
| 100  | 89.50      |                 |            | 10m.  | Any  | 2U               | IP*      |
| * Instrument panel controls to match all cars.                                     |            |                 |            |       |      |                  |          |
| <b>General Electric Co., 1285 Boston Ave., Bridgeport, Conn.</b>                   |            |                 |            |       |      |                  |          |
| N-60   | 49.95      | 550-1500        |            | 6m.   | Any  | SU               | SC-IP    |
| <b>Giffillan Bros. Inc., 1815 Venice Blvd., Los Angeles, Calif</b>                 |            |                 |            |       |      |                  |          |
| X  | 39.95      | 550-1650        | 460        | 5c.   |      | SU               |          |
| 8X   | 74.95      | 550-1650        | 262        | 8c.   |      | SU               |          |
| <b>Halsen Radio Mfg. Corp., 120 E. 16th St., New York City</b>                     |            |                 |            |       |      |                  |          |
| 56U  | 25.00      | 545-1500        | 456        | 5g.   | Any  | SU               | IP       |
| <b>Lafayette Mfg. Co., 100 Sixth Ave., New York City</b>                           |            |                 |            |       |      |                  |          |
| A-60   | 43.90      | 550-1550        | 175        | 6g.   | Any  | SU               | SC       |
| B-90   | 55.00      | 550-1550        | 175        | 6g.   | Any  | SU               | SC-BP-IP |
| J-37   | 33.90      | 550-1550        | 175        | 5g.   | Any  | SU               | Direct   |
| <b>Laurehk Radio Mfg. Co., Adrain, Mich.</b>                                       |            |                 |            |       |      |                  |          |
| 66   | 59.00*     | 540-1675        | 175        | 6m.   | RB   | SU               | SC-IP    |
| * Complete with antenna.   |            |                 |            |       |      |                  |          |

| Model No.  | List Price | Kilocycle Range               | Int. Freq. | Tubes | Ant. | Const'n Features | Controls |
|--|------------|-------------------------------|------------|-------|------|------------------|----------|
| <b>Melburn Radio Mfg. Co., 2214 S. Hoover St., Los Angeles, Calif.</b>             |            |                               |            |       |      |                  |          |
| 31   | 24.95      |                               | 465        | 5g.   |      | SU               | IP       |
| <b>Nohllt-Sparks Industries, (Arvin) Columbus, Ind.</b>                            |            |                               |            |       |      |                  |          |
| 280M   | 49.50      |                               |            | 6g.   |      | SU               | SC       |
| 28EM   | 54.50      |                               |            | 6g.   |      | 2U               | SC       |
| 18FW   | 39.95      |                               |            | 6g.   |      | SU               | SC       |
| 33DM   | 54.50      |                               |            | 6m.   |      | SU               | SC       |
| All models available with instrument panel controls to fit all popular cars.       |            |                               |            |       |      |                  |          |
| <b>Peter Pan Radio Co., 1847 W. Adams St., Los Angeles, Calif.</b>                 |            |                               |            |       |      |                  |          |
| 6  | 32.95      | 550-1500                      |            | 6g.   |      | SU               | SC-BP    |
| 6M   | 32.95      | 550-1500                      |            | 6m.   |      | SU               | SC-BP    |
| <b>Philco Radio &amp; Television Corp., Tioga &amp; C Sts., Philadelphia, Pa.</b>  |            |                               |            |       |      |                  |          |
| 817  | 49.95      |                               |            | 6g.   | Any  | SU               | IP       |
| 818  | 59.95      |                               |            | 6g.   | Any  | 2U               | IP       |
| 818K   | 59.95      |                               |            | 6g.   | Any  | 2U               | IP       |
| 819  | 69.95      |                               |            | 7g.   | Any  | 2U               | IP       |
| <b>Remler Co., Ltd., 2101 Bryant St., San Francisco, Calif.</b>                    |            |                               |            |       |      |                  |          |
| 37   | 64.50      | { 540-1715 }<br>{ 2200-6800 } | 250        | 6m.   |      | SU               | IP*      |
| * Custom controls for standard cars.   |            |                               |            |       |      |                  |          |
| <b>Simplex Radio Co., Sandusky, Ohio.</b>  |            |                               |            |       |      |                  |          |
| Q  | 37.50      | 540-1500                      | 262        | 6m.   | Any  | SU               | SC-IP    |
| <b>Transformer Corp. of America, 100 Sixth Ave., New York City.</b>                |            |                               |            |       |      |                  |          |
| TC15   | 21.00*     | 550-1550                      | 175        | 6g.   |      | SU               | SC       |
| * Net price.   |            |                               |            |       |      |                  |          |
| <b>Tray-Ler Radio &amp; Television Corp., 1028 W. Van Buren St., Chicago, Ill.</b> |            |                               |            |       |      |                  |          |
| 542  |            | 550-1550                      | 456        | 5g.   | Any  | SU-2U            | SC-IP*   |
| 642  |            | 550-1550                      | 456        | 6g.   | Any  | SU-2U            | SC-IP*   |
| * Instrument panel controls for 1936 and 1935 cars.                                |            |                               |            |       |      |                  |          |
| <b>Troy Radio Mfg. Co., 1142 S. Olive St., Los Angeles, Calif.</b>                 |            |                               |            |       |      |                  |          |
| 68   | 34.50      | 550-1500                      | 465        | 5c.   | Any  | SU               | SC-IP    |
| <b>United American-Bosch Corp., 3664 Main St., Springfield, Mass.</b>              |            |                               |            |       |      |                  |          |
| 536  | 29.95      | 540-1500                      | 456        | 5g.   | Any  | SU               | SC-BP    |
| 636  | 49.95      | 540-1500                      | 175        | 6g.   | Any  | SU               | SC-BP*   |
| 637  | 54.95      | 540-1500                      | 175        | 6g.   | Any  | 2U               | SC-BP*   |
| 736  | 59.95      | 540-1600                      | 175        | 7m.   | Any  | SU               | SC-BP*   |
| 737  | 64.95      | 540-1600                      | 175        | 7m.   | Any  | 2U               | SC-BP*   |
| 738  | 67.95      | 540-1600                      | 175        | 7m.   | Any  | 2U               | SC-BP*   |
| * Custom instrument panels for most cars.  |            |                               |            |       |      |                  |          |
| <b>United Motors Service, Inc., 3044 W. Grand Blvd., Detroit, Mich.</b>            |            |                               |            |       |      |                  |          |
| 631  | 39.95      | 540-1600                      |            | 5g.   | Any  | SU               | SC       |
| 632  | 49.95      | 540-1600                      |            | 6g.   | Any  | SU               | SC       |
| 633  | 52.95      | 540-1600                      |            | 6g.   | Any  | 2U               | SC       |
| 634  | 59.95      | 540-1600                      |            | 6g.   | Any  | 2U               | SC       |
| 635  | 69.95      | 540-1600                      |            | 6c.   | Any  | 3U               | SC       |
| Instrument panel controls available to fit popular cars.                           |            |                               |            |       |      |                  |          |
| <b>Wells-Gardner &amp; Co., 2701 N. Kildare Ave., Chicago, Ill.</b>                |            |                               |            |       |      |                  |          |
| 6R   |            | 530-1650                      | 175        | 6g.   | Any  | SU               | SC-BP    |
| <b>Westinghouse Electric Supply Co., 150 Varick St., New York City</b>             |            |                               |            |       |      |                  |          |
| 502  | 44.95      | 540-1500                      | 175        | 6g.   | Any  | SU               | SC-BP*   |
| 503  | 59.95      | 540-1600                      | 175        | 7m.   | Any  | SU               | SC-BP*   |
| * Instrument panel on special order.   |            |                               |            |       |      |                  |          |
| <b>Zenith Radio Corp., 1320 Iron St., Chicago, Ill.</b>                            |            |                               |            |       |      |                  |          |
| 5M90   | 29.95      | 540-1500                      | 485        | 5g.   |      | SU               | SC       |
| 6M90   | 49.95      | 530-1600                      |            | 6mg.  |      | SU               | SC-IP*   |
| 6M91   | 49.95      | 530-1600                      |            | 6mg.  |      | 2U               | SC-IP*   |
| 6M92   | 39.95      | 530-1600                      |            | 6mg.  |      | 2U               | SC-IP*   |
| 7M91   | 69.95      | 530-1600                      |            | 7mg.  |      | 2U               | SC-IP*   |
| * Instrument panel controls for standard cars.                                     |            |                               |            |       |      |                  |          |

g.—glass tubes  
mg.—metaglass tube  
m.—metal tubes  
C—combination of metal and glass tubes

RB—running board antenna  
SU—Single unit  
2U—Two unit

SC—Steering column  
BP—Below instrument panel  
IP—Instrument panel

## AUTO RADIO

(From page 13)

tem thereby cancelling out much of the spark radiation.

Utilizing the principal features of the Centromatic unit in their home radios, American-Bosch have developed what they call the doubled-

winged chassis. On the upper wing is mounted the power supply, while the radio elements are isolated on the lower wing. Many solderings are eliminated and remaining connections are shortened. Metal and glass tube models with custom controls make for a complete line.

Installation problems have been simplified by the adoption of single-hole mounting by many manufactur-

ers. Instrument panel controls are easily installed. With almost every automotive organization except General Motors equipping their cars with built-in serials, the antenna problem is less troublesome. Under-car aerials are used with G-M cars.

With easy installations and innumerable sales and technical features, auto radio offers a fertile field for radio dealers and servicemen.



# ARVIN

# Tailor-Fit CAR RADIOS

*You sell satisfaction* with the fine dependability of the new Arvins . . .

Thrill every customer with the perfect performance of powerful metal or glass-tube superheterodynes . . .

Satisfy every personal desire with the wide variety of Arvin radio-speaker and matching panel control combinations.



For 1936  
Ford V-8

Invisible overhead speaker and matching panel control.  
Model 18HP . . . . . \$44.85



For 1936  
Plymouth

Overhead speaker and matching panel control.  
Model 18HSP1 . . . . . \$46.35



For 1936  
Chevrolet

Overhead speaker and matching panel control.  
Model 18H3P17 . . . . . \$48.85



For 1936  
Dodge

Overhead speaker and matching panel control.  
Model 18H7P2 . . . . . \$46.85



For 1936  
Buick

Overhead speaker and matching panel control.  
Model 18H3P20 . . . . . \$49.85



For 1936  
Oldsmobile

Overhead speaker and matching panel control.  
Model 18H3P18 . . . . . \$49.85

Only a few of many Arvin tailor-fit overhead speaker and matching panel control models for new cars

The new Arvins give you all the splendid qualities that have been built into car radio . . . plus new and exclusive improvements that set new standards of performance and dependability; such as: Built-in filter-loc motor noise suppression system—completely shielded high sensitivity circuits—matched antennae tuning system using two high gain iron core coils—manually operated continuously variable tone control, etc. The new models are beautiful—modern in design and finish. They give you the tremendous sales appeal of powerful metal or glass-tube superheterodynes—overhead speaker models—Universal models—matching panel controls and modern streamlined steering column controls—everything to match new cars or harmonize with older cars. Exactly what you need to build a profitable radio business. Order from your jobber—and ask about the free Arvin sales helps.

**NOBLITT-SPARKS INDUSTRIES, Inc., Columbus, Indiana**  
*Also makers of Arvin radios for the home and Arvin Hot Water Car Heaters*



## OVERHEAD SPEAKER MODELS FOR NEW CARS

with special matching controls that fit perfectly in the instrument panel, as low as . . .

**\$44<sup>85</sup>**

## UNIVERSAL MODELS FOR ALL MAKES OF CARS

with in-the-set or separate case speaker and steering column control, as low as . . .

**\$39<sup>95</sup>**

# HIRING OUTSIDE SALESMEN

- enthusiasm essential in men for house-to-house work
- earnings run \$25 to \$30; relief-funds competition
- men in thirties do best work; rules for salesmen

★ **ENTHUSIASM** is important above everything else in a salesman chosen for outside selling, declares Rex Cole, famous New York sales wizard, who has moved many millions of dollars' worth of electrical appliances by the process of house-to-house calls.

"Even the salesman's age is not a determining factor, for enthusiasm is an inborn characteristic and does not depend upon whether a man is 25 or 55," adds Mr. Cole. In the Cole organization most of the men are in their thirties and twenties, the ideal age being about 32, according to Mr. Cole. But many older men are highly successful. A man with a family and with responsibilities is, of course, likely to be more dependable than an unmarried man.

Two methods are used to find new recruits for the sales staff in the case of one eminently successful house-to-house canvassing crew: (1) Advertisements for outside salesmen are run in local newspapers, and (2) new men are obtained through personal inquiry among the friends of present salesmen. Where an organization has already been formed, the latter method is sometimes more satisfac-

tory because the men who are brought in in this way have a better understanding of what to expect and are more likely to "stick-it-through" to success in the outside selling game.

## *Dole funds interfere*

Even in the face of present unemployment conditions, it has become increasingly difficult to get outside salesmen during the last three or four years on account of the competition of governmental relief payments. Many of the men who would otherwise be candidates for canvassers' jobs, now find that they can turn to Uncle Sam or to local relief bodies and collect enough money on which to live idly and comfortably.

This relief situation has introduced a new element in the problem of hiring salesmen for outside solicitation, but it is one that can be overcome with increased effort on the part of the sales manager. If he is determined to get good men, not floaters, they can still be found, despite the blandishments of the dole.

A fairly experienced outside salesman should earn in commission at least \$25 a week by hard plugging.

Most of the successful salesmen engaged in this work make about \$30 a week. In the cities men are not willing to keep up the grind of selling, unless they can see an income—present or future—of at least \$30 a week. Of course, salesmen's incomes in smaller places will be gauged by local conditions.

## *Advertising for men*

An advertisement put into a local newspaper to get outside salesmen should be conservatively written, and should never overstate conditions or expected earnings. It is important to attract responsible, serious-minded, hard-working candidates for outside selling. Even after the prospects are obtained, these recruits must be culled very carefully for men who seem really competent to undertake the job. Painstaking selection and careful scrutinizing of recruits on the part of the man in charge of sales are essential to getting a right start in house-to-house canvassing.

Some of the successful outside sales organizations have laid down some simple and direct rules for their men and have had these printed for the men's use. Here are some golden nuggets of wisdom from these compendiums of counsel on everyday salesmanship.

## *Rules for salesmen*

Be courteous to everybody always. Talk distinctly, not loud. Avoid mumbling.

Be neat in dress—not conspicuous. Learn to talk the other fellow's interest, rather than your own.

Pay close attention when others talk.

Be a good listener.

Don't interrupt a talker.

Make everything you say informative.

Avoid loose or idle conversation.

Avoid misrepresentations—actual or implied.

Avoid discussing your competitors or their products.

Learn to keep discussion confined to your own proposition or to your customers' interests.

Respect the other fellow's viewpoint, and show that you do.

Be persuasive—not combative.

Promise little, but deliver more than is expected.

Suffer inconvenience to serve others.

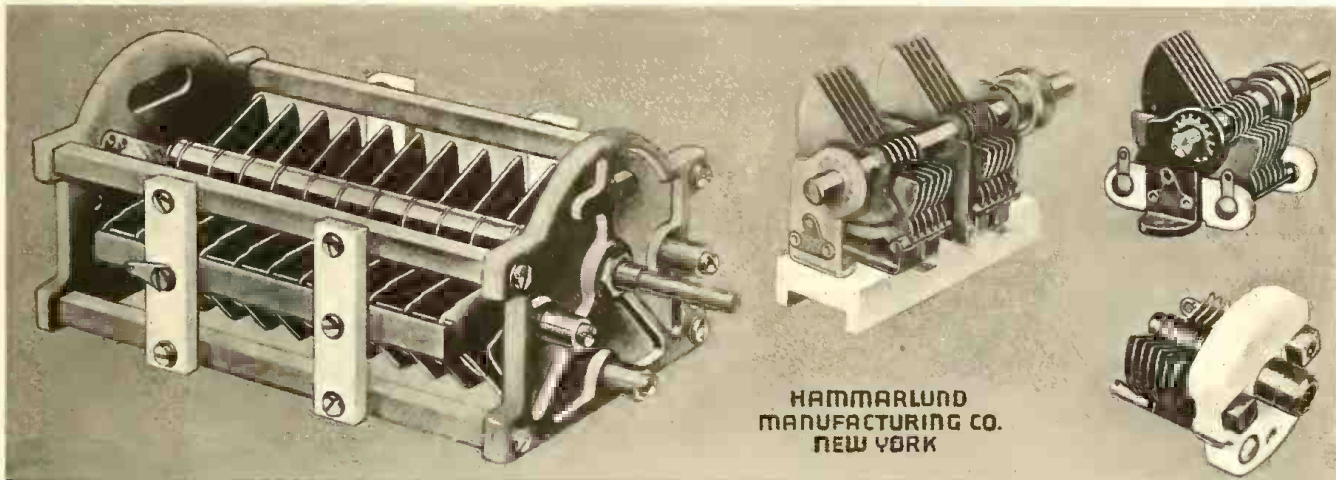
Never display temper or resentment.

Learn how to take a rebuff with a smile.

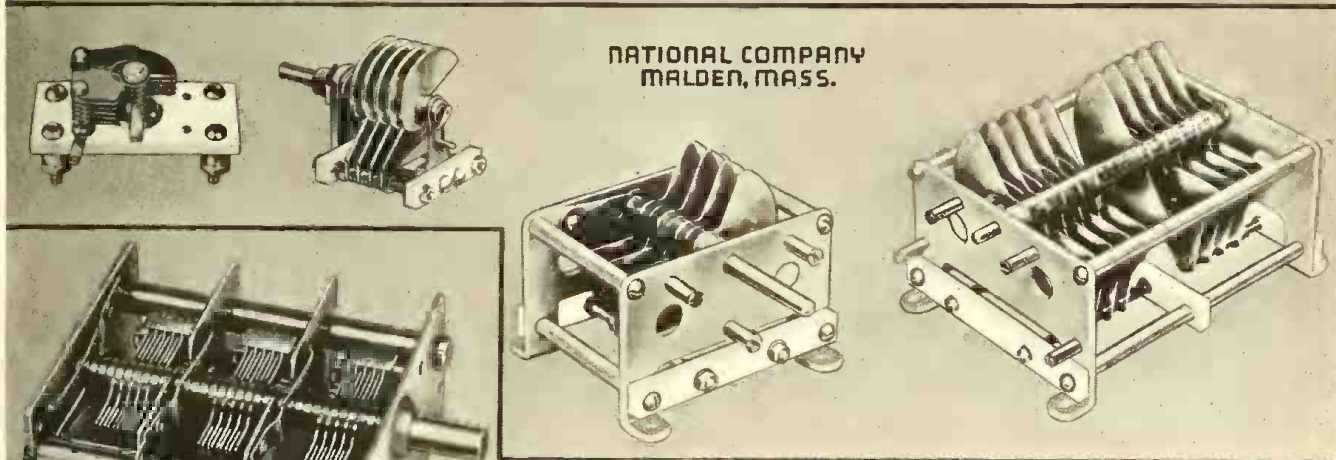


Selling enthusiasm, essential to success in outside salesmen, is an inborn characteristic, and is independent of age or background, counsels Rex Cole, master sales builder. (Photo by Ewing Galloway.)

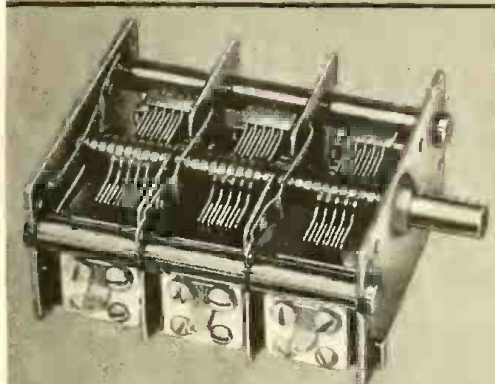
# VARIABLE CONDENSERS ...are no better than their INSULATION!



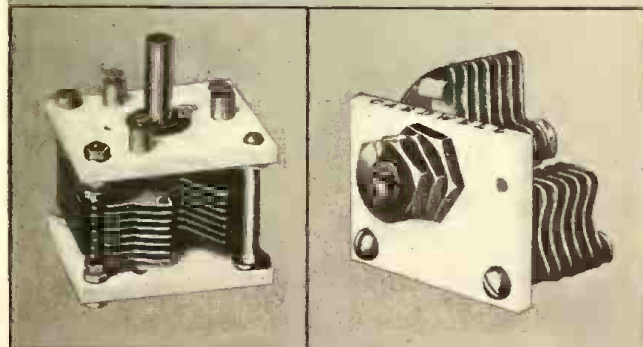
HAMMARLUND  
MANUFACTURING CO.  
NEW YORK



NATIONAL COMPANY  
MALDEN, MASS.



RADIO CONDENSER CO.  
CAMDEN, N.J.



GENERAL RADIO CO.  
CAMBRIDGE, MASS.

THE CARDWELL MFG. CORP.  
BROOKLYN, N.Y.

Recognizing this most important fact, these and many other manufacturers choose ISOLANTITE for insulating their quality products.

Insist on Condensers insulated with ISOLANTITE for maximum stability and dependability in your equipment.

Isolantite Inc., 233 Broadway, New York, N. Y. Factory at Belleville, N. J.

**Isolantite**  
**CERAMIC INSULATORS**

# SPRING SALES AMMUNITION!

*New!*  
**FEATURES!**

*New!*  
**MERCHANDISING!**

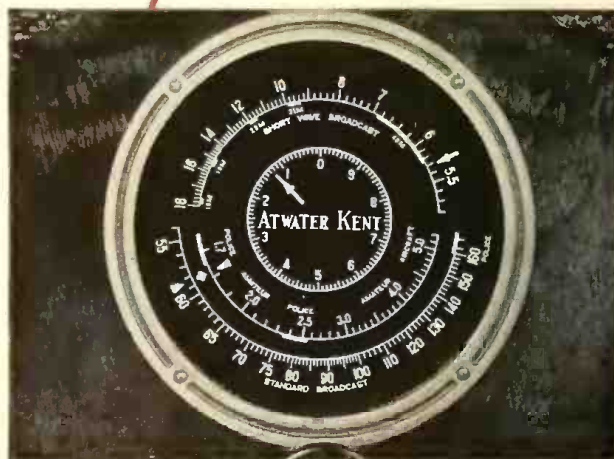
*New!*  
**DRAMATIC  
ADVERTISING!**

## Watch **ATWATER KENT**

*boom your  
business in 1936!*

**IT'S A BIG ATWATER KENT YEAR!** New powerful advertising, vigorous, effective! New Atwater Kent features, eye-appealing, sales-clinching. And a 1936 line of radios that match dollar for dollar, tone for tone, any radio on the market. Right now, millions of people are asking to see Atwater Kent's Arrow-Light Tuning and new Rainbow Dial. Millions are waiting to hear Atwater Kent's new tone realism—Control-Room Reception! It's your chance! Show them the radio that *sells* and stays sold!

ATWATER KENT MANUFACTURING COMPANY  
A. Atwater Kent, President Philadelphia, Pa.



**NEW ARROW-LIGHT TUNING—NEW RAINBOW DIAL—** are among the new Atwater Kent features! Adds beauty and eye-appeal. Simplifies tuning. Just follow the arrow to the station you want.



**NOW LISTEN TO A BROADCAST IT!**

**HAVE YOU EVER LISTENED TO A PROGRAM IN THE *Control Room*?**

*If you had, you would never be satisfied with an ordinary radio. Here's why!*

**ATWATER KENT**  
THE RADIO WITH *Control Room Reception*

**MORE HARD-HITTING FOLLOW-UP SMASHES!**

*At last... A RADIO THAT PASSES YOU THROUGH THIS FORBIDDEN DOOR*

How Atwater Kent brings the marvel of *Control Room Reception* to your fingertips!

**ATWATER KENT RADIO WITH *Control Room Reception***



**DOUBLE-BARRELED BLAST IN THE SATURDAY EVENING POST**

**FOR YOU** — counter cards, window displays, direct mail helps, newspaper mats for local advertising — ask your Atwater Kent distributor.

**WE TELL THEM . . . YOU SELL THEM**

# SELLING TO PARENTS

- extra sets for homes where children listen
- broadcasters offer ideal juvenile entertainment in 1936
- families need help to realize advantages of children's set

★ **HARD-BOILED**, wisecracking city kids who think they know the answers are reaching for the dial. Right along with the corn-fed, mobile youngsters of the country.

They will all *listen* to things they would flatly *decline to read*; radio names are by-words in their brave, small worlds, and if Johnny and Mary don't have their favorites, they are out of the swim.

Thus it happens that a little child shall lead them. Parents, we mean, to the radio store to make some provision for the terrific impact of radio on the lives of twentieth century youngsters.

## Sales chances

There is a big drag in the "radio for the child" business, if a dealer wants to put a sales accent there. A dealer can explain what's on the air for youngsters; how it differs from what it used to be; why the juvenile features demand attention; the advantages to regular listening by children, and the special advantages of being able to separate adult and juvenile listening in the average household.

These arguments will often result in the sale of a second set—in most cases it has to be a new one, because the old styles in receivers are too bulky for the nursery.

## Lively trends

Newspaper syndicates have recently announced that favorite "funnies" and cartoon features will be made available to the broadcasters. Aside from the huge pull of new features, the old ones have been dressed up until you wouldn't know them.

Educators, juvenile writers of international fame, and child welfare agencies have been attracted to the matter of programs for the youngsters—they have to be because the kids are listening by the millions. A Federal Radio Education Committee, headed by Dr. John W. Studebaker, has lately marched into the field. Children's Program Division at the National Broadcasting Co. has taken new steps of national significance. The huge Advisory Committee on Children's Programs at CBS, announced only last month, has invited the interest of the nation's finest child-experts. Radio Institute of

Audible Arts, Child Study Association of America and the Women's National Radio Committee are all in the recent stir.

Radio salesmen have reported that they can't sell parents easily on the educational aspects of radio for their children exclusively, because the youngsters won't listen to something instructive and dull, particularly if the programs are sternly recommended as something that is good for them.

Yet the kids are determined to listen to air features in which "something is doing," so the problem is to present a program which is both helpful and exciting. And by 1936, the broadcasters have solved this problem.

## Dealer cues

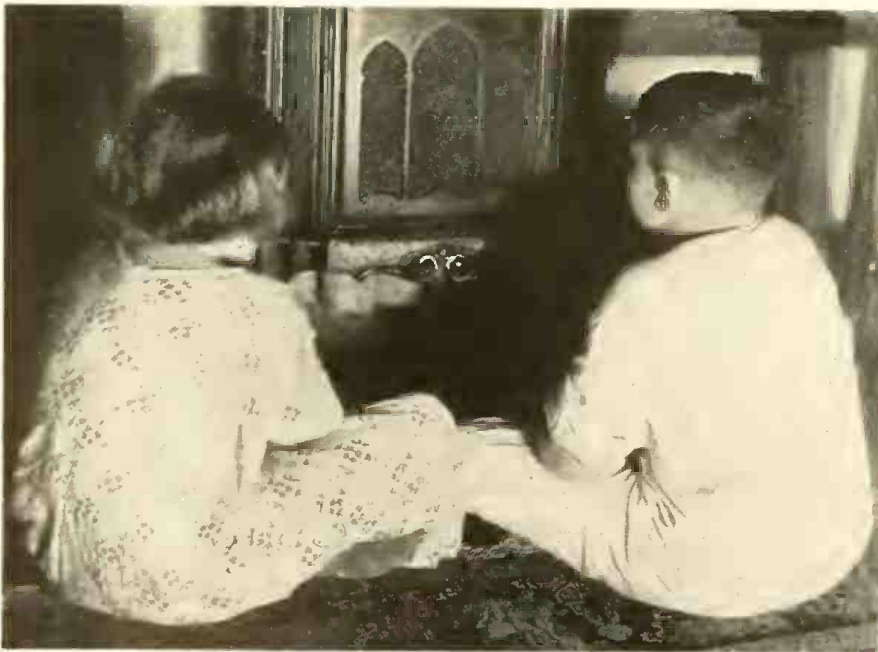
Paul Wing, for instance, the renowned "story man" who became the director of children's programs at NBC, knows the youngster's view because thousands of them write to him; knows what the parent organizations want; knows that the business demands a highly professional and studied technique; knows why early criticisms were made.

Thus the NBC expert knows his way around when it comes to juvenile features on the network for 1936. A smart and exciting dramatization of literary classics will go on the NBC nets in 1936, and a new crafts and hobbies show has been planned.

## Irritated parents

If dealers will have a look at program prospects for children in detail, they will be able to explain to parents that an extra dial is needed in the home to keep the kids happy with good, clean fun and keep them out of the way. At Columbia the enormous project, "American School of the Air," intrigues the children at school and stimulates home listening, perhaps for other CBS features headed by "Bobby Benson and Sunny Jim," "News of Youth," "Buck Rogers" and "Let's Pretend." NBC now offers a list of 15 different features for children, and WOR offers 11, including the popular "Uncle Don" and "Flash Gordon."

From the list, the Radio Institute of Audible Arts got the Child Study Association to recommend some; the latter organization picked 7 programs which dealers might put on the "must" list for sales talks to parents, to say nothing of some 20 programs for adults which the Child Study outfit said were OK for youngsters.



At ease with a set of their own, youngsters may hear the fine programs designed for them, while parents dial their own favorites in the living room.

At the Head of the Profit Procession

# RCA Check-up Deal\*

The RCA Radio Check-Up Plan, originally designed to sell radio tubes, and found to sell service, parts, sets and everything else your shop handles, has swept the country from Coast to Coast.

The phenomenal success of the Check-Up over the past six months has resulted in the expansion of the fundamental idea to mammoth size.

## HERE'S WHAT WE ARE DOING:

Making available a deal involving those items found most profitable by dealers, such as window display, direct mail pieces, stuffers, record cards, etc.

## HERE'S HOW WE ARE SUPPORTING THE CHECK-UP:

1. Bi-monthly ads in Saturday Evening Post and Collier's, and other leading magazines.
2. Spot broadcasting over 30 stations.
3. Newspaper advertising in over 124 cities.

*Attend RCA Service Meetings for profitable ideas.  
Now showing: new sound film on how to sell the  
Check-Up to customers.*

\*See your distributor's salesman on how to obtain this and other material



# RCA RADIO TUBES

RCA MANUFACTURING COMPANY, INC., CAMDEN, N. J.

*A Service of the Radio Corporation of America*

# "INTERMITTENT RECEPTION"

How the radio service man can correct defects which cause this sometimes baffling trouble

By F. L. SPRAYBERRY\*

★ ORDINARY continuity testing, voltage analysis and tube measurements are so commonplace in the Serviceman's work that these tests are routine. While such routine forms a major quantity of repair work, the Serviceman should not regard this as being the most difficult repair work. These things are subject to fairly accurate cost and time calculations and do not embody any great risk in the servicing business.

There are innumerable tests as well as adjustments which are less finite. These, as a rule, relate to types of intermittent reception. Certainly this problem is one of the most difficult that the serviceman has to contend with. Not only the cases of periodic instantaneous cutting off of reception, but also of spontaneous volume level changes and the noises attending these actions are very definite problems to the serviceman. Expedient handling of such work will often be the determining factor as to

\*President Sprayberry Academy of Radio, Washington, D. C.

whether or not a profit may be made on repair job having this type of defect.

## Signal circuit continuity

The entire problem resolves itself into one of ascertaining the continuity of the "signal-circuit" of a complete signal path throughout the receiver. No conventional test instrument or routine procedure can yield a solution to all intermittent types of defects, any more than an ohmmeter will tell us what part of a resistance is defective. In nearly all cases we are dealing with a receiver which for the greater time is perfect from the point of view of the tests. To assist rather than add to the already difficult problem, it must be remembered that almost any test made on the circuit will introduce *changes*, which may nullify the effects for which we are testing.

While practically all of the sources of trouble of this nature are mentioned in the following paragraphs, individual experience should be a guide in determining which test procedure to follow.

The first group of defects can be broadly classified as surface mechanical defects. It includes the antenna-ground circuit, shielding, method of mounting, power cord and dial structure. These may be tested while the receiver is in operation by pulling and jarring them. Inspect the antenna, its location, how far it is free to swing and the lead-in with its insulation. Tighten the wire binding screws in the line plug and look for defects in the power cord splicings if there are any. Carefully move all auxiliary shields (tube shields) and others, noting the effect on the signal. Note the connections to the speaker plug and cord, and note the condition of wire insulation where it passes through any metal sub-panel or shielding.

Vibration of the set, due to walking on the floor or heavy traffic in the street, may cause intermittent reception, in which case usually the trouble is due to poor bonding of the home wiring conduits.

With the chassis removed from the cabinet and the wiring exposed, move the wiring with an insulated prod while the receiver is operating. Check all wire connections which look doubtful. A thermal contact existing in a tube, a resistor or elsewhere is characterized by regularity of *action*, and if in a tube by gradual fading and expanding of the signal volume.

## Overload tests

Now let us pry more deeply into the circuit for trouble. With nothing more than a DC milliammeter, we can give practically all of the coils an overload test. This will usually disclose any coil trouble. Ground the negative lead of the meter as in Fig. 1 to the chassis. Then set the milliammeter range to 200 or 250 ma. Next connect a test prod to the positive terminal of the meter. Then touch the other end of this test lead to all of the plate terminals of the set. If the coils (plate loads) can carry from 10 to 20 times normal current (this will not harm them unless defective), they may be disregarded as factors in the case. Grid

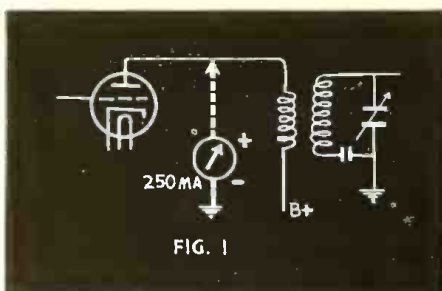


FIG. 1

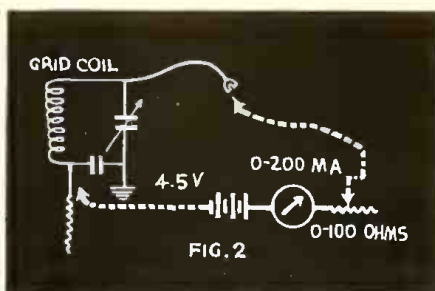


FIG. 2

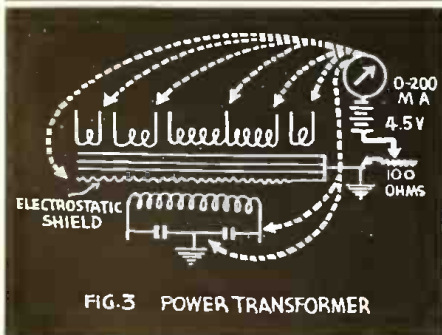


FIG. 3 POWER TRANSFORMER

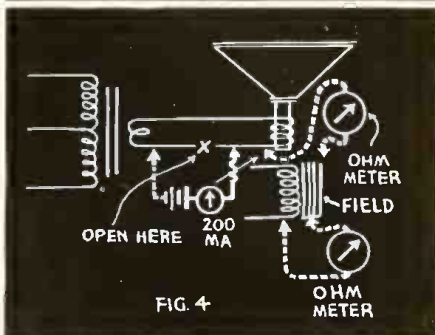


FIG. 4

Overload tests disclose intermittent and high resistance contacts. Fig. 1 shows connections for checking plate coils — set is turned on. Figs. 2 and 4 are followed in testing grid and voice coils — power off.



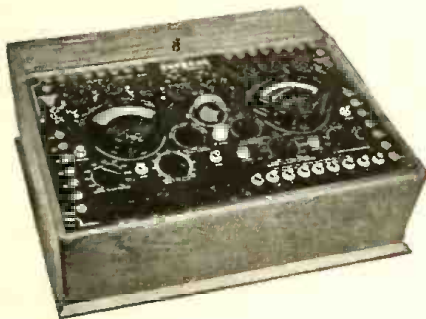
# Before It's Too Late



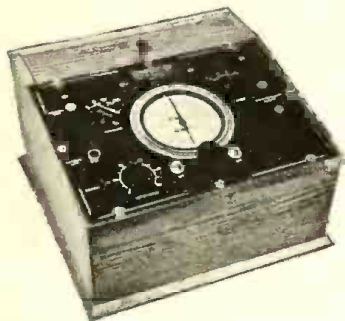
Equip Now with New  
**LABORATORY MODELS**  
**SUPREME**  
**INSTRUMENTS**  
 thru an  
**F.H.A. LOAN**

12 Small Monthly Payments  
 Buy Any One Instrument

18 Small Monthly Payments  
 Buy Any Two or More Instruments



SUPREME 385 AUTO-  
 MATIC LABORATORY  
 MODEL ..... **\$77<sup>95</sup>**



SUPREME 189 SIGNAL  
 GENERATOR. LABO-  
 RATORY MODEL .... **\$36<sup>95</sup>**

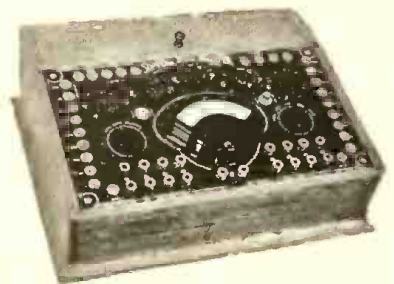
Radiomen by the thousands are grasping this opportunity to modernize their equipment with the financial help of Uncle Sam. Supreme Jobbers are overwhelmed with orders! Banks welcoming the business! It's YOUR big chance, Mr. Serviceman, to enjoy the prestige and profit of radio's most up-to-the-minute testing instruments on the easiest possible purchase plan.

**FHA MAY NOT BE EXTENDED!  
 EXPIRES APRIL 1st!**

Up to now there has been no definite report from Washington that the FHA Act will be extended at expiration April 1st. Don't gamble with chance—see your jobber NOW while you know Uncle Sam will assist you to pay for one instrument over a period of 12 months, and 2 or more, 18 months—at the government's low interest rate. Write Supreme direct for any information with which your jobber can not supply you.



SUPREME 89 DeLUXE  
 TUBE TESTER LABO-  
 RATORY MODEL .... **\$45<sup>95</sup>**



SUPREME 339 DeLUXE  
 ANALYZER. LABORA-  
 TORY MODEL ..... **\$39<sup>95</sup>**

**Supreme Instruments Corp., Greenwood, Miss., U.S.A.**

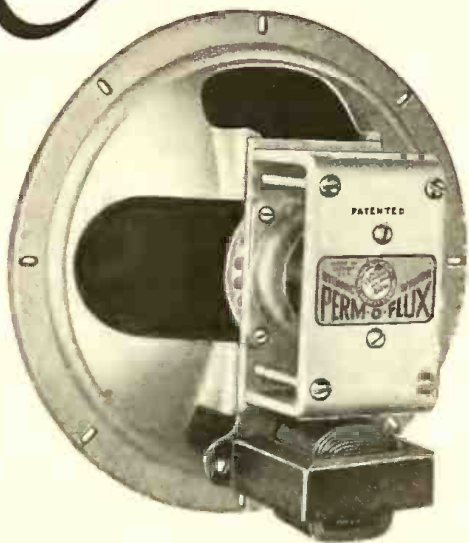
● Export Dept., Associated Exporters Co., 145 West 45th St., New York City, N. Y. Cable Address, LOPREH, N. Y. ●

# CONTINENTAL MOTORS

# Announces



# PERM-O-FLUX



***The Most Important  
Development in the  
Radio Field Since the  
Dynamic Speaker.***

A NEW magnetic material, developed and perfected in the Laboratories of Continental Motors Corporation, has proved to be the most powerful yet known to metallurgical science for radio speaker applications.

This material is used as a source of magnetic energy in the motor assembly of the new, patented PERM-O-FLUX Dynamic Speaker.

The Continental PERM-O-FLUX is lighter than the average electro-dynamic speaker but has equal or better sensitivity. Due to the unusually high flux density in the gap, the tone quality is lifelike and without distortion.

A special, unique design of the voice coil and suspension insures continuous and trouble-free operation. The PERM-O-FLUX speaker has a permanent flux density in the gap requiring no outside energy for field excitation, thereby reducing battery drain — a very important item

on all automobile and farm sets. Other decided advantages of the Continental PERM-O-FLUX are:

1. No heat dissipation to distort voice coil or cones.
2. No hot leads carrying power for field excitation, which eliminates fire hazard.
3. Simplified Installation.
4. Shielding of speaker is unnecessary, in the case of automobile installation. This means that more consideration can be given to acoustical conditions, and enclosures can be obtained other than metal enclosures.
5. Vibrator noise is eliminated, in auto sets, due to absence of couplings between voice coil and field coils.

Advantages too numerous to mention are offered for other types of installation such as sound systems, hotel room installation, ship state rooms, call systems or wherever true reproduction is required and power consumption is a factor.

*Particulars gladly furnished on request.*

## ***Continental Motors Corporation***

Radio Speaker Division  
DETROIT, MICHIGAN

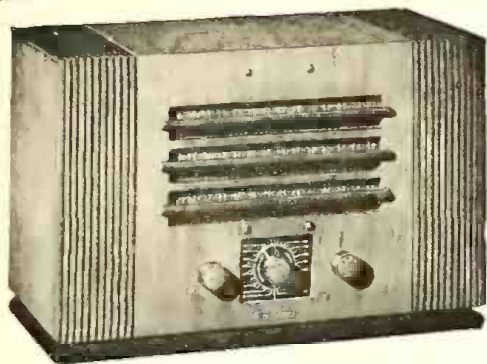


INTERNATIONAL  
**KADETTE**  
RADIO

# FIRST AGAIN!

## Perm-o-flux Dynamic Speaker Completely Revolutionizes Battery-Radio Operation!

*KADETTE again gives you a selling sensation! And gives it to you FIRST.*



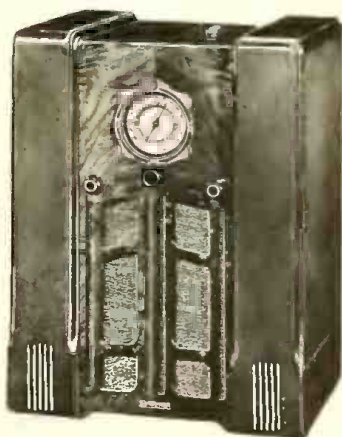
All batteries entirely self-contained. Uses only 3 ordinary ignition dry cells and 3 portable size "B" batteries. Weight, approximately 25 lbs. Only 16 in. wide, 10<sup>3</sup>/<sub>4</sub> in. high, 7 in. deep.



**KADETTE BATTERY MODEL 400.** A powerful new Permanent Dynamic Superheterodyne. Completely portable, with attached aerial for use on land or sea, camp or home. Two distinct tuning ranges—Standard Broadcast and Short Wave. Batteries give approximately 300 hours' service without renewal. Revolutionary PERM-O-FLUX Dynamic Speaker and International Battery Saver which give remarkable performance and reduces battery drain. Beautiful walnut cabinet in striking modern design.

**KADETTE BATTERY MODEL 72.** Gets Standard Broadcast or Short Wave with unusual clarity and excellent tone. Has new PERM-O-FLUX Dynamic Speaker, reducing battery drain to an amazing new low. Selected woods, hand-rubbed. Center panel and top are matched butt walnut. The peer of all battery radios. Price with tubes (without batteries)—\$32.50.

Batteries entirely self-contained. Room for 3 "B" and 2 "C" batteries, if desired. Operates efficiently on 1 dry "A", 1 "C" and 2 "B" batteries. 18 in. high, 13<sup>3</sup>/<sub>4</sub> in. wide, 10 in. deep. Weight, 17 lbs.



Imagine a magnetic substance that actually lifts 140 times its own weight, as against nine times in the ordinary magnet. This new substance has made it possible to build a permanent magnet-dynamic speaker that out-lives and out-performs anything you have ever heard.

Think, if you will, what such a magnet means in giving superior dynamic speaker performance with an 80% saving in speaker current drain. Then think of the possibility of selling such a radio that will run approximately 300 hours from ordinary dry cells and "B" batteries without renewal.

But that is not all—the PERM-O-FLUX Dynamic Speaker gives tone quality and sensitivity comparable to the most powerful electro-dynamic speakers. It is light, compact and trouble-free. It is absolutely moisture and dust proof. It has an improved and revolutionary voice coil and suspension. It produces life-like full tone without distortion.

The field for these low drain battery sets is practically unlimited. Ideal radio for unwired homes, lodges, camps and boats. Every farmer, every sportsman and every camper will recognize in the Model 400 battery radio the set he has been waiting for.

It's the greatest radio sensation in years. Be one of the first to sell it. The first profits are the big profits. Act NOW, while its money-making possibilities are yours exclusively.



See your KADETTE Distributor or write us today for complete information. Your fellow dealers will be showing the KADETTE Model 400 and Model 72 Battery Radio and making fine profits. Act NOW and profit with them.

**INTERNATIONAL RADIO CORPORATION • ANN ARBOR, MICHIGAN**

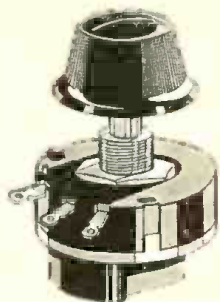
# SERVICING INTERMITTENTS



## CALLING all Servicemen!

When "Squad-car" Centralab is at the wheel things happen. He stands for no foolin'. Out goes that noisy control on its ear . . . and a smooth, efficient CENTRALAB RADIOHM preserves the peace.

The best pacifier for noisy receivers, servicemen agree, is a Centralab Radiohm . . . and . . . a mere handful will service practically any set ever made . . . and make it work "better than ever before."



Centralab Radiohm

Centralab smoothness results from the patented Centralab non-rubbing contact whereby a strip of polished metal rocks on the resistor so that the only rubbing action is between an oiled wood bearing and the polished metal.

**Centralab**  
Milwaukee, Wis.

VOLUME CONTROLS  
FIXED RESISTORS  
SOUND PROJECTION CONTROLS  
WAVE CHANGE SWITCHES

and antenna coils may be given the same kind of test with a battery and ammeter as shown in Fig. 2. The resistors below .25 meg. and not in the plate circuits may also be given a high-voltage overload test. Most of this may be done without removing them from the circuit. If there is any current fluctuation noticed, the unit should be replaced.

Troubles of this nature, due to defective volume controls, are usually attended by noise while the volume control is being adjusted, as well as spontaneously when it remains in one position. A careful visual inspection of the unit will usually indicate the defect.

### Dirty condensers

An adjustment of trimmer and other adjustable condensers will produce noise if defective. Dust particles between the plates of these as well as variable condenser will cause trouble. Cleaning and inspection is in order.

In power transformers, the insulation, the terminals and the shield, if one is used, are subject to faults. Current and operating continuity tests may prove helpful. Overload tests for a short time only are advised where the suspicion is closely centered to this unit. Various tests which should be made are illustrated in Fig. 3. Carefully note which test should show a closed circuit due to the wiring of the transformer in the receiver circuit.

There are numerous parts of a cir-

cuit which are not included in the above and are mentioned as separate items in the following paragraphs.

### Shorted and open voice coils

Shorting or opening of the voice coil is a common intermittent defect. In addition to the possibility of corroded terminals, there is introduced the intensive mechanical vibration of the voice coil with flexible leads connected to it. For this a high current DC continuity test may be made with the voice coil and output transformer coil in series as in Fig. 4. A continuity test may be made to determine if the voice coil is touching the field pole. This is also shown in Fig. 4.

Fluctuation in value of resistance components of the oscillator stage will cause considerable trouble and it will be evidenced by cutting off the signal entirely. The substitution method is best for this trouble.

### Localizing trouble

Often it is a good idea to bridge across a complete stage where possible with a capacity or resistance as in Fig. 5 to localize the trouble to a particular stage. This may be done, as a rule, by connecting adjacent plates or control grids. Infrequently condensers may short intermittently. Quite generally such faults are found in audio coupling systems. A voltage overload in excess of that applied

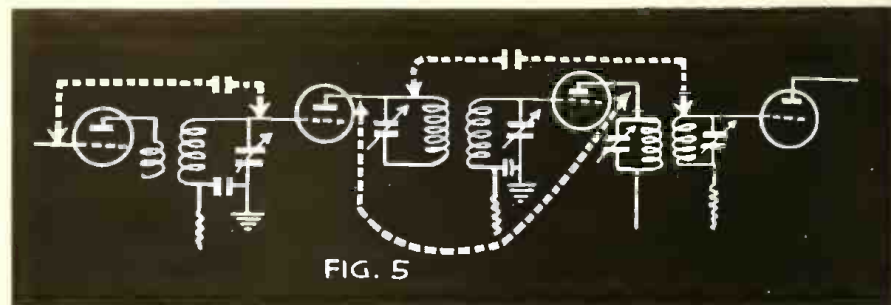


FIG. 5



FIG. 6

Intermittents can often be localized to a single stage by bridging the circuits as shown in Fig. 5. An overload test for audio transformers is diagrammed in Fig. 6.

# WHERE-TO-BUY-IT SERVICE

## —a HIT with the TRADE

READERS of RADIO TODAY are making extensive use of the new information service announced in the January issue. Inquiries have come from all branches of radio; from widely distributed points in the United States and foreign countries. They show that the new service strikes a responsive note, especially among jobbers, dealers and service men. Some typical inquiries:

| INQUIRY FROM                 | PRODUCTS WANTED  |
|------------------------------|--|
| Distributor                  | —200 headphones for hospital radio.  |
| Sound system co.             | —coin-slot phonographs.  |
| Transformer mfr.             | —mfrs'. agents handling parts.   |
| Radio service laboratory     | —production coil winding machines; waxed paper for layer-wound coils; transformer laminations. |
| Service co.                  | —address of unlisted set mfr.  |
| Mfr's agent                  | —public address and parts lines.   |
| Service co.                  | —black nail-it knob insulators.  |
| Parts jobber                 | —composition resistors.  |
| Radio dealer                 | —meter dials for tube testers.   |
| Cuban importer               | —quality radio cabinets.   |
| Radio and parts distributor  | —neutralizing tools; rubber grommets; resistance mounts.                                       |
| Parts jobber                 | —fixed crystals.   |
| Egyptian importer            | —radio products for distribution.  |
| Radio-dealer                 | —dash plates for 1936 auto radios.   |
| Radio jobber                 | —r-f. and super-het tuners.  |
| Radio-automotive distributor | —portable radio-phono combination with automatic record changer.                               |
| Set mfr.                     | —list of cabinet mfrs.   |
| Radio dealer                 | —battery-operated chassis.   |
| Export set mfr.              | —wind chargers for farm radios.  |

Perhaps you, too, are looking for one of those hard-to-find items. If so, this service will put you in contact with manufacturers of any radio item you may need.

Sources of supply, as suggested by us, include advertisers and non-advertisers. The service is free to all readers of RADIO TODAY. Write us (do not telephone) giving the following information: (1) product or service desired; (2) use to which the product will be put; (3) your position in radio; (4) your name and address. Address your inquiry to

WHERE-TO-BUY-IT SERVICE  
**RADIO TODAY**

480 Lexington Ave.

New York City

# THREE < <



## Big Clough-Brengle ANNOUNCEMENTS

### 1 New Easy Payment Plan

You can now completely equip your laboratory with the latest CLOUGH-BRENGLE Instruments for a small down payment—and pay the balance over six months. The extra income produced by this fine equipment will pay the monthly installments and leave you money ahead.

For instance, you can buy complete Cathode-Ray Equipment, including the MODEL CRA Oscillograph and MODEL OM Frequency Modulated Oscillator, for a down payment of \$49.00 and monthly payments of \$17.15.

Ask your jobber or write for full information.

### 2 Complete "Service Laboratories" —approved by F. H. A.

CLOUGH-BRENGLE engineers have just completed a new line of "Service Laboratories"—which offer every essential servicing facility in impressive display cabinets. These meet the Federal Housing Administration requirements for their attractive time payment plan. See your jobber or write for new descriptive bulletin.

### 3 New Spring Catalog

Here is complete information on the most complete and the most popular series of precision radio service instruments ever offered. Cathode-Ray Oscilloscopes, R-F Signal Generators, Set Analyzers, Audio Oscillators, Power Level Indicators—all with the C-B reputation for unequalled performance and value. Get your copy today.

See coupon below

## The CLOUGH-BRENGLE CO.

1130-C W. Austin Ave., Chicago, U. S. A.  
Cable Address—CEBECO, Chicago

### Get the Full Story — TODAY

Please send at once the following new CLOUGH-BRENGLE Spring announcements:

- New Easy Payment Plan
- F. H. A. Approved "Service Laboratories"
- New Complete CLOUGH-BRENGLE Catalog

Name .....

Address .....

City .....

State .....

My Jobber is .....

Clip and Mail Now

**"SYLVANIA NEVER LETS YOU DOWN!"**



**"SYLVANIA COOPERATES . . . NO RED TAPE . . . AND AN EXTRA PROFIT ON EVERY TUBE I SELL"**

● And that's why more and more dealers and distributors are stocking Sylvania Radio Tubes. They know that Sylvania always backs them up . . . always plays good clean ball with its dealers.

You will like to deal with a company that sees your side of the question . . . that *never lets you down*. Find out about the sound policies that make selling Sylvania tubes so much easier. It may mean money to you.

Write today for more details about Sylvania. They're as good a tube as money can buy . . . they're made by a company you can depend on . . . and remember, you get that *extra margin of profit* that rings the bell on your cash register.

# SYLVANIA

**THE SET-TESTED RADIO TUBE**

This ad pinned to your letterhead will bring you complete data on the great Baldwin line of Replacement Speakers.

CONSOLIDATED RADIO PRODUCTS CO., 361 W. SUPERIOR ST., CHICAGO  
200 BROADWAY, NEW YORK, N. Y.

## SERVICING

to them in the receiver, but not in excess of the condenser rating, is recommended.

According to the average equipment at the disposal of the Serviceman, direct testing of the AVC values is not possible. For those who have cathode-ray equipment available, AVC troubles can be identified very quickly, but for those who do not have this equipment, the only alternative is the substitution method. One is just as definite as the other, but the latter is more laborious. This, of course, assumes an experienced user of cathode-ray equipment.

The active Serviceman will always get a fair number of intermittent receivers to repair and many troubles of this kind are recurrent for the same set and model number. It is, therefore, a good plan to keep written records of these cases for future reference.

### *Power pack troubles*

In the power unit, look for arcing of the rectifier tube socket contacts. The socket may develop leakage. Intermittent leakage in a filter condenser, providing a variable shunt for the output voltage, although rare, may occur. Contacts to wire wound and enameled power resistors are of the pressure type and, due to the oxidation with high temperatures, these may vary in conductivity. Differential expansion, due to temperature variation, is responsible here.

Many receivers have a large number of riveted contacts which may loosen due to stresses placed on the rivets in shipment or other causes. Where electrical contacts are made by this means solder should be used—just to make sure these are not causing trouble.

### *Thermal contacts*

Some wire wound resistors wound on composition will heat this composition, causing it to warp. If the unit is mounted near the chassis or any exposed contact, intermittent trouble may result.

Conditions in an audio transformer which cause this type of trouble are due to temperature expansion, and acid decomposition of the turns. The latter is almost always the case. Usually identified by considerable noise, this trouble can be eliminated by replacement or substitution with a resistance-capacity coupling system.

A substantial AC or DC overload of all windings for a considerable time is recommended for transformers under suspicion. Fig. 6 suggests a method.

### All-wave switch contacts

If the trouble is confined to a particular portion of the tuning dial or a section of the tuning range, the rotor contacts should be given attention. For a particular brand of all-wave or dual-wave receivers, the switch contacts may be the offenders. However, the latter are rarely in the intermittent classification.

There are very few occasions in which intermittent troubles are not covered by the above cases. No part of any receiver entirely escapes the possibility of trouble of this nature. For this reason no single unit within any receiver may be dismissed as being entirely free of failure. However, it should be noted with care that this trouble is more a matter of wiring and terminal connections than actual unit failures.

Due to space limitations we can not go into detailed tests. However, if the Serviceman will follow the general procedure as outlined, considerable time should be saved on stubborn intermittent repair jobs.

### COLLECTING SERVICE FEES

★ Collection of repair charges may be a pain to some service organizations, but to S.O.S. Radio Service of Newburgh, N. Y., it is a routine matter, always successful. S.O.S.'s policy is cash on delivery—otherwise no radio.

This policy is often expedited by phoning the customer before delivering the set, apparently with the intention of finding out what will be the most convenient time to deliver the radio. During the conversation the customer is advised of the price of the repairs and discreetly informed of the C.O.D. policy.

In unusual cases where the receiver is left without first obtaining the service charges and where the customer does not pay within a very short time, drastic actions have been found necessary. A "service engineer" is sent to the customer to check the operation of the set. The customer is told that this is a usual procedure and part of S.O.S. service to see that the set operates at 100 per cent efficiency. Nothing is said about the unpaid bill.

After gaining entry the serviceman finds several things which should be tuned up for maximum efficiency. The set should go back to the shop for this work. With the set back in

# DEALERS!

# Sell

## PIONEER

### FARM RADIO CHARGING GENERATOR



**\$49.<sup>95</sup>** LIST WITH A

**REAL PROFIT FOR YOU**

*Starts WITH THE PRESS OF A BUTTON!*

**PIONEER GEN-E-MOTOR CORP.**

466 W. Superior St., Chicago  
CABLE ADDRESS: SIMONTRICE, NEW YORK

OPERATES 25 WATT ELECTRIC LIGHTS!

CHARGES RADIO AND AUTO BATTERIES!

DRIVES FARM POWER SAWS!

OPERATES A PUMP!

**MAIL THIS COUPON** RT

PIONEER GEN-E-MOTOR CORP.  
466 W. SUPERIOR ST., CHICAGO, U. S. A.  
Rush details PIONEER 6-Volt Gas Engine Generator.

Company \_\_\_\_\_

Address \_\_\_\_\_

By \_\_\_\_\_

UTAH RADIO PRODUCTS CO. ORLEANS ST. CHICAGO, ILL.

# Utah FLASH

URPC 820 TWS - CHICAGO ILL

INTERESTING SIDELIGHTS ON VIBRATOR HISTORY AND COMPLETE REPLACEMENT GUIDE NOW READY STOP ADVISE HOW MANY COPIES YOU NEED

UTAH RADIO PRODUCTS CO

TEAR OUT THIS AD - PIN TO YOUR LETTERHEAD AND MAIL TO DEPT. R. T. FOR COMPLETE DETAILS AND FREE CATALOG

*just out!*

**1936**  
**Allied Radio**  
 CORPORATION  
 833 W. JACKSON BLVD., CHICAGO

**FREE MAIL THIS COUPON**

Send me your FREE Spring and Summer Catalog.

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_

# SERVICE NOTES

its possession, delivery is held up until the customer will pay the service fee. S.O.S. has a remarkable record of successful collections, and desirable customers are not lost by this procedure. A customer who tries to gyp the serviceman out of his fee is not worth having.

All quotations itemize labor, parts, and tubes — no flat rates. The inspection fee of \$1.25 is not charged when major repairs are made.

## ENDS SPECULATIVE CALLS

★ The Anderson Temple of Music, Anderson, Indiana, takes the bull by the horns as far as speculative calls for radio service are concerned. This firm won't make them. A radio owner who calls for service is informed that a home inspection, which consists in checking the aerial, ground, tubes, and circuit in general, will cost \$1.25.

## RECTIFIER OVERHEATING

★ Excessive heating of shielded rectifiers can usually be eliminated by painting the inside and outside of the shield with black paint, thereby increasing the radiation. This is a better method than cutting additional holes in the shield for the effective shielding is not reduced. However, care must be taken to scrape the paint off the lower portion of the shield so that it makes contact to the chassis.

If it is necessary to take the set away for major repairs, no quotation is made until the set has been torn down and the service department knows exactly what must be done to put the set in first-class condition.

## SERVICE CHARGES

★ Schedule of prices for radio repair work has been proposed by the Radio Technician Guilds of Massachusetts and Rhode Island. The

**WINCHARGER**

*Don't WASTE THE WIND USE IT*

Wincharger...World's Standard Wind Driven Battery Charger. Eliminates Run-down batteries. Makes the New 6 Volt Farm Radio operate like a city set at cost of less than 50 cents a year. Wincharger now offered at special low prices when bought with one of the following leading radios:-

ARVIN  
 ATWATER KENT  
 CROSLY  
 EMERSON  
 FAIRBANKS-MORSE  
 FADA  
 GRUNOW  
 L'TATRO  
 PHILCO  
 R. C. A.  
 SETCHELL-CARLSON  
 WESTINGHOUSE  
 ZENITH

WINCHARGER CORPORATION  
 2700 HAWKEYE DRIVE DEPT. A, SIOUX CITY, IOWA

# NATIONAL ADVERTISING MAKES EVERY FARMER WANT TO BUY A RADIO

**WHY?** Because farmers now know the bug-a-boo of radio battery drain is gone forever. The farmer can now operate his 6-volt radio 10 hours a day for 50 cents a year — even cheaper than the cost of operating a radio in the city.

Wincharger offers a choice of two models, Utility and DeLuxe. Utility lists at \$29.50, but when purchased with any of the radios listed in this advertisement, the price is \$10.00. DeLuxe lists at \$44.50, but when purchased with any of the radios listed, the price is \$15.00.

Wincharger is not only a leader for radio sales, but a convincing sales closer — a money maker from a service and installation standpoint. Tie our national advertising in with your radio sales for 1936. Take advantage of the sales weapons Wincharger offers you. Make yourself the leading Wincharger installation and service man in your community, charging from \$5.00 to \$15.00 plus material for each installation.

Write today for the latest service and installation information.

- ARVIN
- ATWATER KENT
- CROSLY
- EMERSON
- FAIRBANKS-MORSE
- FADA
- GRUNOW
- L'TATRO
- PHILCO
- RCA
- SETCHELL-CARLSON
- WESTINGHOUSE
- ZENITH

Look for this advertisement in the March Successful Farming, on sale Feb. 27.

**WINCHARGER CORPORATION**  
 World's largest mfrs. of 6-volt wind driven battery chargers  
 2700 HAWKEYE DRIVE SIOUX CITY, IOWA



price list is based upon removal of the receiver from customer's home to service station. If receiver is brought to the shop, \$2 is deducted from quotations listed below. In event the repair is made at the home a deduction of \$1 is allowed.

The prices listed below include the part used, but if more than one replacement is made the list price of the additional part plus \$1 for labor is added.

### RESISTORS

|   |        |
|---|--------|
| Carbon .....                              | \$4.50 |
| Wire Wound .....                          | 5.00   |
| Voltage Dividers (more than 2 taps) ..... | 6.00   |
| Volume Control .....                      | 5.50   |
| Ballast (AC or AC-DC) .....               | 4.50   |
| Tone Control .....                        | 5.00   |
| Hum potentiometers .....                  | 4.00   |
| Center Tap (Filament) .....               | 4.00   |
| Replacing All Resistances (carbon) .....  | 10.00  |

### CAPACITORS

|  |        |
|--|--------|
| By-Pass—tone or coupling .....             | \$3.50 |
| Filter Blocks (paper) .....                | 7.50   |
| Filters (electrolytic) single .....        | 4.00   |
| Double .....                               | 4.75   |
| Tuning (gang repairs) .....                | 5.00   |
| Drive Cable Restrung .....                 | 3.50   |
| Drive Cable Restrung (removing gang) ..... | 5.50   |
| Alignment (TRF) .....                      | 3.00   |
| Alignment (Super) .....                    | 5.50   |
| Replacing all By-Pass Condensers .....     | 10.00  |

### INDUCTANCES

|   |        |
|---|--------|
| R. F. Chokes .....                              | \$3.50 |
| Audio Transformers .....                        | 6.00   |
| Audio Chokes .....                              | 4.75   |
| Power Transformer (5 tubes) .....               | 6.50   |
| (6 to 8 tubes) .....                            | 7.50   |
| (9 to 10 tubes) .....                           | 11.00  |
| R.F. and I.F. Transformers plus alignment ..... | 5.50   |
| Speaker Fields (under 1 lb. wt.) .....          | 5.50   |
| (Under 5 lbs. wt.) .....                        | 8.00   |
| Filter Chokes .....                             | 4.50   |
| Speaker Cones .....                             | 5.00   |

These prices have been compiled by servicemen with more than five years' experience in radio repair work. Being fair to public and servicemen, these prices keep a happy medium.

## AUTO RADIO NOISE

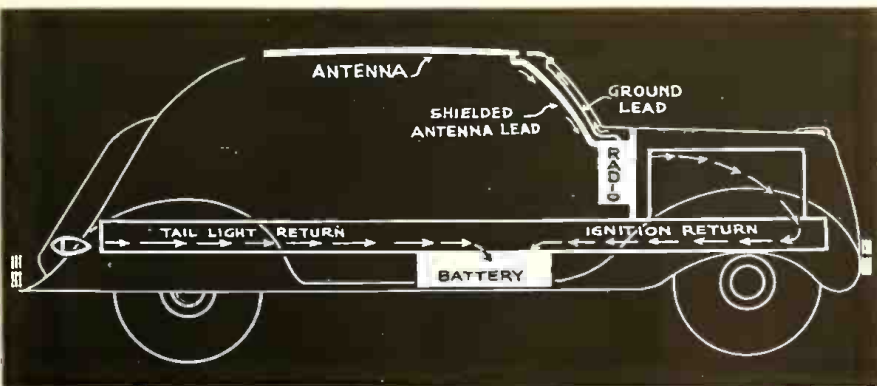
★ Noise in auto radio installations can often be traced to poor connections between various parts of the auto frame and body. When the signal level becomes low, as is the case at moderate and great distances from the metropolitan areas, resort is made to bonding the body and frame in a number of places.

Quite often this is an unnecessary procedure; the noise can be eliminated sufficiently by a more effective grounding of the set. Return currents from ignition and lighting systems are flowing through the frame of the car. When the antenna to ground circuit follows these same paths, noise pick-up is likely to result if there are any poor contacts in the circuit. By removing the antenna-ground pick-up circuit from these areas, noise-free reception is easier to obtain.

### Extra grounding

This may be accomplished by running an additional ground connection from the antenna coil (or chassis) to a point very close to the antenna. In the case of a roof antenna, the ground should be made in vicinity of the junction of the roof and front corner post. With a running board antenna, the ground should be made to the running board at a point close to the antenna lead connection.

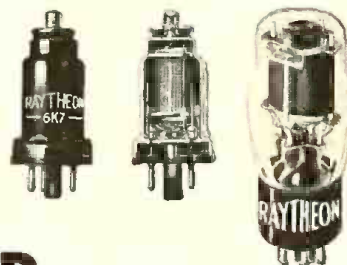
The accompanying diagram shows how the ignition return circuits may be removed from the antenna-ground pick-up area with a roof-type aerial. If the indicated ground lead is removed the radio signal currents must also flow through the frame in common with noise currents. In new cars in metropolitan areas, such precautions may be unnecessary, but in the country, the trouble involved is well repaid in terms of customer satisfaction.



Radio signal currents are kept in the upper portion of the car away from noise areas by using an additional ground lead. Arrows indicate common ground return circuits (noise) through auto chassis frame.

## RAYTHEON

4-PILLAR GLASS AND ALL-METAL RADIO TUBES



# "Radio will elect the next President"

CARRY ON WITH RAYTHEON!

The Raytheon Line is complete ... 4-Pillar Glass, "G" Type and All-Metal Tubes ... Raytheon's 1936 Sales Campaign will help you sell tubes ... at a PROFIT!

Visit with Raytheon at Booth 15, in the 4th Annual National Convention and Radio Trade Show, Hotel Sherman, Chicago, Ill. March 27, 28 & 29.



### TECHNICAL DATA CHART

Raytheon has distributed hundreds of thousands of the previous 8 editions. The NEW NINTH EDITION will be off the press soon! This chart gives all the important characteristics of types formerly listed; includes information on all the new tubes and other valuable reference data — it's NEW! It's UP-TO-DATE! It's FREE!

Headquarters for Tube Information

### RAYTHEON PRODUCTION CORP.

30 EAST 42ND STREET . . . . . NEW YORK, N. Y.  
 55 CHAPEL STREET . . . . . NEWTON, MASS.  
 445 LAKE SHORE DRIVE . . . . . CHICAGO, ILL.  
 555 HOWARD STREET . . . . . SAN FRANCISCO, CAL.  
 415 PEACHTREE STREET N. E. . . . . ATLANTA, GA.

RAYTHEON PRODUCTION CORPORATION  
 Dept. T-2, 30 East 42nd St., New York, N. Y.

Please send NEW 9th Edition Tube Chart, FREE!

Name .....

PLEASE PRINT

Address .....

City .....

## ELECTRON-EYE TUNING

for any set!



### TACO Tuning Indicator

- ★ Provides visual tuning indicator . . . luminous target with variable black segment . . . for razor-sharp tuning.
- ★ Installed in any A.V.C. set in an hour or less . . . complete instructions.
- ★ Only \$1.50 list, without 6E5 tube. A good profit-maker over the counter or on service calls.

**DATA** Write for technical and merchandising facts on this and other fast-selling money-making radio specialties and antenna systems.

# TACO

TECHNICAL APPLIANCE CORP.  
17 East 16th St., New York City

### Here is the NEW 206FE "MAGIC EYE" Connector!



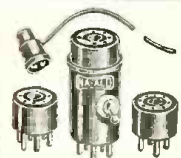
Set manufacturers are using this connector in their new receivers. Radio servicemen are using it to add the "Magic Eye" to any set having a v.c. and six-volt tubes. Add the 6E5 "Magic Eye" to your set with the 206FE Molded base meets Underwriters' requirements for shockproof construction. Each contact and lead is individually insulated with molded insulation. Available with one megohm resistor internally assembled and connected to target and plate contacts—also with leads to suit your own chassis layout for fast low-cost assembly. Manufacturers, write for samples. 206 FE "Magic Eye" Connector with internal resistor and five 24 in. leads. List price 75c



Here is the "Magic Eye" Adapter for adding the 6E5 tube to any set having a v.c. and six-volt tubes. Give type number of output tube when ordering. List price \$3.50

### METAL TUBE REPLACEMENT ADAPTERS

LIST PRICE . . . . . 50c each  
Servicemen now can easily modernize obsolete sets by replacing over 25 different glass tube types with new Metal Tubes by using these new tube modernizer adapters. Improves performance of sets. Order by tube number or write for catalog sheet giving complete information.



Here is the adapter kit recommended by G. E. engineers for checking metal tubes in obsolete tube checkers. Thousands now in use. Modernize your tube checker with this kit. Necessary only that checker be capable of testing 37, 41, 42, 77, 78 and 80 tubes. 900 GE Kit List price \$4.80

Get your name on our mailing list for the new 1936 catalog. Na-Ald items are widely stocked—try your regular supplier—if he hasn't them and does not care to get the genuine Na-Ald products order direct from us.

**NA-ALD**

ALDEN PRODUCTS CO.  
Dept. RT2 715 Centre St.  
Brockton, Mass.

# SERVICE NOTES

## SOUND TRUCK RENTAL CHARGES

★ What to charge for street advertising with a sound truck is told in the experience of Elmer Zinders, radio dealer of Oconomowoc, Wis., a community of 4,500.

"Whenever a political candidate has a message to deliver, he usually employs our advertising truck to parade up and down local streets with an announcer delivering the message. Church bazaars and other community events are publicized in the same way.

"This gave local merchants an idea. They now subscribe regularly to our sound advertising service. Charges range from three to five dollars an hour.

"Merchants say that such advertising pays real well, for people will stop and listen to spoken announcements over the sound system."

## RECEIVER MODERNIZATION WITH CATHODE-RAY TUNING

★ Servicemen everywhere can now cash in on the publicity given to magic eye and similar visual tuning devices, by installing any one of the number of cathode-ray tuning units now offered for use with any make of radio. Current advertising has made the public conscious of the deficiencies of their radios.

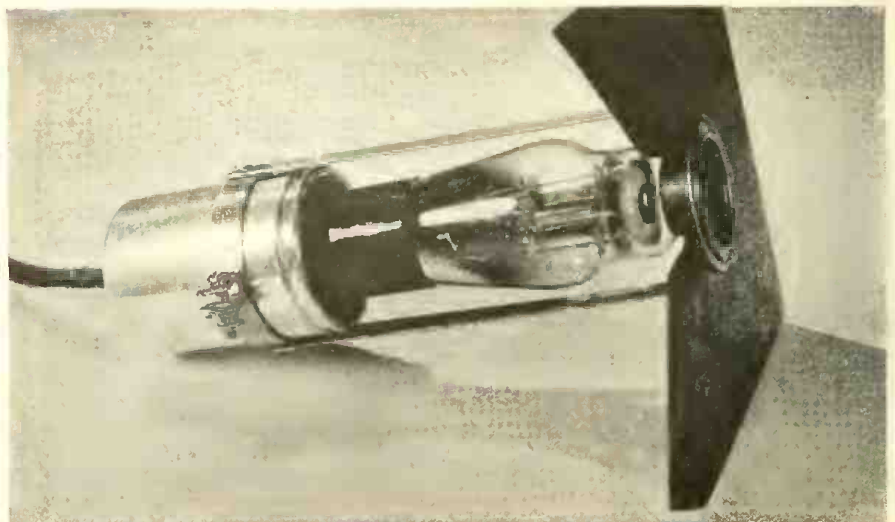
Practically any radio sets with automatic volume control and six-volt tubes can now have cathode ray tuning at a small expense. Most of the

devices are self-contained and require the drilling of but a single hole in the cabinet. A cable is used to transfer the operating power from the chassis to the unit, and the connections are made to non-critical points in the receiver. No changes whatsoever are required in the receiver circuit. The prices of the units are moderate, and the labor involved is slight. Alden Products Co., Empire Radio Corp., Technical Appliance Corp., are some of the manufacturers marketing the device.

## LINE VOLTAGE VARIATIONS

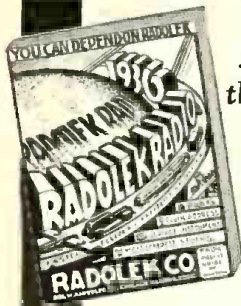
★ The importance of testing the receiver at its specified line voltage was discussed last month, together with the suggestion that the receiver operation be checked at sub-normal voltages. In outlying districts where the line potential is low, some receivers refuse to perform well or may cease to operate.

The receiver may now be tested at these lower voltages by using a continuously variable auto-transformer known as Variac. This transformer when operated from 115 volts will provide a smooth variation of potentials from 0 to 130. It is manufactured by General Radio Co. of Cambridge, Mass., and has a current rating of 5 amperes, sufficient to operate the largest of radio-phonograph combinations and amplifier systems. In addition it is a very useful device around the service shop.



The cathode ray tuning adapters such as Taco unit illustrated are easily installed. Note the single hole mounting with two screws.

## New! PROFIT GUIDE



Just off  
the Press!

- 164 Pages
- New Items
- New Prices

The Radolek New 1936 Profit Guide is the most complete Radio Parts Catalog ever published. Completely revised — right up to the minute, bringing you everything in Radio — at the right prices. Every page brings you extra profits! Contains over 10,000 Individual Radio Repair Parts — hundreds of new items — a complete new selection of Receivers, Amplifiers, Tools, Tubes, Books and Instruments. Everything you need — always in stock . . . ready for prompt shipment to you. You need this Big Radio Parts Catalog — It's FREE. Send for it!

### RADOLEK

**MAIL THIS COUPON!**

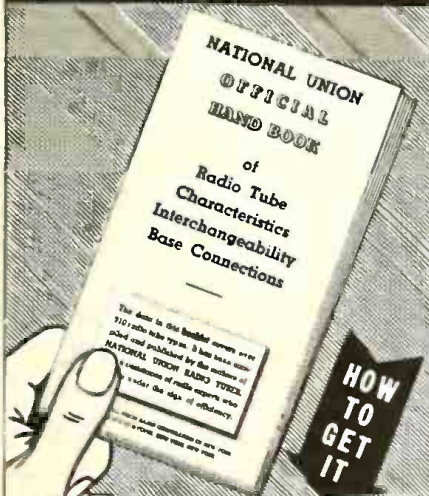
RADOLEK—584 W. Randolph—Chicago  
Send The Radolek Profit Guide Free.

Name .....

Address .....

Serviceman?  Dealer?  Experimenter?

## OVER 310 TUBE TYPES



**HOW TO GET IT**

Greatest compact pocket size compilation of vital radio tube information in the industry!

1. If you are a National Union radio tube dealer ask your distributor for a free copy.
2. If you are not a National Union tube dealer, send ten cents (stamps or coin) to cover postage and handling OR
3. Send coupon asking for name of nearest National Union distributor from whom you can get a copy free.

NATIONAL UNION RADIO CORP. of N. Y.  
570 Lexington Avenue, New York, N. Y.

Who is my nearest N. U. jobber?

Name .....

Street .....

City .....

State .....

RT 236

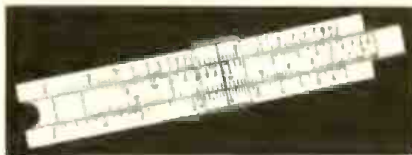
## CHICAGO I. R. S. M. TRADE SHOW, MARCH 27-29

★ Ken Hathaway, executive secretary of the Institute of Radio Service Men, reports that with the 1936 National Radio Trade Show of March 27-29, still six weeks off, all of the 65 booths in the Exhibition Hall at the Hotel Sherman, Chicago, where the Trade Show is to be staged, have been taken. Negotiations have been under way to expand the space, if possible, to take care of exhibitors who failed to get their applications in early.

Special features provided for the coming show include the Hammond organ, the new electronic musical instrument that created so much interest and attention at the New York show last October, and a "covered wagon" house trailer that will be equipped as a portable radio-service laboratory. The exhibition hall is laid out admirably to take care of the crowds and permits arranging the booths so that they all lie on the path leading to the lecture hall.

The 1936 National Radio Trade Show is open to everyone connected in any way with the radio industry. There is no registration fee.

★ Offered by the Electronic Laboratories, Inc., of 112 W. New York St., Indianapolis, Ind., is a small 5-inch slide rule. This calculator, obtainable free for the tops of 20 Electronic vibrator cartons, facilitates the computation of many radio service jobs.



Ohm's Law problems, involving resistance and current and voltage, can be solved almost instantaneously. Other problems such as power output, impedance matching, and all problems requiring multiplication and division can be rapidly calculated. Discounts and profit percentages are among other valuable uses of the slide rule.

★ New 1936 catalogue of service instruments made by Clough-Brengle, 1134 W. Austin Ave., Chicago, Ill., has just been issued with 8 different models illustrated and described.

★ 1936 Condenser Service and Replacement Manual issued by P. R. Mallory & Co., Inc., 3029 E. Washington St., Indianapolis, Ind., contains data gathered from practically 30,000 servicemen. Over 150 manufacturers are represented in the listing. Information presented includes original part number or value of part, Mallory number, and installation instructions. Front of 96-page book has dope on mounting replacements, ratings, while some 15 pages in the rear are given over to a catalog of Mallory condensers.

## NEW RESISTORS



NEW PRICES

Send for the New Circular 507-A

● Service Men Know Ward Leonard resistors are dependable and honestly rated. Don't take chances with overrated resistors. New prices effective May 15th and several hundred new items are listed in this new edition of replacement resistors. Send in the coupon today.

### WARD LEONARD

RELAYS • RESISTORS • RHEOSTATS

WARD LEONARD ELECTRIC CO.  
Mount Vernon, N. Y.

Please send new bulletin 507-A.

Name .....

Company .....

Street .....

City and State .....

RT

**SOLAR**

## Capacitors



WET  
DRY  
PAPER  
MICA  
TRIMMER

Reliable  
in every climate  
throughout  
the world



WHEN IN NEED OF  
GOOD CONDENSERS  
SPECIFY THE BEST

Literature on request

**SOLAR MFG. CORP.**

599-601 Broadway  
New York City

FLASH

# Radio Extra

FLASH

## 'CORONET'— THE PERFECTED METAL TUBES —FOR GLASS TUBE SETS!

### New Arcturus Scoop Increases Your Sales and Profits

ARCTURUS 'CORONET'—THE PERFECTED METAL TUBES TO REPLACE GLASS TUBES IN OLD SETS! If that isn't a "natural" in the way of a sales-booster—well, just ask the first glass-tube set owner you meet!

Think of all the sales pressure behind the Metal Tubes and figure out how the man with the old set feels. He thinks that if he can't afford a new set he's out of luck. And there are hundreds of old-set owners right in your vicinity . . . over 20,000,000 in the country . . . anxious to modernize their receivers.



These 'CORONET' TUBES replace glass tubes of the same type number:

2A6 'Coronet'  
24 "  
27 "  
51 (35) "  
55 "  
56 "  
57 "  
58 "  
75 "  
77 "  
78 "  
80 "  
85 "

For new metal-tube sets use 'CORONETS'—the perfected METAL TUBES.

ARCTURUS — and ARCTURUS ONLY — gives them the chance to modernize.

Be the first to show and offer these sensational Arcturus 'Coronet' Tubes in your territory and watch your sales and profits jump. If your distributor can't supply you at once, wire, 'phone or mail the coupon.

ARCTURUS RADIO TUBE CO.  
NEWARK, N. J.

## ARCTURUS 'CORONET' METAL TUBES

ARCTURUS RADIO TUBE CO., RT-2  
720 Frelinghuysen Ave., Newark, N. J.

We're interested. Rush full details on the 'CORONET' replacement line.

NAME \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

My jobber is: \_\_\_\_\_

# WITH THE WHOLESALERS

★ Casa Azcarraga, RCA distributors in Mexico, are still cashing in on good will results from a free outing staged for 10 dealers of the area. Excursion was a week long to a spot called Acapulco, beautiful Mexican port; the dealer trek attracted wide attention while making the 10-hour motor drive. Recently, Casa Azcarraga has been giving monthly suppliers for dealers at a local grill.

★ Onondaga Auto Supply Co., 353 E. Onondaga St., Syracuse, N. Y., is a new and exclusive distributor for Zenith products.

★ Sunset Electric Co., Seattle, Wash., has taken on the distribution of Philco radios in western Washington. Appointment was made an event in the Sunset advertising locally; copy dramatically said that the company was proud of its appointment, and explained why, in terms of Philco accomplishments.

★ At Huntington, W. Va., Air Ola Radio Company has been appointed distributor for Fairbanks-Morse refrigerators, radio, washers and ironers. Another new F-M distributor is the Benton-Bailey Co., Inc., with offices at Norfolk, Roanoke and Richmond, Va.

★ Roycraft Corp., Philco distributors of Minneapolis, Minn., staged a show for the 1936 line for 300 dealers of the area early last month. Prominent in the proceedings were, R. B. Cohen, Roycraft president, and these Philco execs: E. W. Shepherd, James A. Carmine, and Max Enelow.

★ General Household Utilities Co., makers of Grunow radios and refrigerators in Chicago, late last month held an all-American distributor meeting with "capacity production" as the theme song. William C. Grunow explained the company's reorganization plans; H. J. Shartle, general sales manager, outlined the 1936 sales program, and J. H. Rasmussen, ad manager, explained the huge Grunow promotion plan for 1936.

Four new Grunow distributors at the meeting were: M & M Co., Cleveland, Ohio; Ridge Motor Supply Co., South Bend, Ind.; Lappin Electric Co., Milwaukee, Wis.; Ignition Service & Supply Co., Albany, N. Y.

★ Philco distributors throughout the country held additional meetings for dealers during the last month at South Bend, Ind.; Evansville, Ind.; Boston; Wichita, Kan.; Oklahoma City, Okla.; and Tulsa, Okla. Jobber hosts in these spots were Radio Equipment Co., Philco Sales & Service, Roskin Distributors, Inc., and Spurrier's, Inc.

★ Harry Alter Company, Chicago, Grunow radio and refrigeration distributor, was host for a period of three days recently, to dealers in Chicago territory. Following their very successful gathering last year, Harry and Art Alter repeated the procedure in 1936, reserving rooms at the Congress Hotel where visting dealers were given every opportunity to inspect Grunow products. Harry Alter is enthusiastic regarding this method of dealer presentation, pointing out that the dealers have every

## TRY SPRAGUES... and note the difference



... Now you can get an 8 mfd. Sprague 450 V. Condenser for only 57¢ net—either in the Tiny-Mikes or standard size units.

... Or, if you want the finest, most universal replacement money can buy, try an 8 mfd. EC "600 Line" unit—the Rolls Royce of Condensers.

Remember: YOU DON'T HAVE TO CHECK SURGE VOLTAGES IN A RECEIVER WHEN USING EC'S AS REPLACEMENTS. . . .

You owe it to your reputation to use the best—ON EVERY JOB.

SPRAGUE PRODUCTS CO.,  
North Adams, Mass.

# SPRAGUE 600 LINE CONDENSERS

AMERICA'S FINEST LINE OF QUALITY UNITS

comfort and convenience offered them with ample opportunities for the members of the sales staff to demonstrate the products adequately and, of course, to close dealer sales as part of the program.

★ More than 600 Sparton radio and refrigeration dealers in Chicago and Illinois were the guests of the Commonwealth Utilities Co., Sparton distributor in Chicago, at a dinner and vaudeville show held at the Medinah Club in that city. Sparton officials from the factory at Jackson, Mich., contributed a series of timely talks and the jobbing organization functioned perfectly as host through the medium of Sam Schulman, president, and Walter O'Halloran, sales manager of the organization.

★ January dealer meetings held by Crosley distributors the country over have been reported as lively send-offs for 1936 Crosley radios, refrigerators, and laundry equipment. Here are the hosts, with the number of dealer guests, when reported: Providence Electric Co., Providence, R. I., 176; Kiefer-Stewart Co., Indianapolis, 270; Tarbell-Watters Co., Springfield, Mass., 200; George Collins Co., Boston, 500; Maurer Greusel Co., Milwaukee; Heib Distributing Co., Des Moines, 150; Advance Appliance Co., Peoria, Ill., 100; Central Auto Equipment Co., Springfield, Ill.; Tenk Hardware Co., Quincy, Ill.; Pollard-Hasselbalch Co., Omaha, 100; Perfection Mattress and Spring Co., Birmingham, Ala., 150; Readers

Wholesalers Distributors, Houston, Tex., 500; Bech & Gregg Hardware Co., Atlanta, Ga., 200; Frankelite Co., Cleveland; Ontario Electric Co., Buffalo; Motor Power Equipment Co., St. Paul, Minn., 200; Graybar Electric Co., San Antonio, Tex., 200; Western Supply Co., Salt Lake City, Utah, 100; Talbot, Brooks & Ayer Co., Portland, Me.

★ Dealer meeting, for Kansas merchants who sell Crosley radios, Shelvador refrigerators, was held last month at Wichita, Kan., with Stimpson Sales & Investment Corp., Wichita, as host. Don Crosby, Crosley factory man, and L. E. Stimpson, head of the local distributing company, were central figures.

★ Retailers by the thousands from metropolitan New York and New Jersey, were guests of the Philco Radio & Television Corp. of New York at the Hippodrome, New York City, last month. Affair was a major mid-winter meeting, complete with a special performance of "Jumbo," assorted screen celebrities, and Philadelphia officials including T. A. Kennally, Sayre M. Ramsdell, and L. E. Gubb. From the Philco Co., New York, came T. A. O'Loughlin and Harold R. Sheer.

★ Two hundred Crosley dealers and servicemen were recent guests of Harry T. Wilson, head of Harry T. Wilson, Inc., Memphis, Tenn., distributors of Crosley products and

Ken-Rad tubes. Besides Mr. Wilson, on the program were Ed Saunders and E. S. Cook of the Wilson Co.; George H. Lasley, Crosley district manager; and C. C. (Bud) Mathews, Ken-Rad sales manager.

★ Southeastern distributors of Hygrade Sylvania tubes met recently at Atlanta, Ga., with Charles G. Pyle as host. Mr. Pyle, assistant sales manager of the Hygrade Co., has been holding such meetings among jobbers for more than a year as he treks continuously up and down the nation; next he will go to the Pacific coast. Long suit is illustrated talks.

★ New wholesale organization to operate in western Massachusetts, and the states of Connecticut and Vermont, is Stern Wholesale Parts, Inc., with Francis E. Stern as president and Perry S. Graffam, vice-president. New company is a separate corporation from Stern & Co., Inc., also of Hartford, Conn., and will handle wholesale radio parts, amateur supplies and equipment for the trade and for servicemen. Positively no service for retail consumers, altho Stern's will offer special service to dealer shops.

Stern & Co., Inc., Grunow distributors, were hosts to their dealers at a recent three-day meeting in that city.

★ New Zenith distributor for New York City and area is Colen-Gruhn Co., Inc., 387 Fourth Ave.

# WIN \$100<sup>00</sup> for a name!

## RULES OF CONTEST

FIRST PRIZE \$100.00.

FIVE additional prizes of \$5.00 each.

Anyone in the radio-music field may compete, except employees of AUDAK CO. and its advertising agency.

You need not buy anything to compete.

No more than three names may be submitted by one contestant.

If prize-winning name is submitted by more than one entrant, the full amount as stated above will be awarded to each.

Decision of the judges will be final.

Contest closes APRIL 15, 1936

Announcement of winners will be made as soon as feasible.

## THE JUDGES

Edwin K. Cohan, Director of Engineering, Columbia Broadcasting System.

Keith Henney, Editor of "Electronica."

Dr. O. H. Caldwell, Editor "Radio Today" and former Federal Radio Commissioner.

## ABOUT THE PRODUCT

Its underlying principle is the same as that of the magnetic cutter employed in the new higher fidelity recordings.

Moving mass, the one factor which has prevented perfect pick-up performance, has at last been eliminated.

Thanks to a highly ingenious new system, the vibrating armature, heretofore the obstacle to WIDE RANGE, is STATIONARY in the NEW product.

There being virtually no moving mass, damping has been rendered unnecessary.

Any good service man can handle its mechanism with facility.

Consistently uniform performance—regardless of heat, humidity or amplitude variations.

# AUDAX

## pick-ups . . .

"The standard by which others are judged and valued"

announces a revolutionary new system based upon a radically different principle . . . and invites friends in the trade to name it.

Recently, recordings have improved so vastly that the present standards of pick-up performance, satisfactory though they are, must now be completely revamped and stepped up to accommodate the new demands.

This is a job that calls for leadership, initiative, engineering skill . . . a job such as AUDAX, repeatedly in the past, has performed to the delight of the industry . . . and performs again today. Pioneers in electro-acoustical development, we have successfully brought to the fore each significant improvement in sound reproduction, so it is but natural that you should expect news like this to emanate from AUDAX.

With this remarkable development the problem of real high fidelity transcription performance is definitely solved. It is the one system which accurately interprets the NEW excellence of today's superb recordings.

Have you the complete AUDAX catalogue of models listing from \$9.50 to \$390.00

## AUDAK COMPANY

500-T Fifth Avenue, New York

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

# THOUSANDS

ARE ASKING ABOUT!

**Now Farm Power**  
**FOR ELECTRIC LIGHTING**  
**RADIO, WASHING MACHINES PUMPS AND OTHER FARM APPLIANCES**  
**Priced within Reach of EVERY FARMER**

It's so simple. A compact and efficient gas engine drives generator that produces about 400 watts of power. You can use it for lighting, radio, pumps, washing machines, etc. The days of the big battery have gone for good. The days of the big generator are also gone. **RELIABLE** Farm Power for less than ten dollars. **FREE** information on Farm Power. **FREE** sample of Farm Power. **FREE** sample of Farm Power. **FREE** sample of Farm Power.

**Sentinel**  
**LARGEST PRODUCERS OF FARM RADIO!**  
**MAIL THIS COUPON!**

SENTINEL RADIO CORP.  
 2222 DIVERSEY PKWY., CHICAGO, ILL.  
**FREE** Rush me complete information on Farm Power.  
 Name **W. M. MOLT** State **N.C.**  
 Address **Princeton**

# FARM POWER

Sentinel is swamped with replies to its National Advertising

**MAIL THIS COUPON!**

SENTINEL RADIO CORP.  
 2222 DIVERSEY PKWY., CHICAGO, ILL.  
**FREE** Rush me complete information on Farm Power.  
 Name **Clifford S. Gordon** State **Ill.**  
 Address **Chicago**

**MAIL THIS COUPON!**

SENTINEL RADIO CORP.  
 2222 DIVERSEY PKWY., CHICAGO, ILL.  
**FREE** Rush me complete information on Farm Power.  
 Name **Howard Morgan** State **Colo.**  
 Address **Chicago**

**MAIL THIS COUPON!**

SENTINEL RADIO CORP.  
 2222 DIVERSEY PKWY., CHICAGO, ILL.  
**FREE** Rush me complete information on Farm Power.  
 Name **Herbert Kraus** State **Ill.**  
 Address **Chicago**

**MAIL THIS COUPON!**

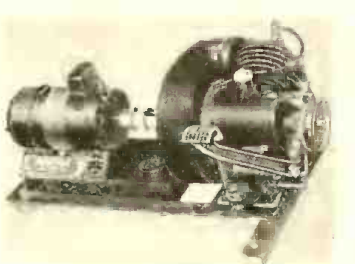
SENTINEL RADIO CORP.  
 2222 DIVERSEY PKWY., CHICAGO, ILL.  
**FREE** Rush me complete information on Farm Power.  
 Name **R. C. Cantel** State **Ill.**  
 Address **Chicago**

**MAIL THIS COUPON!**

SENTINEL RADIO CORP.  
 2222 DIVERSEY PKWY., CHICAGO, ILL.  
**FREE** Rush me complete information on Farm Power.  
 Name **Paul J. Plant** State **Ill.**  
 Address **Chicago**

**MAIL THIS COUPON!**

SENTINEL RADIO CORP.  
 2222 DIVERSEY PKWY., CHICAGO, ILL.  
**FREE** Rush me complete information on Farm Power.  
 Name **W. J. Murphy** State **Ill.**  
 Address **Chicago**



Model A FARMPOWER Gas Engine Generator  
 The Modern FARM LIGHT and POWER PLANT

They're pouring in—thousands of coupons from Sentinel's National Advertising featuring FarmPower. Farmers from every State are anxious to see this new economical power unit that sells for less than \$50.00. They all want electricity. Are YOU going to sell it to them? FarmPower is the biggest opportunity for sales and profit of the last quarter century. Mail the coupon, or, better yet, wire today. Get samples! Have complete information ready for your hundreds of prospects. Take full advantage of this virgin market. Get busy at once!



Model B FARMPOWER Generator only

**SENTINEL'S Complete Line of FARM RADIO**

Sell Sentinel, the most complete line of 2-volt and 6-volt Table and Console Models in every Price bracket, developed by the pioneers of this field.

**Sentinel**  
**RADIO CORPORATION**  
 "Largest Manufacturer of Farm Radio"

**MAIL THIS COUPON!**

SENTINEL RADIO CORPORATION  
 2222 DIVERSEY PKWY., CHICAGO, ILL.  
 Please send me, complete details of FarmPower and special sample offer to dealers.

NAME .....

FIRM .....

ADDRESS .....

DISTRIBUTOR'S NAME .....

## RADIO TODAY'S BOOK SHOP

The services of this department are offered for your convenience. Just send us your order, with remittance at the list price, for any Radio Book you desire and we will forward it to you without delay. Here are a few suggestions. Order your Radio Books from

**BOOK SHOP, RADIO TODAY**  
 480 LEXINGTON AVE. NEW YORK, N. Y.

- Radio Physics Course**, by Alfred A. Ghirardi. 2d Revised Edition. Basic electrical theory pertaining to the latest applications. Used the world over as a valuable reference and text book. Nearly 1,000 pages. 500 diagrams and illustrations.....\$4.00
- Principles of Radio**, by Keith Henney. Intended primarily for radio students, experimenters, and technicians—this book covers a wide range of subjects from the fundamentals of electricity to the modern concepts of modulation and detection. Well illustrated. Practical. 491 pages. Cloth.....\$3.50
- The Outlook for Television**, by Orrin E. Dunlap, Jr. In this volume a leading student of broadcasting and television gives you the latest information on the subject and offers, in addition, the ideas of eight foremost authorities on the value of television in their individual fields.....\$4.00
- The Advertising Agency Looks at Radio**, edited by Neville O'Neill. Get the first detailed and comprehensive statement of the Advertising Agencies' point of view on Radio from 18 experts. 248 pages.....\$3.00
- Elements of Radio Communication**, by John H. Morecroft. Contains simple laws of circuits, particularly useful in radio communication. General idea of radio communication. The vacuum tube and its uses. Radio telegraphy. Radio telephony. Receiving sets. 286 pages. Cloth.....\$3.00
- Elements of Loud Speaker Practice**, by N. W. McLachlan. A small, practical manual. Covers the entire field of practice excepting some theoretical and advanced aspects. Illustrated with simple diagrams.....\$1.75

**EXTRA**  
 SYNCHRONIZED SOUND SYSTEMS

**17 WATTS UNDISTORTED OUTPUT**

★ Floor Crystal Microphone 25 feet Cable—One or Two Speakers.

**MODEL PX-417**

- ★ Strict Dealer Policy
- ★ Time Payment Plan
- ★ Fully Licensed

This equipment makes an ideal system for permanent installations in halls, churches, schools, etc., where crowds not exceeding 3,000 people are to be handled. Like all WEBSTER-CHICAGO sound systems, it is completely synchronized and all parts are properly matched to deliver the ultimate in results.

Price is surprisingly low. Write for details.

**THE WEBSTER COMPANY**  
 3825 W. Lake St. Section F9 Chicago, Ill.



# TRADE NEWS

★ E. A. Tracey and Parker H. Erickson, respectively the vice-president in charge of sales and the sales promotion manager of the Zenith Radio Corp., are supervising the introduction of the Zenith auto radios at regional meetings for distributors. These take place at Chicago, Pittsburgh, New York, Kansas City, and Atlanta. L. W. Sturdevant, Zenith's Pacific Coast manager, heads the gatherings on the West Coast.

★ Radio trade of the New York area regards with interest the formation of the Brennan-Cole Corp., with headquarters at 11 West 42nd St., New York City. Company will merchandise specialty products in the area; Herbert A. Brennan is president, Rufus S. Cole vice-president, and within a few days a complete line of refrigerators and air-conditioning apparatus will be announced with radio following shortly. "Herb" Brennan is a sales expert formerly associated with Stromberg-Carlson and Norge; Mr. Cole was previously vice-president in charge of sales with the Hupp Motor Car Co.

★ Neil Bauer, vet field sales manager for Crosley Radio Corp., has been named manager of the new Crosley division created to handle the distribution of electric washers and ironers, recently introduced by the company. Separate division was necessary, according to Powel Crosley, Jr., president, because other appliances may be added soon, in vigorous attempt by the company to supply seasonal items for every month of the year.

★ To celebrate the opening of its new executive offices and the enlargement of facilities, the Standard Transformer Corp. held a cocktail party at the Stancor plant, 850 Blackhawk St., Chicago, Ill., on February 1st. Action started around 3 o'clock p.m. and continued for six or seven hours, with manufacturing organizations of Chicago well represented during the course of the day. Jerry Kahn, Stancor president, ably assisted by the members of his organization, was mighty successful in pro-

viding every guest with ample liquid and food requirements.

★ Carl D. Boyd, widely known throughout the industry and identified with many prominent organizations for the past 15 years, is now district manager on the Pacific Coast for the Stewart-Warner Corp. in connection with the marketing of the company's Radio and Refrigeration products.

★ Ross Siragusa, general manager of Continental Radio and Television Corp., Chicago, manufacturer of radio receivers, announced on February 1st, the appointment of Louis Dorfman and E. T. Rice as members of the company's sales organization. Both of these representatives are well-known throughout the radio industry and Mr. Dorfman will cover metropolitan New York, New York State, Philadelphia, Baltimore and Washington; Mr. Rice the New England territory.

★ J. P. Quam, president of Quam-Nichols, Chicago, manufacturers of loud speakers, was a New York visitor this month making his headquarters at the New York offices of his company, 1674 Broadway. Mr. Quam returned westward with substantial orders, plus an optimistic viewpoint of the industry in general.

★ David E. Bright, president of Pioneer Gen-E-Motor Corp., Chicago, Ill., was a visitor to New York during the Motorboat Show, making his headquarters at the offices of the Edwin F. Schmitt Sales Co., his company's New York representative. Mr. Bright's trip was primarily in the interest of the company's gas engine generator which was introduced recently and he found a cordial reception from the Eastern trade for this new product. At present this energetic manufacturer is on the Pacific Coast making his headquarters at the offices of the Marshank Sales Company, 2022 W. 11th St., Los Angeles, Calif., and visiting the trade along the Pacific Coast.

★ Walter H. Dyer, formerly a director of General Household Utilities Co., Chicago, in charge of automotive and contract radio department, has joined the staff of Stewart-Warner Corp., as head of the auto radio set division.

(To page 52)

## FREE A HANDSOME SLIDE RULE TO AUTO RADIO SERVICE MEN

### For only 20 ELECTRONIC Vibrator Box Tops

Here's the opportunity of a lifetime to get something you have always wanted—a Vest Pocket Slide Rule—simply by saving and sending in the tops from 20 Electronic Vibrator Cartons with your name and address. Nothing else required. Immediately you will be sent this handy imported vest pocket slide rule enclosed in a leather case. The regular retail value of this slide rule is \$2.50. Don't delay. Start saving your Electronic Vibrator Carton tops today. It's easy.

**ELECTRONIC LABORATORIES, INC.** 123 W. New York St., Indianapolis, Ind.

By using Electronic replacement vibrators exclusively you not only will be giving your customers the best vibrator on the market regardless of price—but at the same time you will be making more money for yourself.

Write today for complete details and your copy of the new 1936 ELECTRONIC catalog which contains a replacement guide and cross index reference for Vibrators.

## And the Answer to the demand for a quality Magnetic



is the **"Hyflux"**

- High Efficiency
- Wide frequency range
- Permanent dust proofing
- Rugged construction

Write For Complete Details, Specifications, Prices

**WRIGHT-DECOSTER, Inc.**  
2265 University Ave., St. Paul, Minn.

Export Dept.: M. Simons & Son Co.  
Cable Address: SIMONTRICE, New York  
Canadian Office: Wright DeCoster, Inc., Guelph, Ont.

## LINE VOLTAGE DROPPING Series "MT" RESISTOR



Identical in size, shape, finish, to 25Z6 and 25A6 metal tubes. Fits 8-prong octal socket. For AC-DC chassis. Meets Underwriters' requirements — keeps dissipated heat above chassis — protects "hot" terminals.

For any total voltage drop . . . practically all pilot lamp combinations.

Ballast action in pilot lamp resistor section if desired.

Coded and wired in accordance with R. M. A. proposed standards.

Standard types for 4, 5 and 6 tube sets. Special types for any needs.

**DATA** Send for engineering details and sample, if engaged in set designing and production.

## CLAROSTAT



**MANUFACTURING CO.**  
Incorporated

285 North Sixth St.  
Brooklyn, N. Y.

# NEW THINGS FROM THE MANUFACTURERS

## AUTO SETS

★ Superheterodyne sets for autos with 5 and 6 glass tubes—range, 550-1,550 kc. Utilize roof or running board antennas. Antenna filter—extra antenna lead produces rejector voltage cancelling out spark radiation. Three-point mounting. Interchangeable roof and rear seat speakers. Models 542 and 642. Travler Radio & Television Corp., 1028 W. Van Buren St., Chicago, Ill.—RADIO TODAY

## 1936 TABLE RADIOS



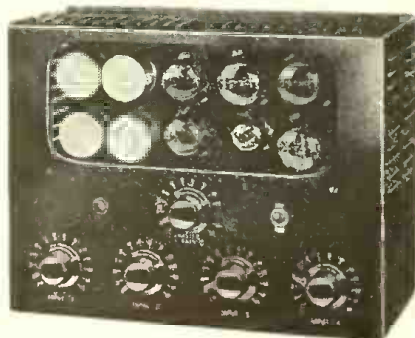
★ Two modernistically designed table compacts with balanced design—speaker and grill on one side—tuning dial on other. Full-vision dial with reversed figures, white on black, provide easy tuning. Model WR-208 (illustrated), Model WR-207.

New auto models: WR-502 6T single-unit, \$44.95; WR-503 7T single unit, \$59.95. Westinghouse Electric Supply Co., 150 Varick St., New York City—RADIO TODAY

## METAL REPLACEMENTS FOR GLASS TUBES

★ Metal tubes for replacing all of common glass tubes. Mounted on regular octal base—special adapters with 4, 5, and 6 prongs accommodate octal tubes. Available in types 24, 27, 51(35), 55, 56, 57, 58, 75, 77, 78, 80, 82, 2A6. Adapters—list \$30. Arcturus Radio Tube Co., 720 Frelinghuysen Ave., Newark, N. J.—RADIO TODAY

## HI-GAIN P.A. AMPLIFIER



★ Amplifier using four electronic mixers allowing input from 4 channels—crystal mike or phonograph pick-ups. Eliminates need of 4 pre-amplifiers. Gain of 117 db. realized in 4 stages—2A3 output of

15 watts. Tapped output—2 to 500 ohms. Hum 26 db. below zero level. Power consumption of 120 watts. Self-contained—7½" x 10½" x 13½". Webster-Chicago Model 4P-15. Webster Co., 3825 W. Lake St., Chicago, Ill.—RADIO TODAY

## METAL TUBE ADAPTERS



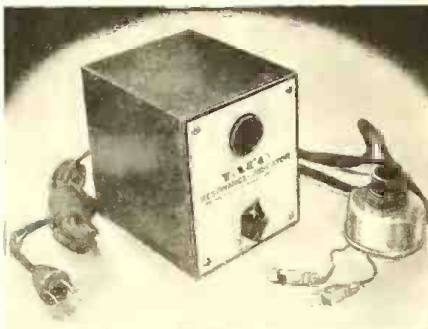
★ Adapters for use with the new metal tubes designed for replacing glass tubes in old-type receivers. Octal socket on top with 4, 5, and 6 prong bases to fit glass-tube sockets. List—\$.50. Alden Products Co., 715 Center St., Brockton, Mass.—RADIO TODAY

## METAL TUBE AUTO RADIOS

★ Among recent additions to American-Bosch line are 6 auto radios. Model 736 Skylark features doubled-winged chassis embodying main advantages of centromatic unit—power supply separated from radio circuits—eliminates station noise. Steering post or instrument panel controls to fit practically all cars. Full-vision dial with exclusive red tuning beacon. Self-contained speaker. List \$59.95.

Other models: 735 same as 736 with header speaker, \$64.95; 738 same as 736 with bulkhead speaker, \$67.95; 636 6T single-unit, \$49.95; 637 same as 636 with header speaker, \$54.95; 536 5T single-unit, \$39.95. United American Bosch Corp., 3664 Main St., Springfield, Mass.—RADIO TODAY

## CATHODE-RAY TUNERS



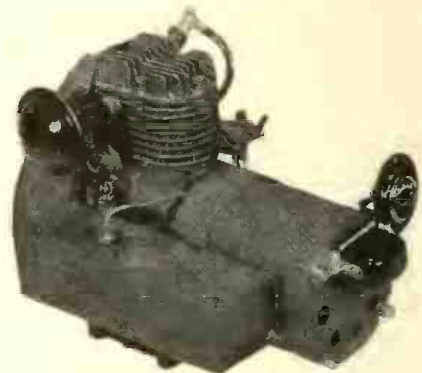
★ Electric eye tuning indicator for use on any radio set. Self-contained unit with 6E5 tube obtains power from receiver through 5-wire cable. Installed by drilling hole for neat bezel ring. List without tube—\$1.50.

Resonance indicator for use in servicing—employs 6E5 electric eye, 6H6 voltage doubling power rectifier, 6H6 linear diode detector. Useful in alignment, as output meter, in checking circuits, as bridge indicator in place of galvanometer. AC operated. Technical Electrical Appliance Corp., 17 E. 16th St., New York City—RADIO TODAY

## LONG-WAVE RECEIVER

★ Superheterodyne receiver for use in seaport cities and aboard ship—covers all low frequencies used in Europe in addition to standard and short-wave bands. Quiet signal amplifier, automatic volume and bass controls, tone control, glowing arrow wave-band indicator, dual speed vernier precision dial, 3 watts pentode output. Model 2625—Baby Grand, list \$57.50—Console, \$75. Philco Radio & Television Corp., Tioga & C Sts., Philadelphia, Pa.—RADIO TODAY

## SELF-STARTING GENERATORS



★ Push-button starting gas engine generators for charging batteries and for farm lighting systems. Model F6 (illustrated)—150 watt output at 6 volts. Engine consumes 1 gallon in 15 hours at full output—4-cycle air-cooled operating at 3,600 r.p.m. Self-excited 2 pole generator—ammeter and cut-out furnished. List \$49.95. F110 250 watt 110 DC—list \$59.95. Pioneer Gene-motor Corp., 466 W. Superior St., Chicago, Ill.—RADIO TODAY

## EIGHT METAL TUBE SUPER



★ All-wave superheterodyne with 8 metal tubes—range, 540-18,000 kc. Magic eye, magic brain, adapted colorband dial with dual-ratio tuning. I-f. wavetrap. Power output



of 5 watts drives 12-in. dynamic speaker—3-point tone control. Cabinet 39 in. high of walnut veneers. Model C8-19—list \$89.95. RCA Mfg. Co., Front and Cooper Sts., Camden, N. J.—**RADIO TODAY**

#### FIVE-TUBE TABLE SET



★ Dual-wave AC-DC or AC table compact with 5 metal-clad tubes. Full-vision 6-in. colored vernier dial. Dustproof dynamic speaker in top of cabinet. AVC and full-range tone control. Walnut veneer cabinet. Corona Radio & Television Corp., 420 N. Sacramento Blvd., Chicago, Ill.—**RADIO TODAY**

#### NEW TUBES

★ Recent tube announcements are: 6N7—metal Class B audio output tube similar to 6A6, 6R7—metal duo-diode triode similar to the type 75.

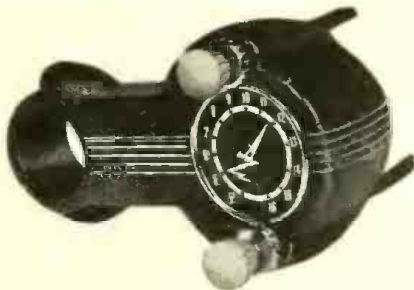
Announced by Arcturus Radio Tube Co., 720 Frelinghuysen Ave., Newark, N. J.—6N7, 25A6, 25Z6.

By Hygrade Sylvania Corp., 500 Fifth Ave., New York City—1F4, 6Q7.

By Raytheon Production Corp., 30 E. 42nd St., New York City—6R7.

By RCA Mfg. Co., Radiotron Div., Harrison, N. J.—1A4, 1B4, 6Q7, 6R7, 25A6, 25Z6, 5Z4 with small metal shell.—**RADIO TODAY**

#### FIVE 1936 AUTO RADIOS



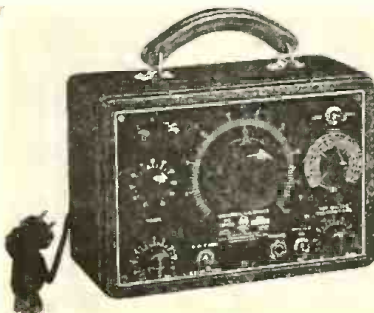
★ Auto radios with safety dial for all makes of 1936 cars. Seven-tube deluxe model features metaglass tubes, black reversed-figure dial with illuminated pointer. Dial light off when driving—no blinding. Class B output stage saves battery 5½ watts output. Tone control. Range 530-1600 kc.—pre-selector r.f. stage. Choice of speakers and tuning controls to fit any car (panel or steering column). "One bolt" installation. Model 7M91—list \$69.95.

Other models are 6M91 6T 2-unit, \$49.95; 6M90 6T single-unit, \$49.95; 6M92 6T single-unit, \$39.95; 5M90 5T single unit, \$29.95. Zenith Radio Corp., 3620 Iron St., Chicago, Ill.—**RADIO TODAY**

#### PROGRAM SOUND SYSTEM

★ Sound system designed for use in offices, schools, hotels, department stores. Consists of a hi-fi receiver with range of 520-23,000 kc. (Stromberg - Carlson), dual-speed phonograph, 3 additional input circuits for microphones, etc. Talk-back circuit so that loud-speaker in any room may be used as a pick-up—in schools the principal is able to tell at any time what is occurring in any room by throwing a switch. Self-contained unit has all controls and monitoring speaker. Western Electric Co., 195 Broadway, New York City—**RADIO TODAY**

#### UNIVERSAL A.C. BRIDGE



★ A.C. operated universal bridge—measures (at 1,000 cycles) inductance from 100 h. to 10 μ h., capacitance from 10 μ μ f. to 10 μ f., resistance from 1 to 1,000,000 ohms. Accuracy 5 per cent overall at full scale—self-contained standards—head-phone type null indicator. Two-stage 1,000-cycle tuned amplifier and phasing controls for accurate balancing. Net with tubes—\$49.65. RCA Mfg. Co., Inc., Camden, N. J.—**RADIO TODAY**

#### CATHODE-RAY TUNING UNIT

★ Unit for modernizing existing radios. Provides cathode-ray tuning in any radio employing 6-volt tubes and automatic volume control. Mounts by drilling hole in cabinet—five-wire cable connects to non-critical circuits of set. List, complete with tube and escutcheon—\$3. Empire Radio Corp., 1217 W. Washington Blvd., Chicago, Ill.—**RADIO TODAY**

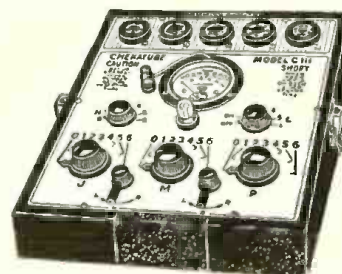
#### COLOR LIGHT TUNING



★ Dual-band table set with 5 metal tubes. Rainbow dial without glare—short-wave calibration (5,400-

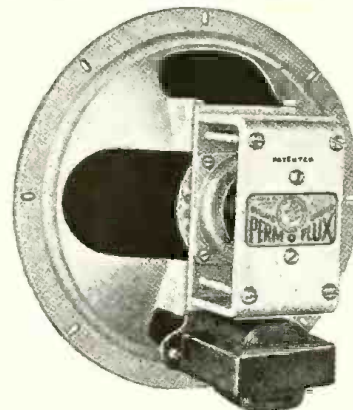
18,000 kc.) in red—broadcast in yellow (540-1,720 kc.). Moving arrow of light points out stations. Automatic volume control—3-position tone control. 8½-in. dynamic speaker. Atwater Kent Mfg. Co., 4700 Wissahickon Ave., Philadelphia, Pa.—**RADIO TODAY**

#### TUBE CHECKER



★ Direct reading tube tester—selective switches enable checking of all tube types. Short and leakage tests with hot filament. Line voltage control with meter indication. Momentary type switches for tests return to normal position—impossible to forget resetting. D'Arsonval meter 3¼ in. diameter. Counter type mounting with cover for portability. Check-atube C111. J-M-P Mfg. Co., Milwaukee, Wis.—**RADIO TODAY**

#### PERMO-DYNAMIC SPEAKER



★ Permo-o-flux permanent-magnet dynamic speaker—light-weight construction. Patented magnetic material maintains strength indefinitely. Unique voice coil and cone suspension insure perfect tone quality. Equals performance of electro-dynamic speaker though lighter in weight. Particularly well adapted to farm and auto sets—suitable for home sets. Continental Motors Corp., Radio Div., Detroit, Mich.—**RADIO TODAY**

#### ELECTRIC EYE AND RELAY

★ Photocell of electronic type—sensitive to visible and invisible light. Hermetically sealed in bakelite behind glass window—unaffected by continuous exposure to light. Type E-12—list \$5.

Sensitive DC relay for use with E-12 cell—standard resistances of 1,000, 2,500, 5,000, 10,000 ohms. Rated at 11¼ milliwatts for positive operation—may be adjusted for as little as 1¼. Contact ratings—2½ amps. 115 AC, 1½ amps. 115 DC. Type ER-12—list \$8. Hugh H. Eby, Inc., 2066 Hunting Pk. Ave., Philadelphia, Pa.—**RADIO TODAY**  
(To page 48)

# NEW THINGS

(From page 47)

## METAL-TUBE RESISTOR

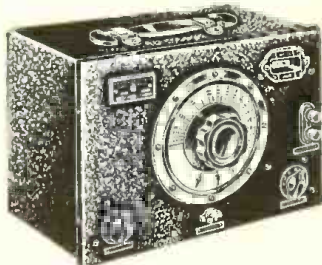
★ Series filament resistor for AC-DC sets—resistor housed in standard metal-tube casing with 8-prong octal base. Meets underwriters requirements and keeps dissipated heat above chassis. Available in any total voltage drop for practically all pilot lamp and tube combinations. Coded and wired in accordance with proposed RMA standards. Clarostat Mfg. Co., Inc., 285 N. Sixth St., Brooklyn, N. Y.—**RADIO TODAY**

## REPLACEMENT CONDENSERS



★ Small size condensers for receiver replacement to fit all applications. Carton types with mounting flanges and special fittings for round can types. Sealing in metal affords protection against humidity. Terminal connectors eliminate necessity of splicing leads. New condenser service and replacement manual, available on request, gives in detail universal application of these condensers. P. R. Mallory & Co., Inc., 3029 Washington St., Indianapolis, Ind.—**RADIO TODAY**

## SERVICE INSTRUMENTS



★ Frequency modulator unit for converting any standard oscillator into frequency-modulated unit for use with cathode ray oscilloscope. No alterations needed on oscillator—simply connect output to modulator unit. Model 81—net \$34.25.

Variable frequency audio oscillator for use in PA and amplifier testing—uniform output at 5,000 ohms of 27 volts with 2 volts from 50 to 10,000 cycles. Waveform free from harmonic distortion. Model 79—net \$51.90. New 1936 catalog available. Clough-Brengle Co., 1134 W. Austin Ave., Chicago, Ill.—**RADIO TODAY**

## PORTABLE WATTMETER

★ Low-range portable AC-DC dynamometer type wattmeter for radio, appliance, and refrigerator testing. Uniform scale permits readings of one watt to maximum. Useful in trouble shooting and comparing power consumption. Model 4781 and 4783, 300 and 750 watts—net \$17.10. Hickok Electrical Instrument Co., 10514 DuPont Ave., Cleveland, Ohio—**RADIO TODAY**

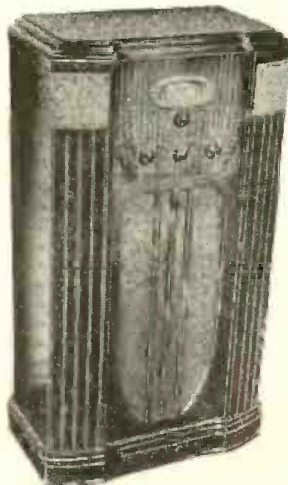
## AC-DC TABLE SUPER



★ Dual-band 5-tube AC-DC table receiver in Bakelite cabinet. Domestic model covers 545-1,680, 5,700-18,800 kc., foreign—140-380, 545-1,680 kc. Airplane dial with diffused lighting. Triode detection and pentode output of 1 watt. Available in 110 and 220 volt types. Series 200, Pilot Radio Corp., 37-06 36th St., Long Island City, N. Y.—**RADIO TODAY**

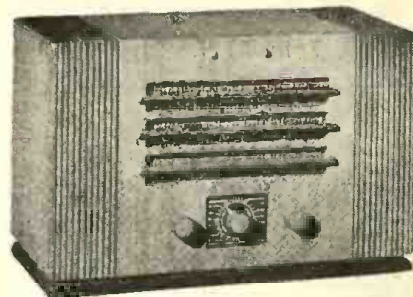
## HOME RECEIVERS

★ Five new models employing 6Q7 metal duodiode-triode have been added to the G-E line. Model A-55 is a 2-band 5-tube console—range 540-1720, 2300-7000 kc. Wide-vision 2-color tuning dial. I-f. wavetrap to reject telegraph interference. Stabilized 8-in. dynamic speaker—power output of 5 watts. Two-tone walnut veneer cabinet. List \$39.95. Model A-52 same chassis in table cabinet—list \$29.95.



Other models: A-83 8T 3-band table, \$79.50; A-85 8T 3-band cons., \$99.50; A-54 5T AC-DC 2-band table, \$39.95. General Electric Co., 1285 Boston Ave., Bridgeport, Conn.—**RADIO TODAY**

## SELF-CONTAINED BATTERY SET



★ Four tube two-band superheterodyne receiver. Self-contained with all batteries and "Perm-o-flux" dynamic speaker—weighs 25 pounds. Filament dry cells will operate set for 300 hours. Perm-o-flux magnet in speaker will lift 140 times its weight as against 9 times in the ordinary magnet. Kadette model 400 housed in cabinet of striking modern design. Completely portable for use on boats, in camps, and on farms. International Radio Corp., 4th and William Sts., Ann Arbor, Mich.—**RADIO TODAY**

## HI-WATTAGE ATTENUATORS

★ T-pad and L-pad attenuators for providing smooth, even control of high-power amplifiers. Resistive elements are all-porcelain, vitreous enamel wire-wound rheostats. Available in 25 and 50-watt ratings with resistance values to match all popular line impedances—for use between amplifier and speakers. Catalog 14 describing Ohmite line available. Ohmite Mfg. Co., 4835 Flournoy St., Chicago, Ill.—**RADIO TODAY**

## ADDITIONS TO '36 LINE



★ Six new models swell Crosley's line of home radios to 24. Outstanding is the Barkentine (illustrated)—11 metal tubes—range, 150-400, 540-19,000 kc. Auto expressionator volume expander—automatic bass control—high fidelity. Magnum dial with timelog tuning—shadow-graph tuning indicator. Curvilinear speaker with vibracoustic sounding board. List \$137.50.

Other models are: A.F.M. 5T 2-band table, \$29.95; A.F.M. 5T 2-band cons., \$47.50; Dreadnaught 11T 4-band cons., \$149.50; Raider 6T 3-band cons., \$69.95; Challenger 9T 3-band cons., \$115.

New auto radios: A-156 5T single unit, \$39.95; A-166 6T 2-unit, \$54.50. Crosley Radio Corp., 1329 Arlington St., Cincinnati, Ohio—**RADIO TODAY**

### SHORT-WAVE AUTO RADIO

★ Dual-hand superheterodyne auto radio with 6 metal tubes—range, 540-1,715, 2,200-6,800 kc. Shock-proof anti-noise construction—dynamotor plate supply. Custom controls to fit all standard cars. Model 37—list \$64.50. Remler Co., Ltd., 2101 Bryant St., San Francisco, Calif.—**RADIO TODAY**

### INEXPENSIVE VOLTOHMETER



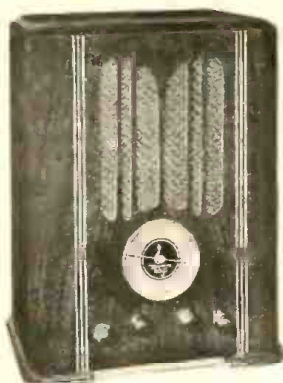
★ Low-cost multi-range DC meter. 0/5/50/500/1000 volts at 1000 ohms per volt. 0-1 milliamperes range. Resistance scales of 0-1 megohm and 0-1000 ohms indicating values as low as 1/2 ohm. D'Arsonval type meter and ohms zero corrector. Steel case 5 x 3 x 2 inches—bakelite panel. Model 412—net \$9.85. Jackson Electrical Instrument Co., 430 Kiser St., Dayton, Ohio—**RADIO TODAY**

### STREAMLINED CONSOLE



★ AC-DC 7-tube superhet—3 band, 540-15,750 kc. Anti-absorption band selector eliminates short-wave dead spots—AVC and tone control. I-f. wave trap. Large full-vision dial. Voltage doubler permits high audio output. Airflow style modernistic cabinet. Model 102C—list \$55. Other airflow table models (and consoles) available from \$19.95. Detroit Radio Corp., 3630 W. Fort St., Detroit, Mich.—**RADIO TODAY**

### 5-TUBE AC SUPERHET



★ Dual-hand table-type glass-tube superheterodyne—range, 540-1750, 2200-7500 kc. Indirectly lighted full-vision vernier tuning dial calibrated in frequencies—shock-mounted tuning condenser. AVC and tone control—output of 3 watts. I-f. wave trap, line filter, and electrostatic transformer shield. Cabinet 15 3/4 in. high x 12 1/4 in. wide x 8 1/2 in. Model 117—list \$29.95. Emerson Radio & Phonograph Corp., 111 8th Ave., New York City—**RADIO TODAY**

### FIVE AND SIX-TUBE SUPERHETS



★ Metal tube superheterodyne—dual hand, 535-1740, 5720-18500 kc.—10 tuned circuits. Delayed AVC, tone control, phono jack. Two-gang rubber mounted condenser—triple-tuned i.f. coils. Electrostatically shielded from power line noises—115 volt AC operation. Output of 3 watts—10 in. dynamic speaker. Model 160CA—6 tubes—list \$69.95. Model 150CA—5 tubes—list \$59.95. Fada Radio & Electric Co., 30-20 Thompson Ave., Long Island City, N. Y.—**RADIO TODAY**

### SIGNAL GENERATOR AND MULTIMETER

★ Direct-reading r-f. test oscillator—range 100-30,000 kc. in 6 bands. Vernier dial with 12-in. scale. Perfect attenuation and fully stabilized on all frequencies. DC model 1231; AC model 1232—list \$40.

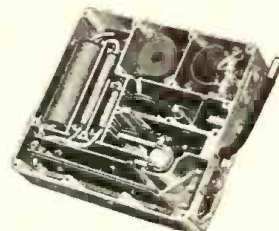
Twin-movement AC-DC multimeter. DC ranges—10 to 1,000 volts at 2,000 ohms per volt, 1 to 250 ma., 0-1.5-3

megohms. AC ranges—10 to 1,000 volts. Model 1200—list \$32.50. Triplett Electrical Instrument Co., 122 Main St., Bluffton, Ohio—**RADIO TODAY**

### ELECTRONIC SWITCH

★ Electron-tube switch designed for permitting simultaneous observation of any two voltage or current phenomena with a single cathode ray oscillograph. Can be used to compare output and input of amplifier—waveform and phase displacement. Device has no moving parts—consists of switching tube and two amplifiers each with separate gain control. Operated on 110 AC. Price complete \$42.50. Allen B. DuMont Labs., Upper Montclair, N. J.—**RADIO TODAY**

### 1936 AUTO RADIOS



★ Motorola 1936 auto-radio line is composed of 4 chassis available with custom controls. Magic eliminode (illustrated) filters out ignition and motor noises. Deluxe 10 metal-tube model features AVC, tone control, sensitivity control, push-pull amplification. Series fed antenna for peak operation with roof or under-car aerials. Model 100—list \$89.50.

Other models: 50 6T single unit, \$39.95; 60 6T two unit, \$49.95; 80 8T two unit, \$67.50. Galvin Mfg. Co., 847 W. Harrison St., Chicago, Ill.—**RADIO TODAY**

### CUSTOM AUTO RADIOS



★ 1936 line consisting of three chassis, 23 dash controls, 9 speakers to fit all popular cars. Arvin model 33—6 metal tubes. Iron-core antenna and r-f. transformers—3 gang condenser. Full-range tone control. Plug-in vibrator—filter-loc motor noise suppression system. Set operates from roof or running board antenna. List with steering column controls—\$54.50.

Other models: 28DM 6T single unit, \$49.50, 18FW 6T single unit, \$39.95. Nohltt-Sparks Industries, Columbus, Ind.—**RADIO TODAY**

# FOR RADIO-REFRIGERATOR DEALERS

★ BRILLIANT attendance showings made by radio-refrigeration dealers at recent exhibitions of new lines throughout the nation are a healthy indication that sales interest survived the zero weather conditions.

These dealers recognize that they begin this year with all the relevant business indexes headed upward. Taxes paid for the last month of last year by the refrigerator manufacturers amounted to \$176,987, as compared with \$144,517 for the same period last year. Exports of "boxes" for the year 1935 add up to about 124,000, while the total for 1934 was only 101,366.

Refrigerator sales in the United States as added up by the National Electrical Manufacturers' Association for the year 1935 amounted to 1,446,790; the figure for 1934 was 1,157,881.

Total number of "boxes" now in use is estimated 7,000,000, and the last count on wired homes in the country is 21,204,354, so that there is still a deal of work to be done with promotion of the new models.

## TALKING KITCHEN

★ Interest in the "Talking Kitchen" perfected by General Electric has prompted the company to make additional units available to department stores, utility companies, newspaper cooking schools, conventions, fairs and exhibits. Original two kitchens are now touring the country in trailers.

Appliances in the Talking Kitchen are wired with an action and sound device, so that when a door is opened or a lid lifted, a voice automatically proceeds with a sales talk as if a radio amplifier had been turned on. Ranges, refrigerators, and dishwashers speak separately and consecutively.

★ Three-day show featuring the new line of the Norge Corp., was held late last month in Newark, N. J., by B & O Radio, Inc., for dealers and salesmen in northern New Jersey. Ben Oppenheim, president, and Edwin G. Fisher, treasurer, of the B & O company were chief hosts.

★ Radio-refrigerator men were interested in the private dealer showing of the 1936 Leonard boxes staged by Colen-Gruhn Co., Inc., New York, Feb. 3-7.

★ Charles E. Turnock, Milwaukee distributor of Fairbanks-Morse Conservador refrigerators, was host to some 150 dealers and salesmen of the area, at a coming-out meeting for the 1936 models. Besides Turnock, on the program were Bob Anderson and W. R. Ceperly.

★ Frigidaire dealers and salesmen of the Memphis territory went to that city recently to be guests of John M. McGregor, chief of McGregor, Inc., Frigidaire distributors.

## 1936 CROSLLEY SPECIFICATIONS



★ Ten models in 1936 line. DeLuxe types featuring storadrawer vegetable bin, vegetable crisper, feather-touch door handle, porcelain interior with stainless bottom, and white Dulux exterior. Model GKQ-70 (illustrated) 7 cu. ft., 15.68 sq. ft. shelf area. Makes 168 ice cubes. 58 1/2" high x 33 1/4" wide x 26 7/8" deep.

Other deluxe models: GHQ-60, 6.01 cu. ft., 58 9/16" x 29 7/8" x 26 9/16"; GKQ-50, 5.07 cu. ft., 56 7/16" x 27 1/2" x 24 3/8"; GKQ-43, 4.33 cu. ft., 56 3/8" x 23 7/8" x 24 5/16". Standard models: GAQ-70, 7 cu. ft., 58 7/8" x 33 3/4" x 26 7/8"; GAQ-60, 6.01 cu. ft., 58 9/16" x 29 7/8" x 26 9/16"; GAQ-50, 5.07 cu. ft., 56 7/16" x 27 1/2" x 24 3/8"; GAQ-43, 4.33 cu. ft., 56 3/8" x 23 7/8" x 24 5/16"; GAQ-35, 3.5 cu. ft., 50 5/8" x 23 1/2" x 25 1/2"; GAQ-30, 3 cu. ft., 36" x 23 5/8" x 25". Crosley Radio Corp., 1329 Arlington St., Cincinnati, Ohio—RADIO TODAY

★ Times Appliance Co., Inc., New York City, radio-refrigerator distributors, were hosts to radio-appliance dealers in the area last month, at a feature presentation of the 1936 line of Westinghouse Golden Jubilee electric refrigerators and ranges. Involved in the show were F. W. Paul, Oscar Willard Ray, R. C. Cosgrove, and W. T. Baker.

★ Fairbanks-Morse radio-refrigerator men, in the midst of stormy weather conditions, kept up their attendance records at various dealer meetings late last month, held in honor of Conservador boxes. Hosts were Logan Gregg & Co., Pittsburgh; Appliances, Inc., Cincinnati; Robert F. Clark Co., Denver; Herring-Wissler Co., Des Moines.

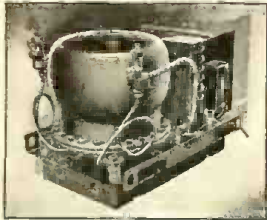
★ Brooklyn and Queens territories, New York, have a new divisional sales manager for Zenith radio and Leonard refrigerators in the person of Joel M. (Joe) Calgut.



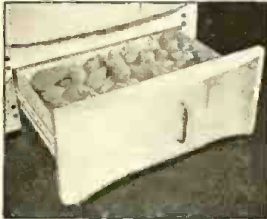
Fairbanks-Morse jobbers use the trailer method for demonstration of radios and refrigerators in their year 'round merchandising activity a-field.

# CROSLEY

## PRESENTS . . . THE WORLD'S MOST BEAUTIFUL REFRIGERATOR



New super-economy Hermetic compressor available on most models.



Convenient, non-refrigerated Storadrawer



Knee-action, feather-touch door handle.



Ventilated front



Model shown is GKQ-60 De Luxe. Capacities: Net cu. ft. 6.01; shelf area 14.37 sq. ft. Added features: Storadrawer and Crisper. Retail price: With double-helt compressor \$169.95; with Hermetic Compressor (GKT60) \$184.95. Other sizes: 3 to 7 net cu. ft. Other prices from \$94.50 to \$204.95. Slightly higher in Florida, Texas, Rocky Mountain States and West.

The new Crosley Shelvador completely restyles the electric refrigerator. Beautiful, smart, completely out of the ordinary. And with the new design goes a new convenience, utility, and value. So many are the new features that they cannot all be illustrated on this page. The few shown indicate their far-

reaching importance. Ice cube capacity has been increased about three times in some models. A more scientific shelf arrangement gives even greater strength to the slogan: "This Much More in a Shelvador." More than ever: No dealer can afford *not* to handle Crosley.

## THE CROSLEY RADIO CORPORATION

(Pioneer Manufacturers of Radio Receiving Sets)

POWEL CROSLEY, Jr., President. Home of "the Nation's Station"—WLW—most powerful in the world—70 on your dial.

CINCINNATI

# TRADE NEWS

(From page 45)

★ Lind Mercantile Corp., Detroit, which operates three electrical appliance stores in that city, has a new vice-president and director of sales in the person of Jack Morey, vet merchandiser of the field. Lind's will open three new stores and organize a special outside selling organization.

★ According to Stanley N. Abbott, sales manager for Hygrade Sylvania Corp., several important changes in the executive set-up of the Sylvania tube renewal sales section were effective last month. Paul S. Ellison, advertising manager, has taken on the sales supervision of the eastern division, keeping his headquarters in the New York office. R. P. Almy, previously the sales chief at the Emporium, Pa., plant, has new offices at Chicago, supervising western sales except for the Pacific coast.

★ Radio test equipment made by Precision Apparatus Corp., 821 East New York Ave., Brooklyn, N. Y., and Clough-Brengle Co., 1130 W. Austin Ave., Chicago, Ill., has been approved for financing by the Federal Housing Administration under the Modernization Service plan.

★ Wu. H. Allen Co., Albuquerque, New Mexico, distributors of all nationally advertised radios, uses an interesting caption along with the house name. Here it is: "Where radio is a business, not a side line."

★ Arrangements for the Philco cruises to Havana in May have been completed by E. B. Loveman, ad manager, and J. F. Gilligan, assistant to the president. Loveman and Gilligan have just returned from Cuba with the final details OK'd.

★ New sales representative in Manhattan for the Colen-Gruhn Co., Inc., is William M. Shipley. Company handles Zenith radio and Leonard refrigerators.

★ W. A. Coogan, foreign sales manager of Hygrade Sylvania Corp., recently left for a trip to scattered spots in Mexico and the West Indies. Besides Monterey and Mexico City, his itinerary will include Cuba, Haiti, Jamaica, Porto Rico and Miami.

★ NBC booklet, "Let's Look at Radio Together," printed first in a

## RADIO WILL ELECT THE NEXT PRESIDENT

This phrase, coined by RADIO TODAY, and featured beginning with the January issue, has been taken up by radio manufacturers, jobbers, and dealers. Already it is being widely used.

RADIO TODAY urges readers to display this slogan in their own advertising between now and Election. Use it to help awaken the public to the new dignity and importance of radio in public affairs. Use it as an aid to selling more radios and better radios this Spring—

**RADIO WILL ELECT THE NEXT PRESIDENT**

limited edition, now rates a general edition and is being mailed to all U.S. advertisers. Book presents a full story of radio as a successful ad medium and is backed by a two-year survey.

★ "Guest of honor" at a sunrise breakfast atop the RCA building, Radio City, recently was a giant Plymouth Rock rooster, crowing at the 70 members of the sales department as if to say, "accent the daytime hours."

★ Samuel Wehn and David H. Buntzman have ended their connection with the O. Bulowa Co., 15 W. 38th St., New York City, and will continue the manufacture of photoelectric cells, sensitive relays, and allied products under the trade name of Acronic Devices Corp., 434 Broome St.

★ Pierre Boncheron, veteran advertising and sales promotion director of RCA and RCA-Victor, and for the past year exploitation specialist for RKO Distributing Corp., has become assistant sales manager, cutlery division, Remington Arms Co., Inc., Bridgeport, Conn.

★ A. J. Gies, who has been with the General Electric Co. since 1918, and who has recently been auditor of the merchandise divisions of the GE appliance and merchandise department, has been appointed assistant to vice-president C. E. Wilson and will be chairman of the newly formed credit and service committee.

C. E. Anderson, GE man for the last 12 years, will replace Mr. Gies as auditor.

★ Clifford Bensing, of Clifford Bensing Furniture Co., New Albany and Jeffersonville, Ind., is leading all Crosley dealers in his territory, according to ratings issued by J. E. Johnson, of Cooper-Louisville Co., Crosley distributors at Louisville, Ky.

★ Business summaries recently issued by the Cornell-Dubilier Corp., 4377 Bronx Blvd., New York City, condenser manufacturers, show exceptional trend of biz done by the company. In 1933, Cornell-Dubilier tripled its volume over 1932; in 1934 business was doubled, and 1935 volume was twice that for 1934. Company president is Octave Blake; his business is 26 years old.

★ At the annual meeting of the New York Chapter of the Institute of Radio Service Men, middle of last month, the following officers were elected: Chairman, O. G. Ayer; vice-chairman, E. E. Manderville; secretary, David Davidson; treasurer, Harold Olson.

★ Rudolph M. Gibbs has opened a new radio store, Gibbs Radio Co., 24 Biltmore Ave., Asheville, N. C.

★ Sales promotion department at CBS has three new members; new on the writing staff are Edwin S. Reynolds and Jules Dundes, and Dan Wickendon is the new assistant to Maurice L. Gaffney, director of trade news.



G-E Radio Distributors throughout the country are holding dealer showings of the five new models. Philadelphia reports that over 300 dealers attended joint G.E. Supply Corporation and Elliott-Lewis Electrical Company showing, Hotel Pennsylvania, January 28th and 29th. The new five metal tube console A-55 is wowing 'em in performance and price.



The Blue Book of Radio Entertainers is being used by thousands of G-E Radio dealers to bring prospects into their stores. Contains photographs and biographies of all leading radio entertainers. A new method of building store traffic for special promotions. Ask your G-E Radio Distributors how to get a supply.



Thurston Lofstedt, Manager of the Hadley Furniture Company, Worcester, gets 25,000 returns in a G-E Radio sales contest. Promotion based on solving a puzzle results in over 100 sales directly traceable. See the January G-E Radio BANDWAGON magazine for details.



Have you seen the new G-E Radio sales-training film "It's Got Everything"? Dealers acclaim it as the best of its kind. Your distributor will arrange a showing.

## WATCH G-E RADIO IN 1936

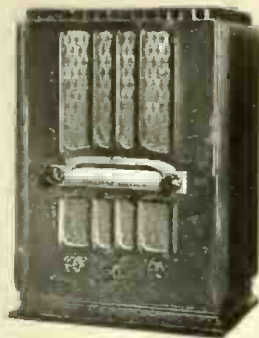
G-E Radio Dealers are beginning to appreciate more and more, the attractive display possibilities of the cocky little Bandmaster Doll that heads this column. This unique and distinctive figure is leading the way to special promotions that move merchandise. Be sure to have a few on hand all the time.

**5 NEW AND SENSATIONAL**

**1936**

**GENERAL ELECTRIC  
RADIO MODELS**

- ★ NEW TYPES OF METAL TUBES
- ★ MORE POWERFUL SPEAKERS
- ★ INCREASED BASS RESPONSE
- ★ MORE EFFECTIVE A. V. C.
- ★ BETTER SHORT-WAVE PERFORMANCE
- ★ SIMPLIFIED TUNING



MODEL A-83. 8 metal tubes. Standard broadcasts, police calls, amateurs, aviation reports, foreign and domestic short-wave. 9-inch type stabilized dynamic speaker. Sliding-rule tuning scale. Speech-music control. Automatic volume control. 10 watts output.

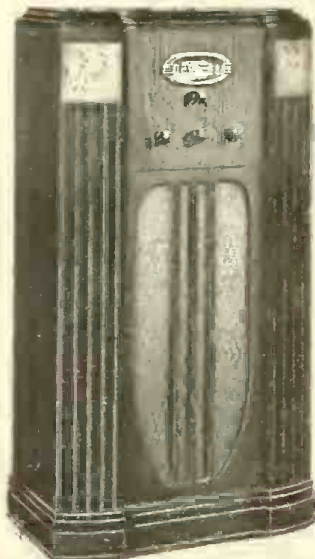
*they have everything  
in sales appeal and  
profit possibilities!*



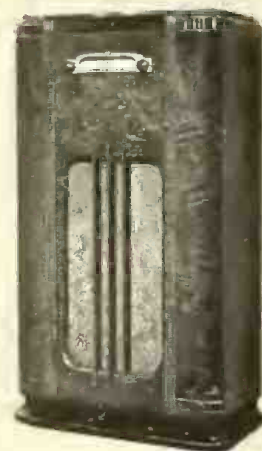
MODEL A-54. A-c. and D-c. table or shelf model. 5 metal tubes, giving the equivalent of 7-tube performance. Standard broadcasts, foreign short-wave, amateurs, aviation, police calls. 6½-inch type stabilized dynamic speaker. Wide-vision dial. Red and black tuning scale. Automatic volume control. Gracefully styled cabinet. Standard finish: two-toned walnut-veneer. Special finishes: white and gold, black and gold, red and black.



MODEL A-52. 5 metal tubes, giving the equivalent of 7-tube performance. Standard broadcasts, foreign short-wave, police calls, aviation reports. 8-inch type stabilized dynamic speaker. Wide-vision dial. Red and black tuning scale. Automatic volume control. I.F. wave trap. Excellent tone. 5 watts output.



MODEL A-55. 5 metal tubes, giving the equivalent of 7-tube performance. Standard broadcasts, foreign short-wave, police calls, aviation reports. 9-inch type stabilized dynamic speaker. Wide-vision dial. Red and black tuning scale. Automatic volume control. I.F. wave trap. 5 watts output.



MODEL A-85. 8 metal tubes. Standard broadcasts, police calls, amateurs, aviation reports, foreign and domestic short-wave. 11-inch type stabilized dynamic speaker. Sliding-rule tuning scale. Speech-music control. Automatic volume control. Remarkable sensitivity, selectivity, and reserve power. 10 watts output.

**GENERAL  ELECTRIC**

**THE ORIGINAL METAL-TUBE RADIO**

APPLIANCE AND MERCHANDISE DEPT., GENERAL ELECTRIC CO., BRIDGEPORT, CONN.



*Heralding the Sensational New*

# Motorola

*America's Finest* **AUTO RADIO**

**WITH MANY NEW and REVOLUTIONARY IMPROVEMENTS that INSURE OUTSTANDING LISTENING QUALITY and PERFORMANCE GLORIOUS THRILLING TONE...WIDER RANGE...GREATER POWER**

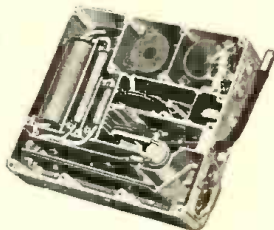
## MOTOROLA **7** AGAIN LEADS WITH **PLUS FEATURES**

**MATCHES THE DASH OF ALL CARS**

Fits Perfectly and Harmoniously . . . Overhead Ear-Level Speakers Where Required.

**ONLY MOTOROLA HAS THE "MAGIC ELIMINODE"**

Newly Improved . . . This Patented Feature Guarantees Motor-Noise-Free Reception . . . Positively **NO SPARK PLUG SUPPRESSORS.**



**MATCHED TWIN SPEAKERS**

Give even distribution of sound to passengers in both rear and front seats. For combined Under-Cowl and Overhead Installation—or else Combined Under-Cowl and Rear Seat Installation.

**NEW "BOOSTER" TUBES FOR SUPER POWER**

Improved Design . . . Studio Fidelity of Tone . . . Unequalled Radio Reception . . . Perfected A.V.C. . . . Maximum Sensitivity.

**ADJUSTABLE ANTENNA SYSTEM**

"Series-Fed" Antenna System—Adjustable for Peak Performance Using Under-Car or Roof Aerial.

**4 POPULAR MODELS**

**Metal Tube Sets—Glass Tube Sets**  
New Streamline Beauty . . . Fits Every Purse—Meets Every Demand . . . Prices \$39.95 to \$89.50.

**INSTALLS ON "JIFFY" MOUNTING BRACKET**

Compact . . . Installs Over Steering Post—Easier Than Ever Before . . . Plug-In Chassis.



**MOTOROLA "50"—6 TUBES**  
Big Value Single Unit  
List \$39.95

**MOTOROLA "60"—6 TUBES**  
6" External Speaker  
List \$49.95  
8" External Speaker  
List \$54.95



**"80" DE LUXE—8 TUBES**  
Metal and Double Sealed Metal-Clad Tubes  
8" External Speaker  
List \$67.50

**"GOLDEN VOICE" MOTOROLA**  
Most Remarkable Auto Radio Ever Built  
10 All-Metal Tubes  
10" Powerful Speaker  
List \$89.50



*Backed by Powerful National and Point-of-Purchase Advertising*

*Tie in With Motorola Leadership!*

**WIRE OR WRITE FOR FULL PARTICULARS**  
**GALVIN MFG. CORPORATION . . . CHICAGO**