

APRIL, 1937

RADIO RETAILING

McGRAW-HILL PUBLISHING COMPANY, INC.

25 CENTS PER COPY



DUELS OVER DIALS

Little Lester craves blood and thunder . . .
Sister Sue wants Hollywood gossip . . . Ma
demands music . . . And Pa holds out for news.

Typical American scene, this struggle for
the air is a reflection on the radio indus-
try's promotional and merchandising ability.

The focal point of 1937 selling should be
More Sets Per Home.

MALLORY-YAXLEY

Precision Radio Replacement

Parts Cost No More

Than Ordinary Products

Is this a SURPRISING STATEMENT to you? Well, it's true and you can prove it for yourself!

"Mallory-Yaxley leadership", said a service man some time ago, "has certainly done more for the man in my profession. It has given him universal replacement with dependable products—easier, surer methods of installation—smaller stocks—and accurate service and replacement information. I'd like to use more Mallory-Yaxley products but I have to watch my prices!"

Yet the very thing he said he had to do was the very thing he hadn't done! He hadn't watched his prices—he hadn't made comparisons—he didn't know that Mallory-Yaxley Precision Radio Replacement Parts with all their quality, with all their prestige, cost no more than ordinary products.

But he proved it for himself—just as you can prove it for yourself! He got out his catalogs and checked condensers price for price! He turned to vibrators and checked them price for price! He did the same with volume controls!

Perhaps you think that a company big enough to publish the Mallory-Yaxley Radio Service Encyclopedia charges more for its parts than you can afford to pay. Perhaps you feel that a company big enough to provide all the help that Mallory-Yaxley has provided, does provide and will continue to provide must charge at least a little more than ordinary replacement parts can be purchased for. If so—check prices and make comparisons. You'll be surprised and pleased!

And after you've used Mallory-Yaxley Replacement Parts awhile you'll find they insure customer satisfaction to such an extent that they actually cost less in the long run.



MALLORY CONDENSERS
Cost No More!



YAXLEY VOLUME CONTROLS
Cost No More!



MALLORY VIBRATORS
Cost No More!



The Biggest
Help A Service
Man Ever Had

Ask the Mallory-Yaxley distributor about your copy of the MALLORY-YAXLEY RADIO SERVICE ENCYCLOPEDIA which gives complete, authoritative information on all repairing of all sets!

Use
P. R. MALLORY & CO. Inc.
MALLORY
REPLACEMENT
CONDENSERS... VIBRATORS

P. R. MALLORY & CO., Inc.
INDIANAPOLIS INDIANA
CABLE ADDRESS—PELMALLO

Use
YAXLEY
REPLACEMENT
VOLUME CONTROLS

RADIO RETAILING

APRIL, 1937

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McGraw-Hill Publishing Company, Inc.

Publication Office
 99-129 North Broadway, Albany, N. Y.
 Editorial and Executive Offices
 330 West 42nd Street, New York, N. Y.

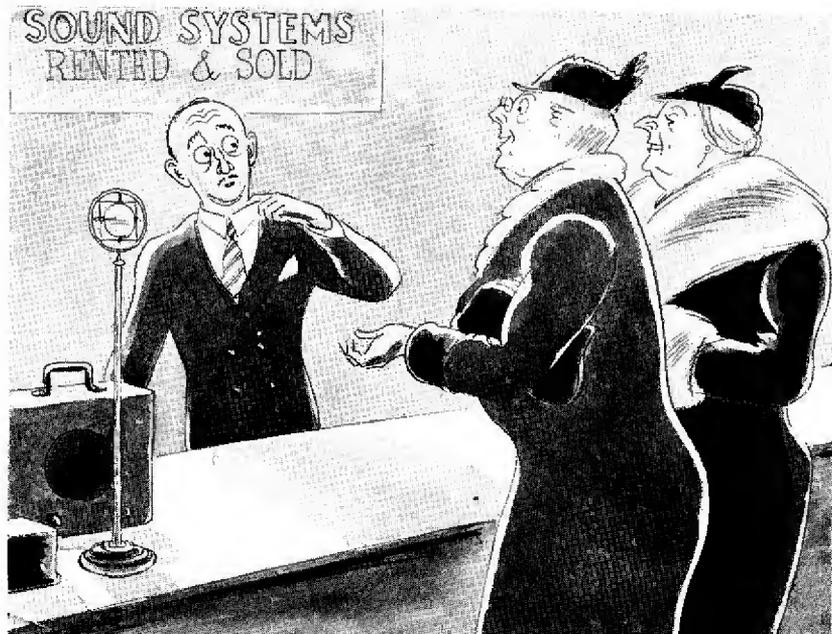
Cable Address: MCGRAWHILL, New York
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RADIO RETAILING, April, 1937, Vol. 22,
 No. 4. Published monthly, price 25c copy. Sub-
 scription rates—United States and Central and
 South American countries \$1. All other countries
 \$2 a year or eight shillings. Printed in U. S. A.
 Entered as Second Class Matter, September 8,
 1936, at Post Office, Albany, N. Y., under the
 Act of March 3, 1879. Cable address "Mc-
 Grawhill, New York." Member of A.R.P., Mem-
 ber of A.B.C. Copyright 1937 by McGraw-Hill
 Publishing Co., Inc., 330 West 42d Street, New
 York, N. Y.

Branch Offices: 520 North Michigan Ave.,
 Chicago; 883 Mission St., San Francisco; Aldwych
 House, Aldwych, London, W.C. 2; Washington;
 Philadelphia; Cleveland; Detroit; St. Louis;
 Boston; Atlanta, Ga.

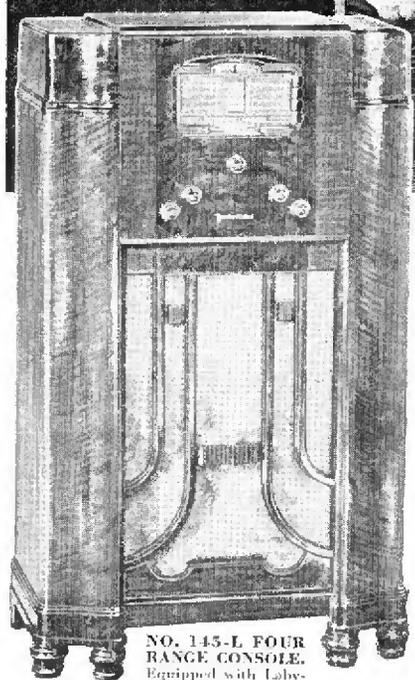
WE THINK IT WOULD BE WONDERFUL
 PUBLICITY FOR YOU TO LOAN IT TO US





IT'S THE SUREST
"STEP-UP" FEATURE
IN RADIO HISTORY!

AND ONLY
STROMBERG-
CARLSON
HAS IT!



NO. 145-L FOUR RANGE CONSOLE.
Equipped with Labyrinth.
Price, \$197.50

"Selling-up" with Labyrinth Radio, is as easy as "order-taking." The *Acoustical Labyrinth* can be demonstrated—successfully. The difference between Labyrinth Radio and ordinary radio is apparent to the least musically conscious—and a revelation to true music lovers. The *Acoustical Labyrinth* can be explained—easily. Its operation is so simple that no scientific or engineering knowledge is required to understand *why* it eliminates booming and blurred tones, or *why* it makes it possible for one to hear the fundamental bass notes that are lost in ordinary radio.

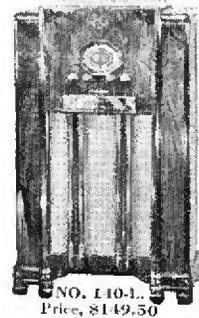
Small wonder that Labyrinth Radio dealers who see the upward climb of their sales curve agree, "There is Nothing Finer Than a Stromberg-Carlson."

The complete line of Stromberg-Carlson radios range in price from \$51.95 to \$1050. Models with the exclusive Stromberg-Carlson Labyrinth from \$149.50. (All prices slightly higher in Southeastern States and West of the Mississippi.)



Labyrinth RADIO

The long, winding passageway of the Acoustical Labyrinth, an exclusive Stromberg-Carlson feature, takes the place of the usual box-like cavity in the cabinet which is the source of the exaggerated boom in low tones. It gives you deeper bass notes, with a new fidelity and increases the volume capacity and accuracy of the loud speaker. Shown in No. 145-L Radio.



NO. 140-L.
Price, \$149.50

NEW STROMBERG-CARLSON VOICE PACING SYSTEM

Here's a new, low cost paging system that opens the road to all-season profits for the radio and electrical dealer—the Stromberg-Carlson No. 115 Voice Pacing System. Prospects are all around you—offices, factories, laboratories, shops, stores, hotels, clubs, garages, restaurants, warehouses, etc. It comes complete, ready for instant installation. Equipment consists of an amplifier, a microphone and one to twelve speakers, 10 watt output.



Stromberg-Carlson

STROMBERG-CARLSON TELEPHONE MFG. CO.
157 Carlson Road, Rochester, N. Y.
Send me literature on the Stromberg-Carlson No. 115 Voice Pacing System.

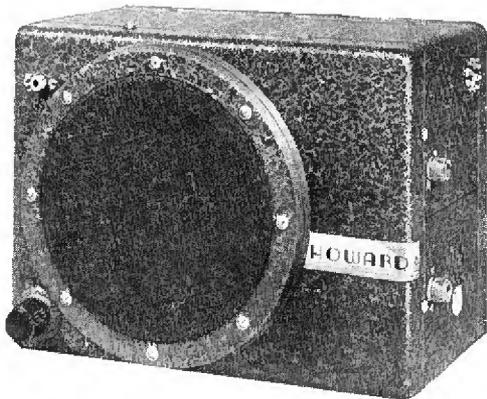
Name _____
Street _____
City _____ State _____

Announcing **THE NEW 1937 LINE** **HOWARD AUTO RECEIVERS**

A NEW High Quality LINE

Built—perfected—priced—to set a NEW ALL-HIGH Record in Performance—Sales—Profits . . . Backed with a NEW Franchise Plan Live Wire Distributors will grab QUICK!

ACOUSTA PROJECTOR—Newest development in Speaker mounting. Eliminates microphonism and mechanical distortion.



HOWARD H-A-7

All radio world will soon be talking about this HOWARD achievement . . . This marvelous SIX TUBE Auto Radio Receiver gives you the supreme achievement in tone, reception and dependable performance. Possesses unmatched developments that insure—

- Greater Power Output
- Greater Usable Sensitivity
- Greater Antenna Results
- Greater Automatic Volume Control Action
- Greater Tone Control
- Finer, Easier Tuning
- New Improved Speaker Connections—Adaptable for Wall or Overhead Speaker
- Compactness and New "Snap-in" Mounting Plates Solve Installation Obstruction Difficulties
- Latest Type Condensers, Coils and Tubes
- Equipped with Tuning Cables and Control Mechanism.

Instrument Panel Plates to Match Any Car

Distributors write or wire for our New

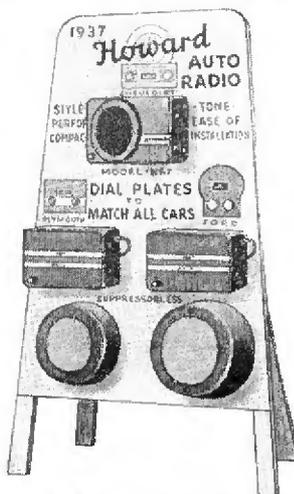


HOWARD H-A-8 AND H-A-9

Another equally great AUTO Radio achievement, such as only HOWARD engineering skill could produce . . . Both are bound to be Top Sellers and the talk of 1937

MODEL H-A-8 . . . EIGHT TUBE Super-heterodyne. Possesses all the fine features of MODEL H-A-7 shown and described at left . . . PLUS . . . several other fine developments that make it this year's outstanding Eight-Tube DELUXE AUTO SET.

MODEL H-A-9 . . . A SIX TUBE Super-heterodyne. Electrically identical to MODEL H-A-7, except that it is equipped with 8-inch permanent magnet separate SPEAKER . . . A truly remarkable value.



Franchise Plan on Household and Auto Receivers

FREE . . .

Find out about Banners, literature, this fine display shown to the right above—and other big sales support GIVEN FREE. Ask your distributor or write us. Use coupon below and get ALL the facts. Mail it NOW.

HOWARD RADIO CO., 1735 Belmont Ave., Chicago, Ill.

Gentlemen: Rush me literature and prices on your new 1937 HOWARD AUTO RADIOS, and details of your NEW Franchise Plan.

Name

Firm

Address

City State

RCA RADIOTRONS
THE CHOICE OF MILLIONS
OF SET OWNERS

RCA Radio News

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

RCA "CHECK-UP"
THE CHOICE OF THOU-
SANDS OF SERVICE MEN

To the consumer, RCA Radiotrons mean high quality... To the radio man, RCA Radiotrons mean easier selling, higher profits

DEALERS GET WAY TO FIND PROSPECTS ... MAKE THEM PAY TO BE DISCOVERED

*Spring "Check-Up" a Proved Way to Profits
... Pays You for Building New Sales!*

RCA Radiotron jobbers now offer a vastly improved profit-making plan based on three years of successful operation.

The RCA Radiotron Spring Check-Up Plan is a sound, complete ten-point radio check-up service for which you charge your customer \$1.50, exclusive of parts... A complete merchandising package wrapped up for immediate use.

What It Does

This sensational Plan gives you entry into 73% of the homes in your community, because that many homes have a radio. Visits to sick radios open the door to the sale of more than tubes. Dealers and service men find check-up also promotes sales of service and parts—sells new sets and appliances.

Why It Works

58 out of every 100 sets in your community need service, repairs, new tubes. If you let them, set owners will wait until their radios break down completely before getting service. You can stir them into action with this Check-Up Plan because check-ups are a part of American life. People are accustomed to automobile, health and dental check-ups. Hence, they see the wisdom of a radio check-up.

You visit customers on the basis of "service"—not "sales". You get paid in full for the service you render. In addition, you collect for parts, tubes, and whatever else you sell—and every home offers you an opportunity for profitable sales! In this way, the RCA Check-Up Plan actually makes prospects *pay* for being discovered!

HOW THE CHECK-UP IS PROMOTED TO CONSUMER

RCA Radiotron, the only tube manufacturer today doing any national consumer advertising for its dealers, breaks with a tremendous campaign in April, featuring

One column ads in Saturday Evening Post and Collier's every other week.

Newspaper ads in over 100 cities.

Strong commercial announcements on a full-hour nation-wide broadcast every Sunday.

Ask your distributor how you can cash in on this outstanding advertising program.

POWERFUL SALES HELPS OFFERED BY RADIOTRON

Radiotron jobbers are now in a position to supply service men and dealers new and potent sales aids to help them cash in on the Spring Check-Up. Ask your jobber how.

1 You can have your name listed in local newspaper ads. 2 Newspaper mats for your own use can be secured. 3 New mailing pieces, handouts and various pieces of literature can be had on a cooperative basis.

MAKE YOUR WINDOW A PROFIT PULLER



Here is the second display in the '37 Radiotron Display Service. The slate with chalk and eraser comes with two giant cartons, measuring 6" x 6" x 18" and 30 dummy cartons. A real talking display that will help you sell Check-Up.

Ask your RCA Tube distributor how you can get this complete year's service.

NEW!

Auto Radio Check-Up Opens New Field for Sale of Service, Tubes and Parts

1,412,000 auto radios were sold last year. This year it is estimated there will be 1,750,000 more sold. Car dealers aren't prepared to service them. You are! These radios need attention more often than home sets—and the RCA Auto Radio Check-Up Plan gives you a great opportunity to cash in on extra business. Get full details from your RCA Tube distributor.

DEALERS MAKE 16% NET PROFIT USING RCA CHECK-UP PLAN

Below is shown results obtained by over 1,000 neighborhood dealers, radio service men and department stores from mailing 500 to 1,000 letters in connection with the RCA Radiotron Check-Up, to prospects and customers over a period of one month to three months. They averaged 38 calls per 1,000 mailings. Based on this average, the dollar returns per dealer are:

35 Check-Ups at \$1.50 each	\$ 52.50
Sale of tubes, parts for replacements were \$3.65 per Check-Up	127.75
	\$180.25

Dealers' operating cost based on the above dollar volume

Cost of tubes sold	\$ 39.01
Cost of parts and accessories	21.10
Cost of labor	38.00
20% overhead (rent, light, etc.)	36.00
	\$134.11
*Average cost of advertising	\$ 17.00
Average net profit—16%	\$ 29.14

The profit shown above, of course, was in addition to the money made by dealers in the regular course of business. Many dealers have reported sales of new radios and other electrical appliances ranging from \$3 to well over \$700—all plus value and profit.

Thousands of dealers are averaging from 8% to 16% returns—from 30 to 160 radio check-up jobs per thousand letters sent to radio set owners, at an average of \$5 per job.



RADIO RETAILING

APRIL, 1937

O. FRED. ROST, Editor

TO TOWN WITH SOUND

THROUGH THE ARRIVAL ON THE market of several advertised and thoroughly reliable lines of packaged and standardized sound equipment, radio dealers everywhere have been presented with an opportunity for boosting sales and profits, such as has come rarely if ever to retailers in other lines.

Despite the huge market that exists for sound equipment, the business was in the doldrums until recently. While satisfactory units were available the general public knew little or nothing about them and when brought in contact considered this another useful but highly complicated mechanical mystery that only a wizard could operate. Many local tinkerers kept this delusion alive by supplying home made or in-free-style-assembled sound jobs that only they themselves could keep in service. Such things as standardization of complete units, simplified and safe installations, firm pricing and selling policies were a rarity in this field.

* * *

TODAY FINDS THE SITUATION GREATLY improved. Expanding use, better understanding of its various uses and functions, advertising and general publicity on the subject have served to give the public a better understanding and broadened the demand for sound equipment in industrial, commercial, educational and private markets. Estab-

lished manufacturers are prepared to furnish efficient, well designed, well appearing, well packaged complete units under selling plans that are varied but nevertheless give the dealer a chance to operate in this field at a profit.

* * *

SOUND EQUIPMENT BEING AN OFFSPRING of radio, it is apparent that radio distributors and dealers should know best how to sell it. Being more or less susceptible to all-year-round selling, sound equipment can be used effectively to fill in the valleys in the sales curve which appear to be one of the characteristics of radio set sales. The customer list which radio dealers have built up should disclose the names of many direct prospects and others who through business, political or personal connections would generate prospects.

However, radio dealers will want to study the theory and practice of sound apparatus carefully and particularly know the technique and essential requirements for satisfactory installation of the various units. Wherever the conditions warrant they should establish separate departments for sound equipment selling and maintenance.

The market is ready and the products are available so its just a question of which radio dealers will grasp this golden opportunity, and, in the vernacular of the day—"go to town"—with sound.

This message has to do with what happens after you sell gasoline motor powered equipment.

Your customer goes away with his purchase highly pleased and very proud. You have told him it's good . . . and he believes you. Some might think that the sale ends here. However, the deal is not over . . . the big test lies ahead.

How good your word is depends on how satisfactory the equipment proves to be. If it runs . . . dependably, economically, and trouble-free, the customer cannot say too much for you. If it doesn't . . . well, you know the answer.

It's well to remember when you sell gasoline powered equipment how important the motor is . . . and too, it is very important to remember that you can't go wrong when you sell equipment powered by a Briggs & Stratton 4 cycle gasoline motor and say "take my word for this." For 20 years, these small motors have done more for owners everywhere than was ever expected of them.

BRIGGS & STRATTON CORP., Milwaukee, Wis., U.S.A.



April

1 9 3 7

THE RADIO MONTH

ROOTLESS RUMOR

In Washington getting the lowdown on pending legislation, we took time out to query the Federal Communications Commission regarding a persistent rumor that it planned to crack down on inter-office communicating systems on the grounds that some of these radiate outside the building in which they are installed.

Because this new packaged sound item is everywhere ringing the bell we are glad to report that the rumor is entirely without foundation. No one at the Commission's office had ever heard it.

Nor is there much likelihood that the FCC will ever concern itself overmuch with this type of equipment. For much of it uses inter-connecting wires of its own, is in no sense of the word radio transmitting equipment. And systems which do pipe modulated r.f. into the light lines rarely get out of the building for their output power is extremely small, their operating frequency is far from commonly used radio bands and signals are generally confined within shielding bx or grounded conduit.

The Commission, furthermore, is far too busy with other and more pressing problems to do more than query individual users of intercommunicators by mail where disgruntled neighbors report interference to work off a grudge. And in such cases it is generally possible to stop radiation by installing a simple filter at the electric meter.

PROGRESS

The Columbia Broadcasting System reports that it has applied to the Federal Communications Commission for permission to construct a combined television and sound transmitter atop New York's second highest, the Chrysler Building, and it is stated that the proposed station will provide coverage for 4,800 square miles.

If a permit is granted the project marks the re-entry into this field of one

of the early pioneers. Since 1933, when CBS discontinued television broadcasts of 60-line pictures, the art has advanced so that now 441-line images will be projected, as is done by RCA and Philco. That marks genuine progress. However, it should not raise false hopes for early service to the

OUR SPECIAL SUPPLEMENT—

Practicing what it has frequently preached, *Radio Retailing* folds within this issue a four-sheet supplement suggesting a window display designed to sell programs and, through programs, sets.

Effective as the industry may be when pushing competitive features, it is woefully inarticulate on the subject of broadcasting, really its chief stock in trade. Show windows, particularly, could do an effective job.

Because broadcasting is supported by advertising the radio salesman has in his hands the biggest buy in entertainment packages ever offered the consumer. All that is needed is an instrument with which to tap the free air waves and a good receiver is cheap at any price.

But the consumer must be told so continuously. Or he'll forget it.

whole nation because 4,800 square miles only equal the area of Connecticut, our third smallest state, and represent only 1/600th part of our national area. When construction has begun on television transmitting stations in many of our large cities, the sale of television receivers will become a factor. Meanwhile, let's sell radio sets.

SLAMMING DOORS

Out in Green River, Wyoming, a member of the Fuller Brush tribe of bellringers took offense at being forbidden to do house-to-house canvassing. He contended that the local ordinance prohibiting the practice was uncon-

stitutional and, with his company backing up the effort, tried to prove his point in court. Last month the case reached the United States Supreme Court—which refused to review the case—which means that the ordinance stands and that Green River residents may slam doors in the faces of facile Fuller brush-sters with impunity—which forces Mr. Bunger, the complainant, to push doorbells elsewhere. The moral is that radio dealers should watch their local law makers to make sure that they are not deprived of the opportunity to do home-selling.

RADIO THIRD

The Marketing Department of De Paul University recently reported on a study of consumer buying ambitions for 1937. A total of 10,512 families were contacted in Chicago and asked to indicate first, second and third choices of what they planned to buy next. Radio sets stood third on the list being barely nosed out by insurance but beaten decisively by automobiles, while oil burners stood fifth, vacuum cleaners seventh, refrigerators ninth, washing machines fifteenth. The reporter observes "it was evident that people in large numbers were thinking of buying more expensive products." Assuming that Chicago consumers are typical, radio set sales in 1937 should be more numerous than last year and show higher values.



EDITOR

SMOKE - SCREEN FOR DUMPING

AGGRAVATING the trade-in problem, already the trade's most tender spot, is the manufacturers' growing inclination to use the allowance on old sets as a smoke-screen for dumping.

The motive power behind this new technique of dumping is generally provided by some set maker who must dispose of surplus stock. He goes to large department stores, chain outlets and big dealers, offers radios at drastically slashed "campaign" prices. He agrees to pay for half or more of special advertising campaigns. And he then suggests that the cut be paraded to the presumably dull-witted public as a trade-in allowance.

Such subterfuge, investigation discloses, fools few consumers today. For usually no attempt is made to dignify the offer by injecting some specification as to the old set's condition, there are no variations in the size of the allowance, no limitations and no minimum requirements. It is, therefore, implied that any old radio, good or bad, suddenly has become worth much money.

The result is inevitable belittling of the value of all new radios in the eyes of the public. The buyer's idea of how much a good radio should be worth, already hammered down to ridiculous levels, is painfully augmented.

Obviously A Discount

Examples are everywhere apparent. For instance, a recent advertisement by a large New York dealer announces a special "clearance sale" on a well known set listing at \$69.50 and puts the value of a trade-in—any trade-in—at \$30 by offering that \$69.50 set for "your old radio" plus \$39.50. This is 43 per cent off the original list price.

In a large Western city a prominent department store recently announced a \$69.50 trade-in allowance on a set "Regularly Sold At \$149.50" so that the unidentified "old set" paid for more than 46% of the presumably fairly established "list" price.

Manufacturers aggravate trade-in trouble by sponsoring no-questions-asked allowance campaigns

Trade, fighting for replacement business, suggests set makers see that obsolete radios are destroyed

Two alternate used merchandise control plans offered

By D. C. FREDERICK

Another city was treated to a widely advertised offering of a console set that previously had been nationally advertised at \$79.95. Here the trade-in set drew an allowance of \$41.21, or more than 50 per cent off the list.

However, the Chicago trading area recently was the scene of the most spectacular trade-in campaign of recent years. When it broke in the Sunday newspapers, some department stores and one chain carried full page broadsides, other department stores had smaller but still commanding space, the local utility company carried about one-third of a page and regularly established independent radio dealers were conspicuous by their absence. (Some days after the "big store" broadsides a similar advertisement appeared which listed dealers in the area).

All those advertisements varied in style and make-up but were uniform in one important detail, namely, they offered "\$10 to \$100 allowance for your old radio." One large store emphasized that those allowances would apply to any radio set "regardless of its condition," and featured "No Money Down" as an added inducement.

Impressed with the unprecedented magnitude of the Chicago cam-



THE CONSUMER SMELLS A RAT

When an old receiver on which an allowance has been made is left in the home, the industry's non-too-savory list price structure is flaunted under the public's already sensitized nose



campaign and considering also the prominence of the manufacturer who had obviously sponsored it, *Radio Retailing* decided that here was an opportunity to make a case study. Our hope was that by tracing and analyzing the effect of this outstanding effort on new set sales and trade-ins we might be able to contribute some new thoughts or plans for the possible solution of the trade-in problem.

Chicago Latest Hotspot

Field investigations by the author, to whom this job was assigned, uncovered some interesting details, of which the following are significant.

1. The manufacturer had established a uniform procedure by which all dealers offered uniform allowances on specific sets, thereby avoiding as far as possible cut-price competition between dealers and reducing to a minimum any permanent injury of price policy and structure.

2. The "allowances," when reduced to a discount basis, amounted to less than is customary under such conditions and in no case exceeded 25 per cent off the list price.

Those two facts are considered as clear indications that this campaign lacked many of the characteristics of an ordinary dumping operation, represented an earnest effort to dispose of a surplus stock with a minimum of disturbance in the trade, avoided

Regular Price **\$79.95**
Trade-In Allowance **\$20.00**

YOU PAY ONLY \$59.95

And Your Old Radio

Beautiful new 1937 console! With all the famous features—foreign tuning system, shade tuning, pentode audio system, glowing beam tube range indicator. A remarkable value at this price.

RADIOS, SEVENTH FLOOR

10-TUBE ALL-WAVE RADIO

Regular Price.....64.95
12.00

LESS \$12 TRADE-IN ALLOWANCE

YOU PAY ONLY **\$52.95**

Saturday... we'll allow you \$12 for your old radio or super-power

AGE, MAKE, CONDITION . . .

are waved aside in flat-rate trade-in allowance ads like these with the result that they tear down public confidence in all radio list prices

Manufacturer's LIST PRICE ~~69.50~~

\$39.50

★ and your old radio

★An opportunity to exchange your old radio regardless of age, make or condition for a new radio.

Newest 1937 FEATURES

as far as possible temporary stagnation of business which generally follows for the manufacturer who sponsors such a campaign.

Could Be Constructive

However, it was found that in some neighborhoods or towns where normally the sales of new sets is seriously interfered with because

traded-in sets are frequently offered and peddled at pitifully low prices, regular radio dealers still deplored the fact that the *manufacturer had made no provision for a method of disposal of trade-ins* by which they would be taken out of circulation.

One exceptionally able radio dealer contended that manufacturers as a whole seem to be disregarding the fact that the market for home sets is approaching a degree of saturation which will before long create a real problem unless a method is found by which present sets can be more quickly obsoleted and more trade-ins destroyed. He pointed out that manufacturers lose an excellent opportunity of building broader sales opportunities for the future when they themselves absorb the losses that are involved in disposing of surplus stocks via the trade-in allowance route but fail to get some future dividends on such sacrifice by actually forcing out of circulation the traded-in sets they pay for.

Further investigation disclosed that this dealer had put his finger on one of the important weaknesses of the flat-rate trade-in allowance as now generally practiced and one which only the manufacturers themselves can cure.

It was found that one of the retail stores most active in the campaign *did not even bother to remove trade-ins from the homes of its customers*. This meant that for every 100 sets sold by that store in this drive there were just 100 homes scratched off the list of possible buyers of a second set for supplementary use.

Another large store sold the traded-in sets to dealers who do nothing else but re-sell second hand sets. Those dealers buy trade-ins from large retailers at a mere pittance, recondition them superficially and then "plant" them in temporarily rented stores of good shopping towns or in good shopping districts of cities where the prices they quote help to make life miserable and selling difficult for the regularly established radio dealers.

Several large stores and many small dealers were found to follow the practice of putting trade-ins in good condition and selling them at varying prices, depending upon condition, age, size, etc. One large store was maintaining a complete reconditioning department where not only the chassis of each trade-in is tested and when necessary overhauled but even

the cabinets are refinished. However, the manager admitted that on the average he could do no more than break even on a year's operation.

Contrasted with that, small dealers who handled their own trade-ins generally contended that in most cases they were able to make a fair profit on their second-hand set business. Some few even insisted that without their profit on trade-ins they could not stay in business.

Factories Must Take Lead

Investigation which at first was concentrated in the Chicago area and then continued in other cities and sections of the country definitely established the following facts:

1. That radio dealers, either for competitive, practical or economic reasons, are not inclined to function individually and of their own accord in removing second-hand radio sets from circulation, excepting only where age, appearance or condition makes scrapping the obvious procedure.

2. That sponsorship of a trade-in allowance deal for the purpose of closing out a surplus stock may successfully accomplish its immediate and primary purpose but generally will carry temporary stagnation of sales or even paralysis in its wake and does very definitely and cumulatively increase the problem of trade-ins as a barrier to the sale of new sets.

It follows that if those two points may be accepted as fair and accurate statements of conditions as they exist today then the conclusion seems warranted that manufacturers must provide the initiative and motive power for finding and putting into operation a plan to improve the situation and remove the trade-in from its present status as a menace to future progress of the industry and radio's Public Enemy No. 1.

Three Plans Proposed

Naturally, *Radio Retailing* discussed various plans for solving this pernicious problem with numerous dealers, distributors and manufacturers.

Several of the ideas advanced in those are briefly presented here for and gave promise of fair success and those are briefly presented here for the consideration of those interested.

Plan No. 1. Manufacturers who find themselves forced to dispose of
(Please turn to page 57)

FIGURES

RADIO RETAILING'S MONTHLY BUSINESS BAROMETER

CAR SET BIRDSEYE

Analysis of new auto-radio lines indicates that the average manufacturer offers a choice of three sets per line (actual average 3.2). The average price is \$50, right on the button. And the average number of tubes per auto-radio is 5.7.

FACTORY FIGURES

Zenith reports an operating profit for the first nine months of its current fiscal year ending January 31 of \$2,347,987 after deduction for depreciation, excise taxes, royalties and reserves. (But without other Federal tax deductions.) This compares with \$1,015,966 in a similar period last year.

Crosley made a net profit of \$1,237,056 after depreciation and Federal taxes had been deducted in 1936.

Ken-Rad's summary of operations for the year ended December 31, 1936, shows a net operation profit of \$774,319 before provision for depreciation. Allowance for depreciation brings the net to \$659,084, deduction of taxes, interest, etc., brings the net after all charges to \$484,834.

Stewart-Warner reports that radio sales in the period from October 1, 1936 to February 28, 1937 show a gain

of 170 per cent over the corresponding period the year before. For the year ended December 31, 1936 radio sales were slightly more than twice as large as in 1935. From October 1, 1936 to February 28, 1937 the company's refrigerator sales increased 89 per cent over a similar period the preceding year. For the year ended December 31, 1936 sales were 130 per cent greater than in 1935.

Apex advises that net income for the fiscal year ending December 31, 1936 amounts to \$479,045 after provision for normal income tax and surtax on undistributed earnings. This compares with a net of \$198,439 in 1935. Sales volume increased 17 per cent.

SET EXPORTS, BY MONTHS

Radio receiving set exports in 1936, by months, were as follows: January—46,951. February—45,383. March—58,595. April—46,046. May—45,071. June—39,460. July—35,877. August—48,963. September—60,949. October—74,905. November—63,299. December—76,869.

The total agrees substantially with that shown in *Radio Retailing's* advance estimate published in the 12th Annual "Figures" insert, January, 1937.

Dollar value (manufacturers' de-

1936 RADIO EXCISE TAX, BY STATES

Collections by months were shown in the February issue

STATE	TAX	PER CENT
ILLINOIS	\$1,536,900	23.57
NEW JERSEY	1,415,248	21.77
PENNSYLVANIA	1,153,439	17.74
NEW YORK	592,675	9.10
MASSACHUSETTS	436,749	6.71
INDIANA	389,034	5.96
MICHIGAN	249,436	3.82
OHIO	209,621	3.21
CONNECTICUT	204,340	3.14
KENTUCKY	155,176	2.38
CALIFORNIA	121,983	1.87
WISCONSIN	23,175	.35
RHODE ISLAND	17,871	.27
MINNESOTA	5,344	.08
IOWA	2,310	.03
MISSOURI	418	*
WASHINGTON	360	*
COLORADO	124	*
TENNESSEE	75	*
KANSAS	50	*
MARYLAND	17	*
NEW HAMPSHIRE	15	*
FLORIDA	1	*

*Less than .01 per cent.

clared valuation) was as follows: January—\$1,243,672. February—\$1,145,272. March—\$1,330,100. April—\$1,221,688. May—\$1,073,249. June—\$863,221. July—\$870,342. August—\$1,154,621. September—\$1,549,838. October—\$1,987,503. November—\$1,605,800. December—\$2,003,915.

WASHERS, AIR-CONDITIONERS UP

Household washers and ironers shipped in the first two months of 1937 totalled 302,089, topping the same period of 1936 by 11 per cent and achieving the greatest January-February total in the industry's history. Washers totalled 271,288, according to J. R. Bohnen of the American Washing Machine Manufacturers' Association, while ironers totalled 30,801.

Installed cost of equipment sold by the members of the Air Conditioning Manufacturers' Association in January and February totalled \$14,512,000, compared to \$5,471,000 in the first two months of 1936, an increase of 165 per cent. This, from William B. Henderson, executive vice-president.

FIRST 100 BROADCASTERS

The hundred leading network radio advertisers placed a total of \$52,971,493 for time on NBC and CBS networks during 1936, a study reveals.

The first 10 spent \$18,508,943.





ANGLE IN ACTION . . . reads his mail

. . . goes to work

. . . dictates a letter

PRESENT PRICE BRACKETS ARE

s a y s

W. M. ANGLE

President, Stromberg-Carlson Telephone Mfg. Co.

IF it is possible for any man who is at the head of a large manufacturing enterprise to discuss the problems and troubles of his industry in completely detached but thoroughly constructive fashion, then W. M. Angle, president of Stromberg-Carlson, is that man. Radio set manufacturing is his vocation, listening in on the radio his avocation but when he talks with anyone from within the industry he prefers to guide the conversation into broad industry problems rather than talk about his own company.

In fact he can talk detachedly even about that and yet it would be difficult to find any executive who is more intimately acquainted with the operating details and problems of every department. He probably could quote the substance of last month's operating statement without referring to the records; he calls most of the workers in that vast plant of many acres by their first names; he is familiar with the performance and general abilities of the company's various distributors and when it comes to dealer problems—well, he tries to keep abreast of those first hand by visiting dealers whenever and wherever he has the opportunity.

Undoubtedly it was because of his broad and intimate knowledge of both production and distribution problems that Mr. Angle responded readily when his interviewer mentioned the subject of cutting down on models and the present situation on prices.

New Model Pricing Puzzles Factories

Said Mr. Angle: "We are unquestionably in a period of rising prices and are facing very definite problems in that connection. Not a day goes by that our purchasing department does not report that the price of this or that raw material, which we use, has advanced drastically and this has been going on now for some months and no one knows how long it will continue.

"With those price boosts coming at a time when we must decide on new models and on their list prices, the question naturally arises whether we should hold to our previous ideas of price levels and if so, whether we shall furnish sets of lower grade in

order to stay in the price ranges that we used last year or cut corners very drastically in the hope of accomplishing this.

"I hear from all sides that this matter of price levels is an important factor in selling and yet personally I sometimes think that we have made more or less a fetish of those supposed natural price levels, credited them with much more importance than they deserve and brought out too many models to meet this mythical situation.

"I will grant that today we must have more models than we did in the early days of the industry when this company, for instance, had only about four a year but I doubt whether we need to spread ourselves all over the map by producing models to meet every actual or reported whim of the consumer and every price level that is said to be popular.

Increased Cost Excuse for Rise

"All radio manufacturers have recognized that there are certain prices at which the general public usually expects to buy radio receiving sets, such as around \$50, around \$75, just under \$100, and around \$150, and originally manufacturers



... answers the 'phone

NOT MAGIC

simply tried to have sets available in those price classes. However, of late years some manufacturers have offered several sets in each of the major price classes and in addition at many intermediate price levels with the result that production has become more complicated and costly and distributors and dealers have had to carry much heavier stock and bigger investment which greatly increased their operating expense without corresponding gains in sales.

"I think the present uncertainties in prices of materials and labor provide us with the long needed impetus for calling a halt on this unlimited expansion of lines and going back to more sane and practical, and certainly more economical and profitable, procedures.

"We know that the average customer comes into a dealer's store with at least a more or less predetermined but often already well-fixed idea of the amount he intends to spend. Our own records show at which prices the largest number of sales are made so that it would seem logical that we concentrate on known factors rather than dabble in the unknown.

"I have heard that one manufacturer found that 40 per cent of his

- ❶ Manufacturers are inclined to make a fetish of supposedly "natural" lists . . . hesitate to up these despite rising material and labor costs
- ❷ Some seek to solve this problem by cheapening construction of fast-movers . . . adding "sweeteners" carrying higher lists to the line
- ❸ More models do not, however, necessarily mean more profit . . . frequently complicate production, overstock the trade and confuse the customer

models produced nearly 90 per cent of total sales, which means that 6 out of every 10 models did not sell well enough to pay for the cost of the tools, dies and patterns and certainly not for the actual production and selling costs. If that is a fair illustration of general conditions then it seems to me that in these days of rising costs of materials and labor we should weed out those slow selling numbers and reduce our lines to models that actually have demonstrated their popularity in a particular price bracket.

"Certainly every manufacturer will have a very desirable cushion of extra profit to hold against future cost increases if all production and sales effort can be concentrated on fewer models with resulting better margins and greatly lessened danger of having to take large losses through close-

This is the seventh in a series of interviews with important industry executives by O. FRED. ROST

out sacrifice sales at the end of the season.

"Similarly distributors and dealers will have a chance to concentrate their fire and get better sales results at much less expense because it is common knowledge among good merchants that the customer will buy more quickly if he or she is not confused by being shown too many different models to choose from. This is of particular importance to radio dealers because they have not merely the appearance of a set and the price level problem to meet with each prospective customer but in addition they must settle the much more elusive

question of tone quality to the buyer's satisfaction."

Too Much Variety Hurts Sales

At this point Mr. Angle injected an idea that is being used successfully by one of the nationally operating chains and which is said to be one of the main reasons why that chain was able to sell several hundred thousand radio sets at retail last year of which the majority were sold at the store and without home demonstration.

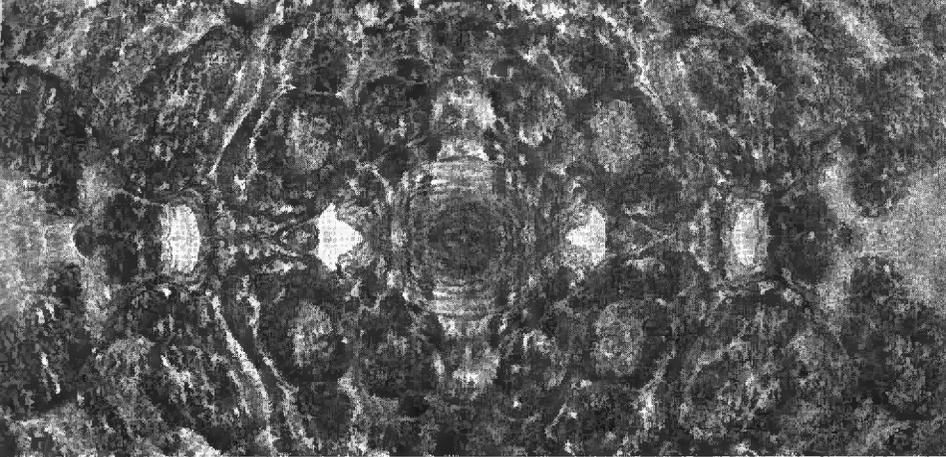
He continued: "I believe that this suggestion of cutting down the number of different models, if followed by many manufacturers, would positively result in increased sales efficiency all along the line and boost the sales of every dealer if in addition he would take a leaf out of the selling tactics of one of the big chains.

"It is a well known fact that the particular concern involved pays big salaries and buys the best sales talent available in each field, and if an idea that was evolved by some high-priced sales wizard makes their radio sales skyrocket, it ought to be used by the independent radio dealers.

"That sales procedure is based on the belief that the average buyer of a radio set has not sufficiently well trained hearing to differentiate between the tone quality and sensitivity of different sets and consequently is easily confused if several different models are demonstrated in rapid succession or, what is still worse, simultaneously.

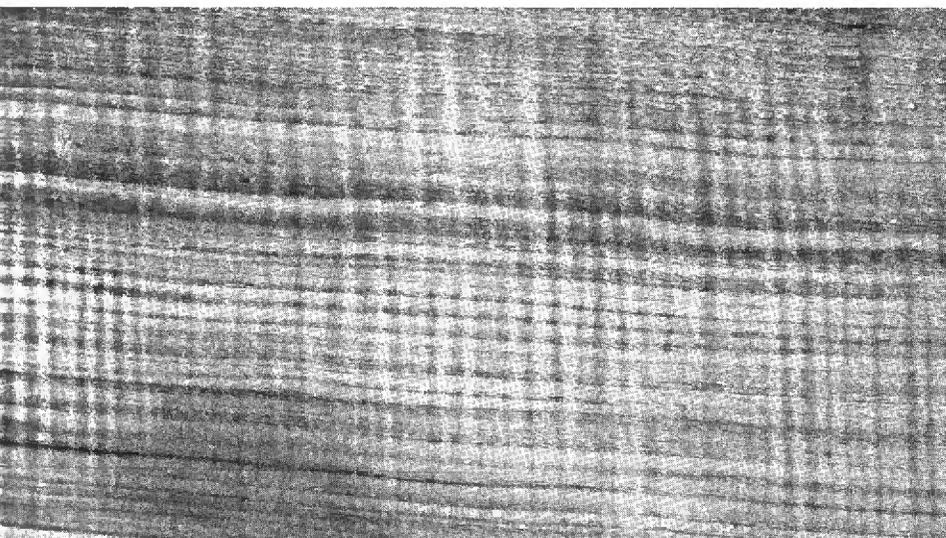
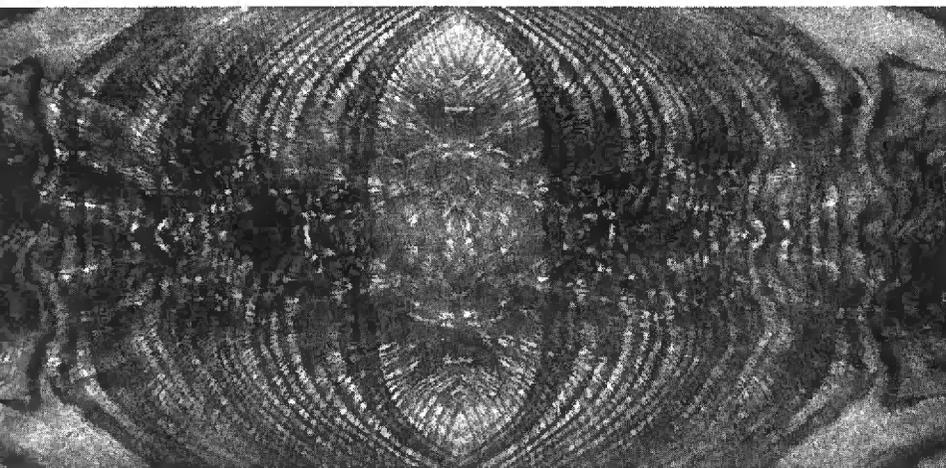
"Consequently salesmen are compelled to find out first the approximate price a customer wants to pay. Then they expound verbally the external appearance, characteristics and advantages of sets that can be offered in the price range mentioned and in

(Please turn to page 56)



BURL — Expensive walnut because it comes only from deformed trees

CROTCH — Next rarest, comes from the crotch of the tree, as the name implies



QUARTERED — The striped appearance is due to the way in which the walnut is cut

ROTARY — Most common, whole logs are placed against a huge knife to get this effect



W O O D . . .

By Tom Blackburn

THIS is to tickle the memories of those who have forgotten that women have been "oh-ing" and "ah-ing" over pretty clothes and jewelry since Heck was a pup. It is addressed to those big, brawny salesmen who think it a bit effeminate to mention exclusiveness, beauty and design in radio cabinets.

We all fall for beauty and anything extraordinary. And, with the upsurge in radio prices, manufacturers have seen that the public is again becoming interested in fine pieces of furniture. Steadily climbing ahead is impressiveness of cabinetwork.

The chassis might just as well be setting in a banana crate, so far as getting a tumble from some salesmen. Malcolm H. Sherwood, author of "From Forest to Furniture," told recently of a radio salesman who sat a woman down before a \$150 beauty and talked at length about gadgets that might be seen in a \$50 model. He said nothing about the cabinet.

Right there before them was a veneer made of thuya burl; a rare wood which is dug out by African natives from the hot sands of Morocco. There were woods which had been hunted in tropical jungles as sedulously as a miner seeks gold, cut down and dried for five years. There was resonant koa wood from Hawaii, used by natives for surf boards and ukuleles. Other models he was showing contained zebrawood, badouk, peanut-grained tamo from Japan.

That salesman could have told his customer that not even all of these rare trees yield good veneer. Once in a while extraordinary pieces are found which are precious as chinchilla fur, ambergris or rose pearls. Veneer men treasure them like old masters. In fact, there are veneers which are famous. The Paris Louvre

... What You Should Know About It

Radios are furniture. As technical design steadies down and prices rise appearance becomes an important sales factor

contains Louis XV's roll top desk which has such extraordinary design and matching in it that for two hundred years cabinet makers have made pilgrimages to see it.

Dope on Veneers

A lot of salesmen, reading this, are going to ask, "What do I know about veneers and cabinet work?" It's too-long a subject to cover in an article but here are some main talking points.

There are three things to remember about veneers:

1. Most expensive veneer is burl, which has a wavy, gnarled pattern. Rare, because only deformed parts of a tree yield burl veneer, and then often in small pieces. Most trees have no deformity. Such veneer is usually placed on the front of a radio cabinet.

2. Crotch veneer is next rarest, and may be recognized by its wavy appearance, often fan shaped. It is much more regular in conformation than burl and comes from the crotch of the tree only.

3. Quartered veneer is usually striped. It has that appearance because of the way it is cut.

4. Rotary veneers are most common, have the least figures. They are made by placing the whole log against a huge knife, and peeling off the veneer, much as you would peel an apple.

Veneers date back to the master designers, Sheraton, Hepplewhite, and Duncan Phyffe. Today they are generally applied over plywood, which is stronger than solid wood. Plywood, by its cross-banding, distributes its strength, making the fibers run in different directions. Wood changes with humidity conditions and plywood construction reduces its tendency to shrink or swell.

Declares Earl Hughes of the

Wabash Cabinet Company, Chicago: "It is important for the salesman to call attention of his prospective customer to the fact that on higher priced radios, a heavier panel is used, usually about $\frac{1}{8}$ inch. These heavier panels do a great deal for the resonance of the radio's tone by the way they baffle it. Look behind the radio, and you will see that the panel is thin on cheap radios.

How Finish May Be Faked

"Also in the finishing of cheap cabinets the work is rushed. For example, a combination filler and stain is put on and flat lacquer slapped about without that hand rubbing which works the finish into the grain of the wood. A wet glass set on top of a cheaply finished radio will often produce a ring whereas the finish of a higher priced unit will usually protect it from marking."

Cheap radios, Mr. Hughes points out, often have photographic pictures of expensive veneers applied to them.

A salesman with a magnifying glass can show the prospect that veneer is a fake as it does not follow the natural pinholes and other minute defects in the wood. Such prints are often applied on solid wood, which with its tendency to warp, is not an asset to the radio.

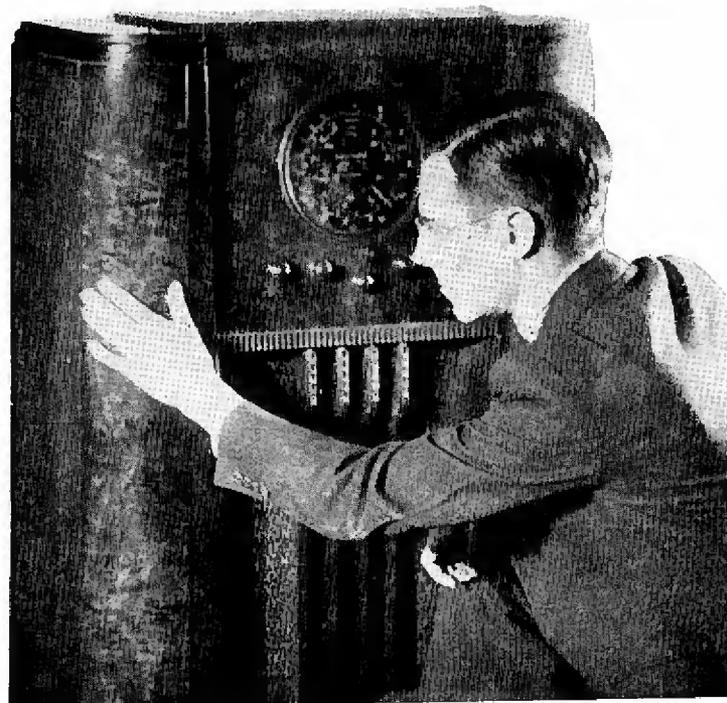
Notable among recent achievements in radio design is the development of round corners. This feature is now spreading to other types of furniture. Heretofore rounded corners could only be produced by bending a board, which sets up stresses and causes it to break. A machine which routs out portions of the back of the wood and permits it to be bent makes this new development possible.

Carvings to Come Back

With higher priced radio cabinets a certainty for the fall of 1937, it is likely that there will be some return to wood carving which enriched

(Please turn to page 56)

UP FRONT — Best Veneers are placed where they catch the customer's eye, in prominent places such as the curved corners of a console. C. C. DeWees of Stewart - Warner shows how to dramatize this



Camera Corner Aids Radio Sales

CHICAGO—Cameras, particularly the small, new and inexpensive "candid" variety equipped with fast lenses and using 16 mm. movie film, are an excellent sideline for a radio business, thinks the Stanley Warren Radio Shop.

Men who used to tinker with home-constructed sets in the days before commercially-built models reached a high state of perfection have now in many instances taken up photography, are good spenders.

Occupying little space, requiring relatively small investment, photographic supplies swell store traffic. This, in turn, boosts set and service business.



SUMMER SIDELINE SALESLADY—Dolly Mertens says bidding for good amateur photographs by magazines such as *Life* and *Look* has injected new life into the camera business

Replacement Plan Promotes Annual Radio Step-Up

DENVER—Many automobile owners are today convinced that it is cheaper to turn in their car for a new one each year than to nurse an old model until its trade-in value plummets. That the same idea can be fostered in the radio business with profit to the trade is the opinion of the Easy Housekeeping Shop of this city.

Last year, this company inaugurated an experimental plan designed to step-up unit sales by easy stages. During 1936 better than 10 per cent of the sets sold by this company in 1935 were replaced with new and generally higher-priced

models. W. E. Austin relied initially upon the gross profit returned by new merchandise moved to make the plan pay but now informs us that he does better than break even on the trade-ins resold because, as he puts it: "Used sets more than a few years old must be marked down 75 per cent or more to interest the consumer but receivers only 1 year old can frequently be resold within 25 per cent of the original list price."

The price quoted on a new radio model to a customer who has a 1 year old set to trade is the difference between

the list on the set owned and the list on the set which will supersede it in the home . . . plus 25 per cent for depreciation. No additional finance charge is made if the customer is still paying on the year old set, the payments simply being extended to cover the new purchase. The amount added for depreciation, according to Austin, is sufficient to cover the cost of re-conditioning and to permit re-sale on a break-even or slightly better basis.

The important profit in a transaction of this kind is, obviously, on the step-up in unit price. Take these typical ex-

Purchase Order Discourages Joy-Riders

amples: A customer bought a 1936 radio at \$69.95 in May of last year. In January 1937 he traded it for an \$89.95 receiver. The company allowed \$52.50 on the year old model (25 per cent off the original selling price for depreciation). Re-conditioning cost \$8 and the trade-in was sold a few days after it had been taken in for \$60, leaving a mere 50-cent loss on the trade-in itself, amply blanketed by profit on the step-up.

In another instance a customer bought an \$89.95 receiver in 1936, traded it four months later for one selling for \$139.95. He was allowed \$68.50. Re-conditioning cost \$3 and the machine was later sold for \$75, leaving a gross profit (exclusive of selling cost) of \$3.50. Again, of course, the full profit was made on the replacement.

Basic Installment Selling Principle

Important point in connection with the plan is the fact that Easy House-keeping takes advantage of a basic installment selling principle well known to furniture dealers but not so widely appreciated by specialty radio stores. It is good business, Austin contends, to keep paying customers on the books as long as possible. For this reason the job of selling year old set purchasers new models is best done when they come in to make payments.

Salesmen consider customers with two or three more payments to make and on the record as customers who meet their obligation on time the best bets. Trade-ins are frequently suggested to such customers even before a transaction has approached the end of its term this closely. Servicemen, too, have been instructed to report step-up possibilities to the office, are most effective in unearthing prospects who have just remodelled or redecored their homes and are for this reason especially susceptible.

Especially interesting is Austin's opinion that this plan builds good business for the future by inducing customers to part with radios before the trade-in value is depressed down near the zero-point. As he points out, the tendency of a man who has a radio so old that it is worth little as a trade is inclined to step himself down to a cheaper receiver next time he buys. This is directly counter to the trade's interests.

MADISON, WIS.—When a prospect asks Mike Cohen, owner of the Capitol Radio Store here, if the firm sends sets out on free demonstration he says: "Sure, if you will sign a purchase-order."

"What do you mean by that?" asks the prospect.

Replies Cohen: "We complete the deal in the ordinary way and if the set is not returned in 48 hours the sale is actual."

Capitol's chief exec reports that this method of treating prospects who ask for free demonstrations at home elimi-

nates the "joy-rider" who realizes that when he signs a purchase order he is liable for any damage to the set while he has it in his possession. Responsible people who are really going to buy sign a sales slip with little hesitation, we are told. They realize that when merchandise leaves a store it is equitable to give the dealer a receipt for it.

Seventy-five per cent of all sets put out on purchase-order demonstration by Cohen are later sold. 48 hours is plenty of time, he advises, limiting his plan to this maximum.

Purchase orders discourage joy-riders.

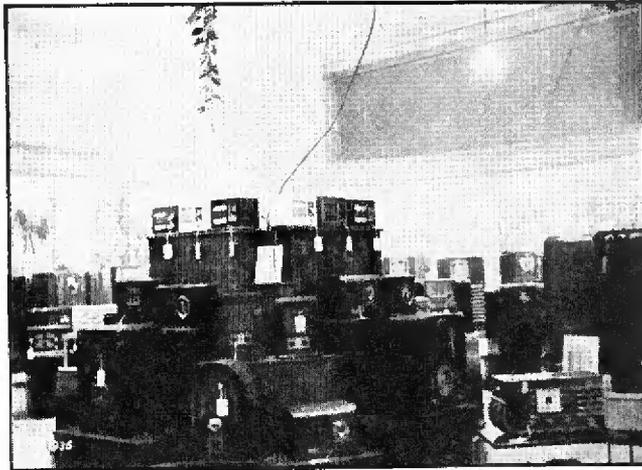
TECHNICAL TWINS

— Antenna work, ducked by most dealers, is virtually free of competition. So the Radio Supply Company of Boise, Idaho, capitalizes by putting W. A. Craig (right) full time on sky-wire jobs. Dick Talbot sticks to straight service

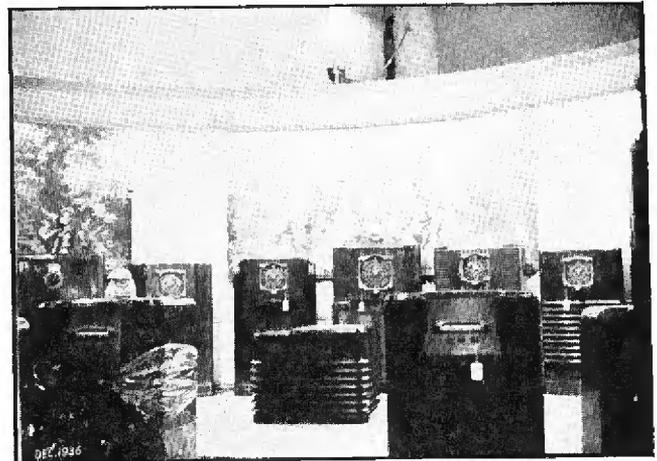


DRAMATIC DISPLAY—Built of beaverboard and chromium-plated moulding, this wall display used by Royal Radio makes table models easy to sell yet centers attention on a console. Note display of small electrical appliances at bottom





DISPLAY ARRANGEMENT HELPS SELL-UP — At Gimbel's, Milwaukee, table model sets are arranged on shelves around a supporting center post, where customers



see them first. But against adjoining walls, close by, consoles are grouped and outlined against tapestry. Salesmen can show the more expensive models by taking just two or three steps

Puts Premium On Floor-Time

ST. LOUIS—As an incentive to make 16 salesmen extend themselves when they are out canvassing for radio, refrigerator and major electric appliance prospects, the Bigalte Electric Company puts a premium on valuable floor selling periods.

The salesman who sells between \$500 and \$1200 worth of home appliances in a month is given approximately eight floor periods a month; if his sales are somewhere between \$1200 and \$1700 he gets 12 floor periods a month, and exceeding \$1700 about 19 a month. If his sales run under \$500 he gets no floor selling opportunity.

Says J. D. Vinyard, sales manager: "Our floor selling period plan weeds out the 'duds.' If a man can't sell \$500

of merchandise he'll burn himself out and quit."

There are three floor periods of four and a half hours each daily. The maximum number of salesmen on the floor in a period is three, except on gas and electric bill payment days when four are on the floor.

Bigalte pays salesmen a 10 per cent commission for sales closed with "drop in" customers on the store floor, which is the same remuneration as for sales made to prospects who were developed from home canvassing. On every sale made in the store some salesman earns a 10 per cent commission, except for a few personal sales closed by the management.

The plan is definitely increasing business.

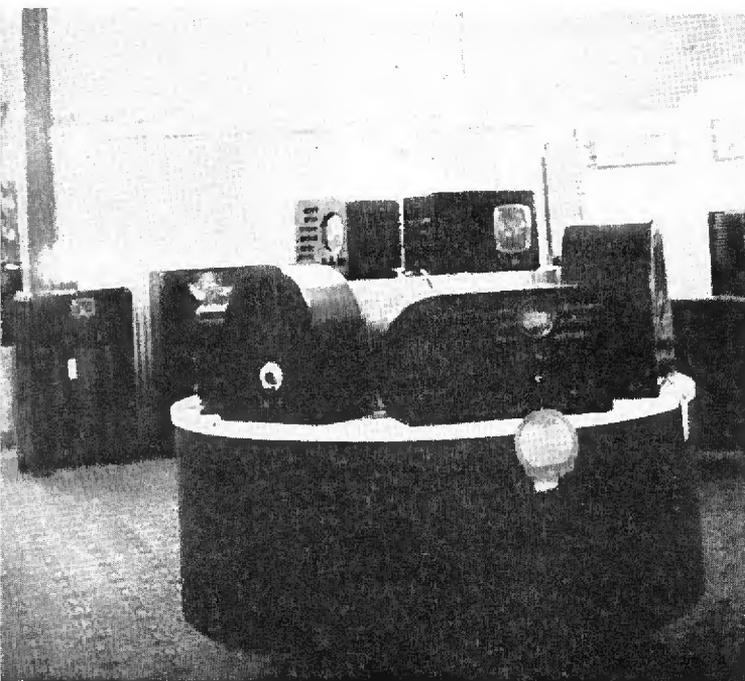
Credit Risks Classified

Chester J. Antiau of the Detroit Institute of Technology, writing for *Credit World* lists people in order of their standing as credit risks:

1—Railroad employees.....	90.8
2—Office clerks	88.2
3—Nurses	87.5
4—Accountants	85.8
5—Teachers	85.2
6—Municipal firemen	84.1
7—Street railway employees.....	84.0
8—Mail carriers	81.0
9—Municipal policemen	80.5
10—Skilled male factory workers	79.6
11—Retail grocers	79.1
12—Retail butchers	78.9
13—Retail bakers	76.1
14—Plumbers	75.2
15—Clergymen	74.6
16—Retail store salesmen.....	71.5
17—Doctors	69.8
18—Dentists	69.5
19—Unskilled female factory workers	68.8
20—Farmers	68.7
21—Gas station attendants.....	67.8
22—Unskilled male factory workers	65.8
23—Bricklayers and masons.....	65.4
24—Drug store employes.....	65.1
25—Auto mechanics	64.0
26—Carpenters	60.2
27—Domestic servants	55.2
28—Hotel help	54.1
29—Lawyers	53.9
30—Barbers	53.6
31—Miscellaneous workers	53.4
32—College students	42.4
33—Painters and decorators.....	40.7
34—Restaurant help	34.8
35—Artists	32.2
36—Entertainers	29.3
37—Cab drivers	28.8

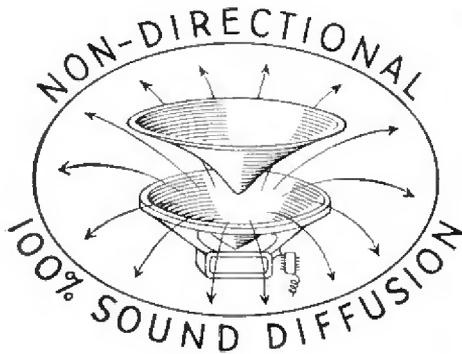
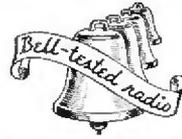
MIDGETS GO ROUND

This circular display in the center of the Boston Store's radio department, Milwaukee, stops lukewarm radio prospects. Consoles back against the wall are near enough at hand to facilitate selling up

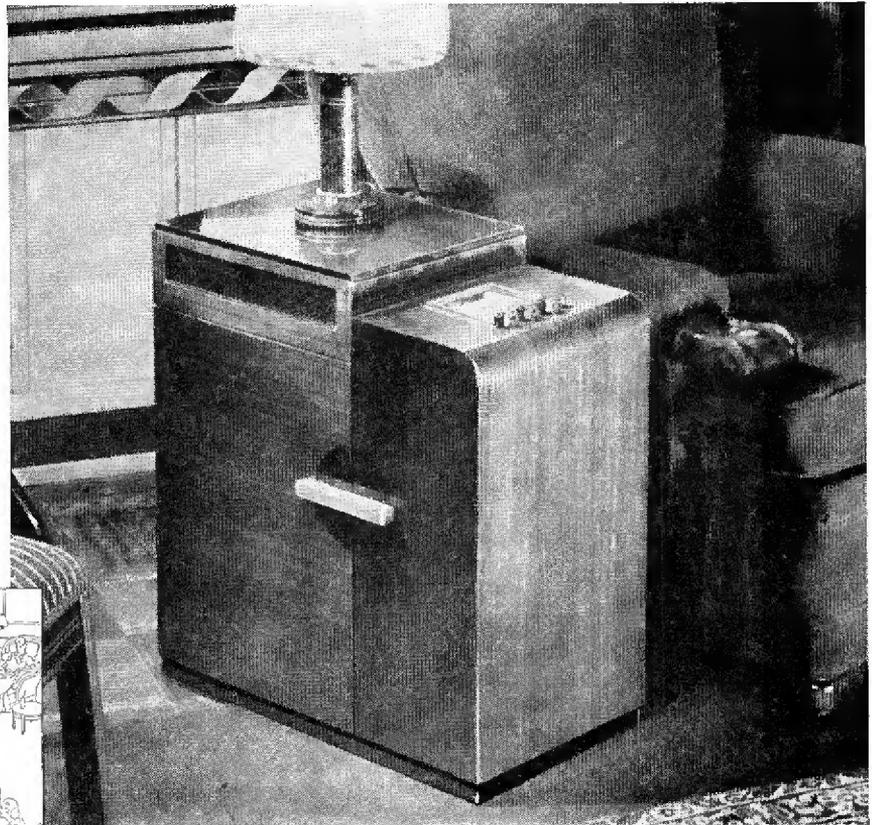
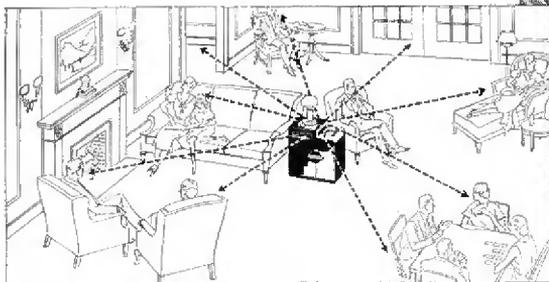


Nothing Equals

THE NEW KADETTE "EQUAFONIC"!



**A STARTLING NEW
PRINCIPLE IN
SOUND PROJECTION**



Kadette's new Equafonic principle is the last word in radio. It projects the sound into every corner of the room with equal intensity—with perfect clarity and quality of tone. Listeners need no longer sit "in front" of the radio.

The revolutionary design of the EQUAFONIC now gives radio its proper place—in the center of the room. The beautiful modernistic Club Model with built-in cocktail service rack makes an exquisite and useful piece of furniture. "Bell-Tested" for tone quality—the most exacting test known to science; new 6V6 beam tube amplifier increases volume, im-

proves tone; lamp socket in back of cabinet; illuminated interior with automatic door switch; highest quality hand-rubbed piano finish.

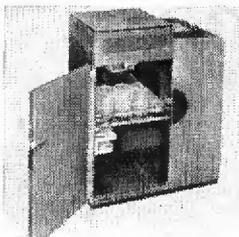
Advanced AC 6-tube circuit tunes standard broadcast and European bands—540 to 1850 kilocycles (555 to 162 meters) and 5300 to 17,500 kilocycles (56.5 to 17 meters).

The EQUAFONIC is today's radio sensation! Give it a leading place in your sales efforts. Watch sales climb to a new high.

INTERNATIONAL RADIO CORPORATION
533 WILLIAMS ST., ANN ARBOR, MICHIGAN

**CLUB MODEL
with
CELLARETTE**

\$55



RE-TUBE WITH KADETTE
The Cream of the Tube Market
—picked and sold by Kadette.



REHEARSAL—F. J. Grieve of Schirmer's, stopwatch in hand, times a recording. Simple drapes soundproof this concern's special studio sufficiently, give it professional appearance that attracts groups



RECORDING...

New Business For The Radio Dealer

WITH the introduction of medium-priced recording equipment, a new field for the radio dealer has unfolded. Previously, recording equipment was far beyond the average dealers' pocketbook since the profit derived did not ordinarily warrant the necessary investment. Small home-recording outfits proved popular for a time, but the results at best were poor. Then again, it was necessary to use pre-grooved records. An instrument that would give reproduction equal or nearly equal to standard recordings was in demand.

New equipment is portable, not much larger than the average suitcase. It is complete in every detail, containing turntable, cutter-head, playback, microphone, amplifier and speaker. The recordings are made on blank, acetate-coated aluminum discs, which may be played back on any phonograph, or on the instrument itself. The cutter-head cuts its own groove as well as impressing the sound vibrations on the disc. No treating or processing of the discs is necessary, they may be played immediately. With care they will give excellent results for over a 100 playings.

Anyone can use such devices. In operation they are no more complicated than the ordinary phonograph. A little timing, so that the recording

will fill the disc, is all that is necessary. After a few recordings, made while keeping an eye on a watch, it is a simple matter.

Recordings may be cut or played at 33½ or 78 r.p.m. Ordinary steel needles are used for the playback but special cutter needles are necessary. These are good for from 6 to 12 recordings.

A carefully made recording of this type possesses good fidelity characteristics on both high and low frequencies. It is possible to reproduce the voice and commonly encountered music frequencies with quality superior to that of the average radio.

Recordings in Demand

Such an instrument provides new sales opportunities for the radio dealer. The sale of recordings alone should prove a profitable item. As an example, F. J. Grieve, of G. Schirmer & Co., New York, informs us that his sale of recordings varies between 60 and 100 per month. Prices range from \$1.50 for both sides of a 6 in. disc to \$5 for the 12 in. type. A small studio approximately 7 x 15 feet is available for auditions.

"The majority of customers," says Grieve, "are music teachers, choirs, radio artists—one well known radio star in particular sends us all singers

that he wishes to interview. When the recording is made he can listen at his ease, and decide whether the singer in question is worth further attention.

"We are contemplating a larger studio to accommodate groups. No unit sales have resulted yet, but the recording angle looks very promising."

Another dealer, E. de Cordoba, of the Hickok Music Store, Poughkeepsie, tells us he has turned out 75 recordings in the past few months. Orchestras and music instructors are his best customers. Hickok's is a typical music store handling radio and musical instruments. Mr. de Cordoba finds that by simply displaying the instrument he can increase store traffic. Often recordings are made in the window.

In many cases, a customer who has made a few recordings later purchases a small turntable and pickup. This adds considerably to the store's profit. DeCordoba is well pleased with the results, hopes in a short time to have a studio.

Machines Sell Readily Too

The business is by no means limited to the sale of records, according to E. Burton of the Center Music Store, New York, who sells 2 to 3 in-

Equipment now within retailer's means, efficient, easy to operate. Trade already taking it up, moving both records and machines

By

C. A. Nuebling



REPEAT CUSTOMER—She makes recordings at Rabson's regularly, is a good prospect for the machine itself. E. A. Hilton operates the controls in a radio demonstration room

struments a week. This is a good-sized store in an excellent location, carries a complete stock of radio and associated equipment. "Most of our prospects," says Burton, "are radio and stage artists. It is indispensable for the man studying the speaking or singing voice. Recorders are a very popular item around here, I wish there were more items like them."

Recorders and recordings are surprisingly easy to sell. Once people

hear their own voice they are tempted either to buy more recordings or purchase the machine. It could safely be said that it frequently sells itself.

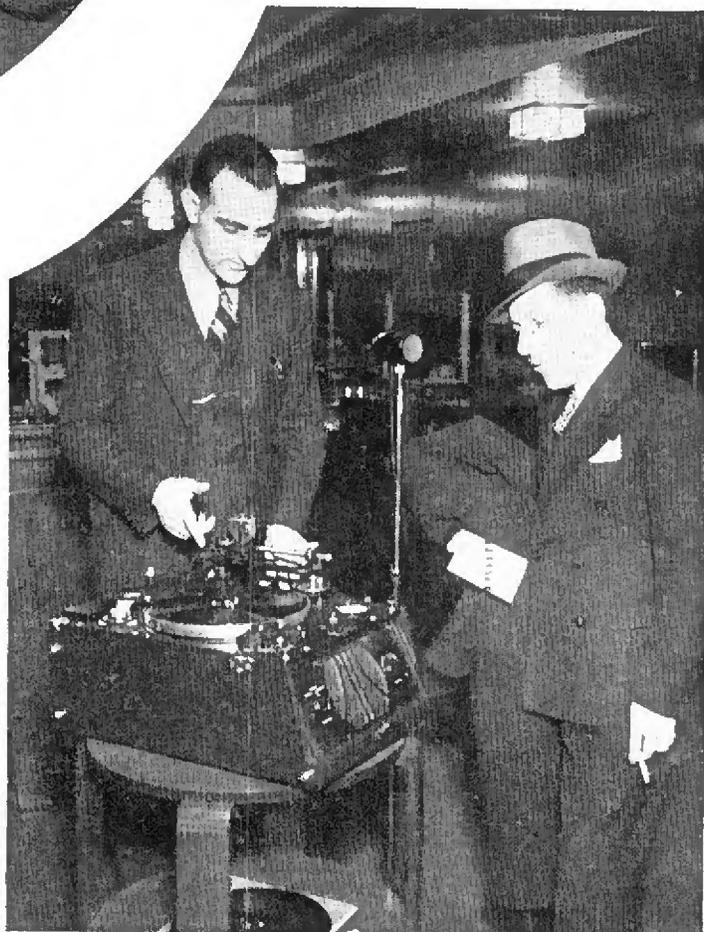
M. D. Segal of the Eastman Kodak store, also in New York, has sold three units. "This isn't very many," says Segal, "but these sales resulted without any attempt to push the item. The instrument was not placed on display, only a few small pamphlets on the counter resulted in the inquiries."

A few recordings have been made up to the present time. However, a studio is planned and recording sales will undoubtedly be a factor.

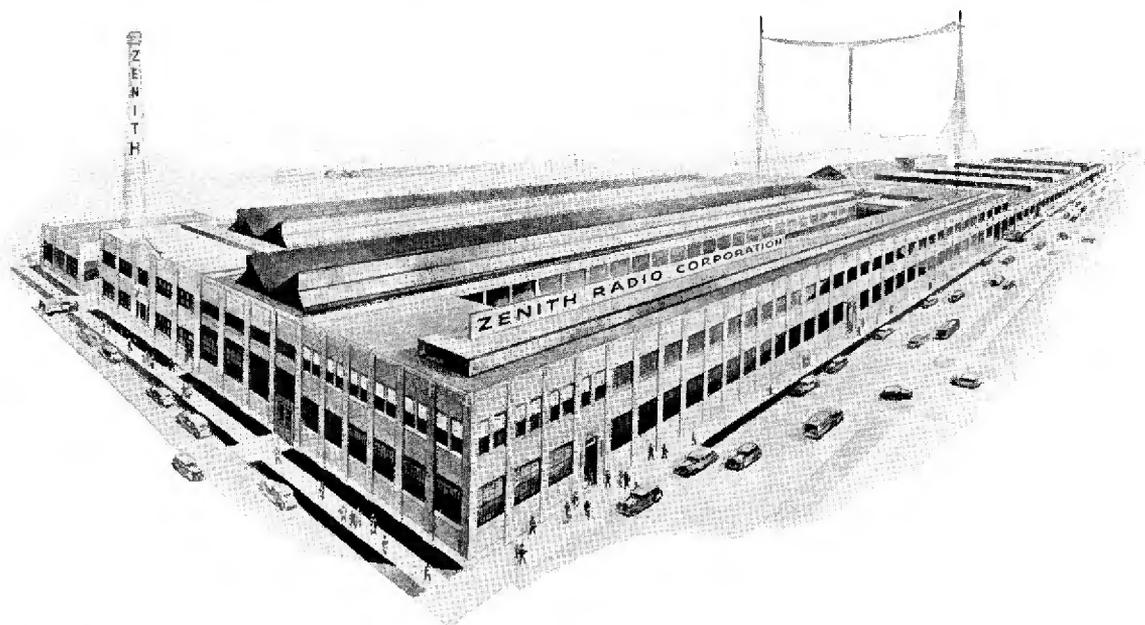
While the new recording equipment described is most often sold or

(Please turn to page 57)

IN THE STORE—S. Caplan of Center Music keeps his recorder up front, claims that its novel appearance eliminates the necessity for preliminary sales talk



Zenith Moves Into World's Largest Radio Factory on One Floor



Reason

Of all major radio manufacturers, Zenith enjoyed the greatest increase in public demand in 1935—and again in 1936. (Zenith has been unable to fill its orders in full during any month since June, 1935.)

But

Zenith, even with its purchase of these enormous new facilities, proposes to continue its conservative policies—protecting the dealer's profits and time payment paper on Zenith Radios—making unnecessary, cut-rate advertising, dumps, excessive trade-in allowances, and other practices that endanger the dealer's investment.

"America's Most Copied Radio . . . Again A Year Ahead"

ZENITH RADIO CORPORATION, CHICAGO

Advance
Showing

ARVIN

1938 TABLE RADIOS WITH THE *Phantom Filter Circuit*

FREE—This attractive Island Display with order for Arvin Table Models—see your jobber for complete details about the Arvin No. 6 Deal at once.

There are 11 table models in this advance showing of Arvin Radios. Starting with the smart little Arvin Phantom baby—a 5-tube set at \$19.95 up to 6 and 8-tube models. The Island Display provides a perfect setting for any 6 of them you select. It is painted in rich oil colors of maroon and contrasting buff tones. Actual size of display is 50" high and 40" wide.

Prices slightly higher in extreme South, Denver and West.

**DOMINANT
Sales Features
AND POPULAR
Price Tags**

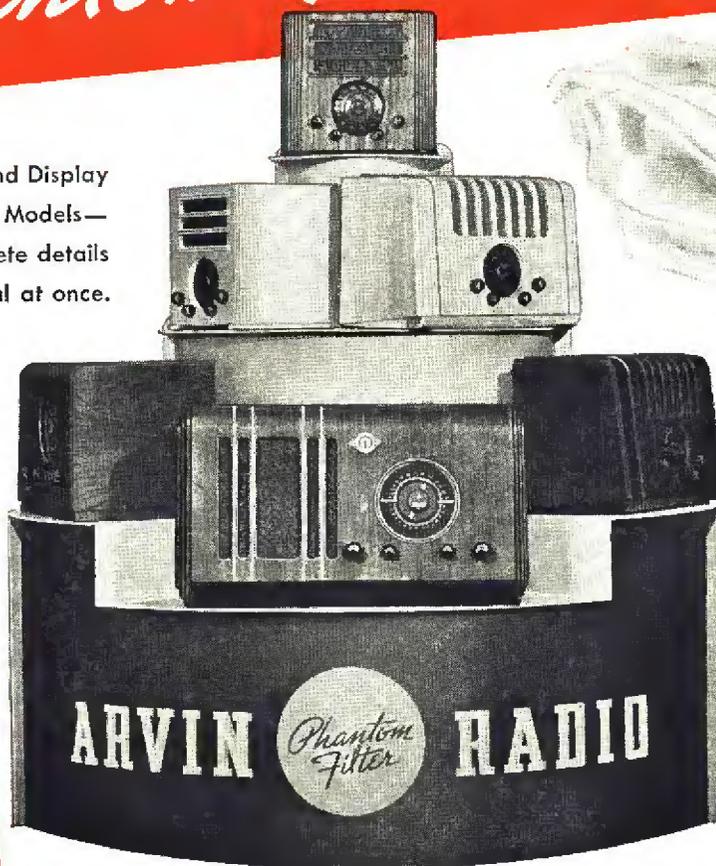
Big Sales News in Radio . . . a few years ago it was the superheterodyne circuit. Today . . . it's the Arvin Phantom Filter Circuit. Why? Simply because engineers have perfected a circuit that puts more punch in the new 1938 Arvin models . . . improves tone quality . . . filters out noise . . . and gives better all-over-the-dial reception. It's all due to the way the coils, condensers, transformers and tubes are knit together. And you well know, it's the circuit that makes a radio.

The value of Arvin's big sales feature . . . the *Phantom Filter Circuit* . . . will be readily appreciated when you hear the new table models. And

when you see the price tags, you'll realize the opportunity Arvins offer you for sales and profits.

Arvin set out to design the "hottest" line of table radios in the industry—and did it! When you see the complete line announcement next month, you'll recognize instantly that Arvin consoles are just as "hot." Yes—Arvin will be a hot line this year. See and hear the new Arvin table models—and order the Arvin No. 6 Deal from your jobber.

NOBLITT-SPARKS INDUSTRIES, Inc., Columbus, Indiana . . . Also makers of Arvin Phantom Filter Car Radios and Arvin Hot Water Car Heaters.



ARVIN
*The New Big
Name in Radio*

LOOK FOR ANNOUNCEMENT OF COMPLETE 1938 ARVIN LINE IN MAY

NEWS

PEOPLE • PRODUCTS • PLANS

EASTERN RADIO MEN TO RUN JUNE PARTS SHOW SPECIAL

"Representatives" and Sales Managers Club Sponsor Rail Caravan Made Up In New York. Will Pick Up Car From Boston at Albany, Stop at Syracuse, Rochester and Other Cities En Route to Chicago

NEW YORK—For the first time since 1931 a special train from the East will carry a contingent of manufacturers, distributors and sales representatives to a national trade show at Chicago. A "Radio Industries Special," completely air-conditioned and provided with entertainment, will leave Grand Central station on Wednesday, June 9, pick up a car from Boston at Albany and others at Schenectady, Utica, Syracuse and Rochester, arriving in Chicago on the morning of June 10 in time for the opening of the Radio Parts Manufacturers National Trade Show.

The special is sponsored by both "The Representatives" and the Sales Managers Club. The committee on transportation is headed by Perry Saftler of 27 Warren Street. Associated with him are Charles Golenpaul, Dan Bittan, Jack Price and Earl Dietrich. Reservations can be made through this committee for both rail transportation and accommodations at the Hotel Stevens.

Following is the schedule of departure from various points, time given being Eastern Standard: New York (Grand Central) 3:20 p.m., Albany—6:04 p.m., Boston (South Station)—12 noon, Schenectady—6:34 p.m., Utica—7:59 p.m., Syracuse—9:01 p.m., Rochester—10:23 p.m.

Arrangements can be made, we understand, for those who wish to join the party at Buffalo, Cleveland and other cities through which, or near which, the special passes.

AEROVOX PLANT FOR CANADA

HAMILTON, ONT.—Control of the former Polymet Delta Company here has been taken over by the Aerovox Corporation of Brooklyn, New York, U.S.A. Henceforward the plant will operate as Aerovox Canada, Ltd., producing dry and wet electrolytic condensers as well as mica and paper types under Canadian patents.

Engineers from the Hamilton plant are

familiarizing themselves with Aerovox standards in Brooklyn while home office engineers have come to Hamilton to arrange production details and set up engineering specifications.

Aerovox manufacturing affiliates are already operating in Australia.



HEADS NEW FIRM— R. B. Lacey, vice president and general manager of Clarion Corporation

NEW CLARION CORP. ENTERS SET FIELD

Western Group Buys Trade-Name Rights From New York Concern Affiliated With Wholesale Radio Service. Full Line Ready Soon. Car Models Out

CHICAGO—The trade-name "Clarion" has changed hands, at least insofar as radio receivers are concerned. A Chicago group has just purchased it from Transformer Corporation of America, New York manufacturer operating for some time under the wing of Wholesale Radio Service, active mail-order distributing house. TCA may continue to use the name in connection with sound equipment but details on this point are not available at press-time.

R. B. Lacey, for the past five years general sales manager for Wilcox-Gay of Charlotte and for seven years prior to his association with this Michigan manufac-

turer with Perryman Tubes in a similar capacity, is vice president and general manager of the new firm. From permanent executive and sales offices just leased in the Pure Oil Building, Chicago, Lacey advises that all Clarion radios will henceforward be sold through regular wholesale distributors on a restricted territorial basis.

The line, to include home receivers for both urban and rural areas, will be ready in ample time for early summer deliveries. Auto-radio models are coming off production lines and will be ready for shipment as this issue of *Radio Retailing* goes in the mails.

SALES MANAGERS CLUB CONVENES JUNE 11

Eastern and Western Divisions Will Get Together at Chicago. Prince to Discuss Trade Legislation

NEW YORK—The Eastern and Western Divisions of the Sales Managers Club will convene Friday, June 11 at 10 a.m. in Chicago's Hotel Stevens. This news comes from Charles Golenpaul of Aerovox and Ralph Hill of Ohmite, chairmen of the

two sections, who conferred in New York just before press time.

Organized two years ago, the Sales Managers Club has attacked many of the problems of the parts manufacturer and has had considerable success in their solution.

While the program is yet tentative it is understood that Kenneth C. Prince, Chicago attorney and executive secretary of the western division, will discuss some of the recent trade legislation.



PROUD OF NEW PACKAGING—H. A. Crossland (left), G.E. radio tube sales manager, and C. T. Wandres, radio advertising manager, show how the diagonal stripe on new tube cartons can be used to achieve novel display effects

G.E. NOW HAS COMPLETE TUBE LINE

Types Bearing Company Name Include All Metal and "G" Numbers Plus Important Replacement Glass Varieties

BRIDGEPORT—From the General Electric plant comes the announcement that this company has expanded the line of radio receiving tubes bearing the G-E monogram. All metal types, all octal base glass or "G" types and standard base glass tubes which still represent important replacement volume are now in production. Old-timers such as the O1A, 71A, 12A and X99 are ready for shipment. Omitted from the standard base glass tube listing are types which accounted for less than 1/10 of 1 per cent of the industry's sales last year.

Both metal and glass tubes now marketed by G.E. are packed in new improved, sealed and tamper-proof cartons. Presenting a striking individual appearance, these cartons will, the management hopes, be even more effective as business builders when grouped. A continuous, oblique white panel separating orange and blue colored areas on the four sides of each carton permits display men to achieve novel display variations.

N-U ENGINEERING

STAFF EXPANDED

NEW YORK—Dr. Frederick Holborn, well known to the Radio industry here and abroad, becomes chief engineer for the National Union Radio Corporation just as we go to press. Associated with Holborn in his new duties will be Paul Schwerin, active in the tube industry in this country and in England for some years and H. A. Wilder, cathode-ray specialist.

All engineering activities of the company are being consolidated in enlarged

quarters in the 57 State Street plant, Newark.

Port-O-Matic Corporation Formed

NEW YORK—A new company known as the Port-O-Matic Corporation has been formed here, will make its headquarters at 1013 Madison Avenue. The concern is to make Port-O-Matic portable radios, portable automatic radio-phonograph combinations and Fidel-O-Matic console automatic radio-phonograph combinations.

M. Lehman is president and general manager.

COLORAMA COCKTAIL—

A Havana, Cuba barkeep, inspired by GE's radio dial, has concocted a new drink which he calls the "Colorama Cocktail".

Unlike the dial, it doesn't change from red to green. It's green and stays that way.

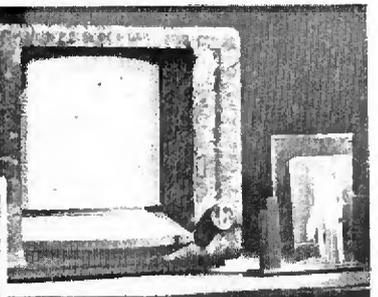
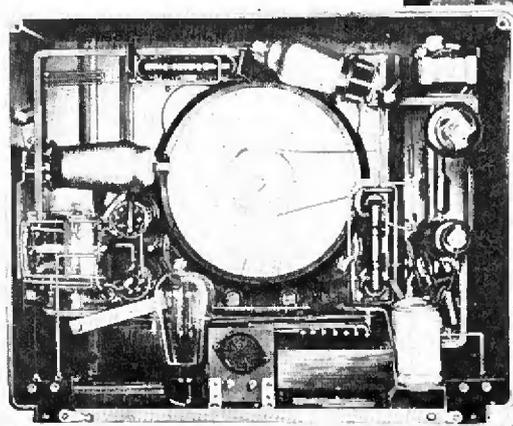
Crosley Ups Stevens

DES MOINES—C. J. Stevens has been named district manager for the Crosley Radio Corp., covering Iowa, Illinois and Nebraska.



RE-JOINS TRIUMPH—George Norris has re-joined the Triumph Manufacturing Co. of Chicago, will aid this company in its drive for more distributors. For a time Triumph instrument sales were limited to contract buyers and export. Increased production facilities now permit sales through regular trade channels

CHASSIS-LESS RADIO —



Philips, British set maker, has startled the industry with this new 5-tube superhet using no chassis, claiming lower production cost and easier servicing. Parts are mounted on lugs moulded into the Bakelite cabinet

BREEZ-ELECTRIC INVADES WIND CHARGER FIELD

"Supercharger" Uses Two Propellers. Concern Makes Own Generators. "No Stock" Plan Announced for Dealers and Distributors

CHICAGO—Following a series of tests in the laboratories of major set makers, the Breez-Electric Corporation of 440 N. Oakley Blvd. has just placed on the market a new 6-volt wind charger of advanced design. Known as the "Supercharger," it uses an airfoil propeller 8 feet in length plus a 5-foot prop with a variable pitch hub. Because the auxiliary prop used to govern speed gives the device a four-bladed appearance similar to that of propellers used on modern transport planes the governing device is christened "Airliner."

The company's executive personnel includes Hal Thomas, chief engineer; Fred Butterfield, purchasing agent and controller; L. Tatro; R. W. Reed and director of sales and advertising Prentiss Cleaves. With the exception of Tatro, founder of the L'Tatro Products Corporation, all the above are former Wincharger Corporation employees.

Breez will manufacture even its own generators in a modern, 18,000 sq. ft. plant, has announced a merchandising plan under which neither distributors nor dealers need carry stock other than a sample. Units are ordered direct from the factory by the consumer on special order blanks bearing the distributor's and dealer's name. Commissions for such sales are mailed to distributors and dealers so named by the factory. No servicing or financing obligation is incurred by the trade.

In addition to the "No Stock" merchandising plan described Breez-Electric also introduces a finance plan under which the consumer may obtain a "Supercharger" for as little as \$5 down, leaving more cash for the radio set down-payment.

The company has manufactured 32 volt, wind-driven farm lighting plants for some time.



ERLA'S TROUBLE-SHOOTER
—Here's a Radio Retailing candid-camera study of vice-president in charge of trouble O. F. Taylor

UNITED SOUND GETS LICENSE

ST. PAUL—The United Sound Engineering Company, maker of complete sound systems and inter-office communicators and one of the first manufacturers to recognize the importance of "package" merchandise, is now fully licensed by arrangement with Electrical Research Products, Inc., under patents owned and controlled by American Telephone and Telegraph Company and Western Electric Company, Inc.

United, operating through jobbers and dealers, has just gotten out a new 16-page catalog covering all its products.



HE'LL BE MISSED—Nathan P. Bloom, III health forced him to leave post as Adler president

BLOOM, ILL, LEAVES ADLER

Resigns as President After 24 Years With Company to Take Needed Rest

LOUISVILLE—Nathan P. Bloom has resigned as president of the Adler Manufacturing Company, a leading cabinet plant, due to ill health aggravated by his activity during the recent flood.

With the company for the past 24 years, Bloom made it his entire business career, coming to the Kentucky plant from Yale, class of 1913. Well known to the entire industry not only for his connection with Adler but because of his active participation in the affairs of the Radio Manufacturers Association, he plans to take a much needed rest for an indeterminate period.

Insisting that he has no definite business plans for the future, Bloom nevertheless states that he does not intend to be listed for long among the unemployed and does not qualify for the ranks of the "idle rich."

He leaves Adler on the best of terms with its Board of Directors, at the conclusion of the best year the company has ever experienced.

dress amateurs on subjects pertinent to their avocation and the operations of the League.

Adams Made Champion S. M.

DANVERS, MASS.—John Q. Adams of Chicago has just been appointed sales manager of the Champion Radio Works, succeeding Greg Hallam, resigned.



9,000,000th — Judge Frank Smith of the Penn Athletic Club (left) accepts Philco's nine-millionth radio while Commentator Carter, James M. Skinner, president of the Philadelphia Storage Battery Co. and Sayre M. Ramsdell, vice-president of Philco Radio & Television Corp., look on

NOVEL BROADCAST BY HALLICRAFTERS

CHICAGO—William J. Halligan, president of the Hallicrafters, Inc., manufacturer of communication receivers, started a novel weekly broadcast over WMAQ (670 kc.) at midnight, Saturday, April 3. Entitled "200 Meters And Down," based upon material taken from the files of the American Radio Relay League and dramatized by Clinton De Soto, this program will publicize outstanding events in the development of amateur radio.

At the conclusion of each broadcast Lt. Com. R. H. G. Mathews (W9ZN), central division director of the ARRL, will ad-

NEW ANSLEY CONTRACTS OBSERVE FAIR TRADE ACT

Wurlitzer Signs First Document, Insuring Maintenance of Dynaphone List

NEW YORK—Arthur C. Ansley, president of the Ansley Radio Corporation, advises that his company is now making contracts with dealers under the New York Fair Trade Act. These contracts, he states, give the list prices of all Dynaphone and Radio-Dynaphone combinations and specify that the instruments will not be

sold for more or less than these figures.

A number of dealers have already signed such contracts and all approached, according to Ansley, have been enthusiastic about the protection thus afforded. The fact that some have already signed makes the price schedule binding upon all dealers in New York.

The first contract was signed by P. R. Bowers for the Rudolph Wurlitzer Company.



ON DOTTED LINE—P. R. Bowers of Wurlitzer (center) signs first Ansley contract under New York State Fair Trade Law while Arthur C. Ansley (left) and Ray S. Erlandson (right) look on

WEBSTER-CHICAGO GETS IRVING

CHICAGO—G. J. Irving, formerly with Operadio, has been placed in charge of the sales promotion division of Webster-Chicago, will concentrate initially on the business of providing an improved dealer-help service for the concern's customers.



JOINS WEBSTER-CHICAGO—Appointed new western sales manager for Webster-Chicago, M. F. Klicpera said farewell to Operadio

Universal Celebrates Anniversary

INGLEWOOD, CALIF.—The Universal Microphone Company celebrates its ninth anniversary May 5 and founder-president James R. Fouch plans to hold open house at the plant that day.

G. E. BRANCH IN PEORIA

PEORIA—The radio division of the General Electric Company has opened a new factory branch office at 1321 South Washington Street.

Dunkly, Satchell Join G. E. Supply

CLEVELAND—Howard Dunkly and Ray Satchell, radio salesmen, have been added to the staff of the General Electric Supply Corporation here.

MECK LEAVES CLOUGH-BREngle

CHICAGO—John S. Meck (photo in March issue), has resigned as general sales manager of the Clough-Brengle Company; says he will form a new corporation devoted to the manufacture of precision radio test apparatus in the low price field.

Formal announcement of his new affiliation will be made at a later date.



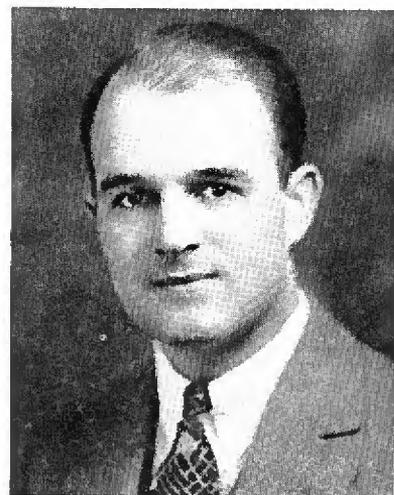
FROM STORE TO FACTORY—George P. Lohman. Long associated with prominent New York retailers, he becomes Ansley's sales manager

LOHMAN, NEW ANSLEY S. M.

NEW YORK—George P. Lohman has been made sales manager of the Ansley Radio Corporation. For the past four years he has been active in the retail radio business, with Liberty Music, The Gramophone Shop and Haynes-Griffin. For ten years before this he promoted sales for Stromberg-Carlson and RCA.

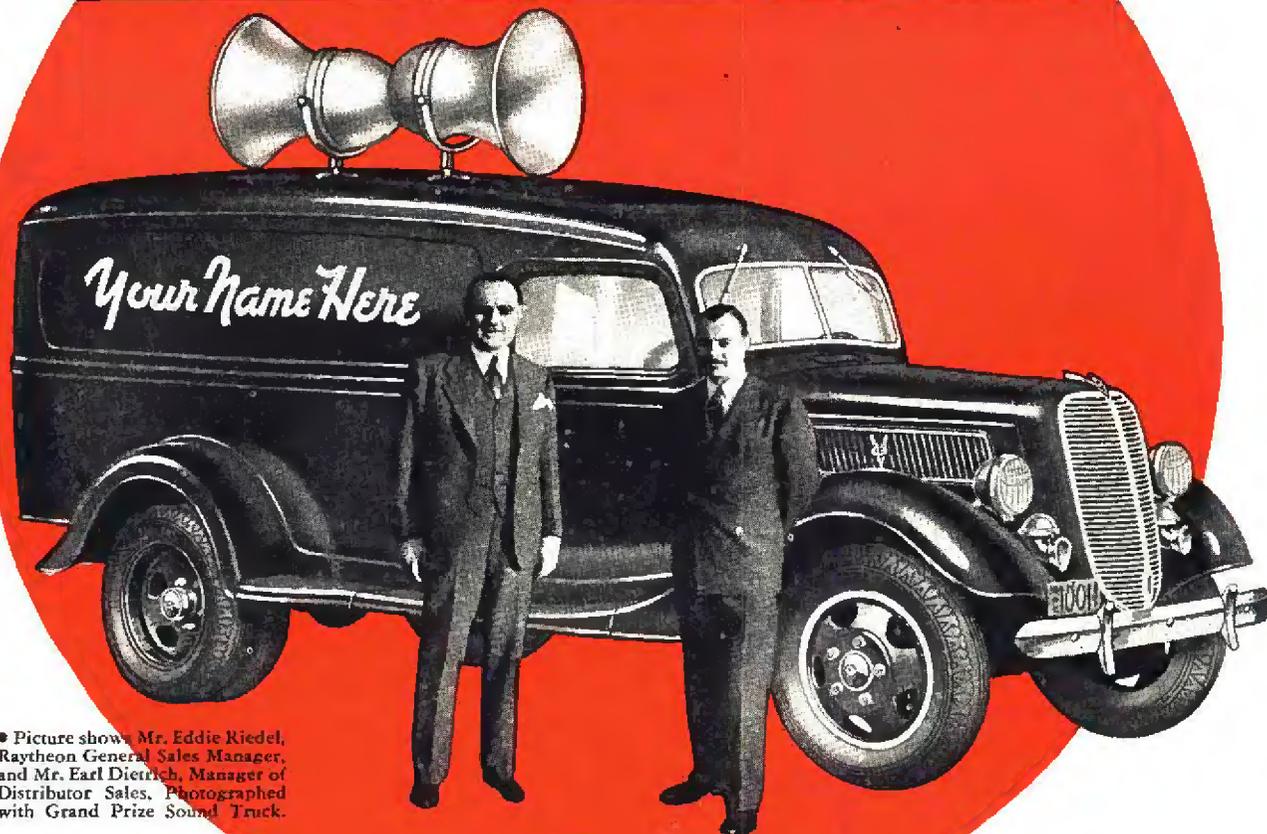
PRECISION SELLS ON TIME

BROOKLYN—The Precision Apparatus Corporation announces that its test instruments will now be available on a time payment plan. Heretofore, the company has sold equipment only for cash.



NEW C-B SALES MANAGER—Robert L. Barr, who steps up with Clough-Brengle from the position of application engineer and assistant to the general sales manager to that of general sales manager

THERE *is* STILL TIME *to Enter*
***the* RAYTHEON CONTEST!**



● Picture shows Mr. Eddie Riedel, Raytheon General Sales Manager, and Mr. Earl Dietrich, Manager of Distributor Sales. Photographed with Grand Prize Sound Truck.

WE ARE *Giving Away this Truck!*

**OR \$600.00 CASH—FIRST PRIZE
ALSO 500 OTHER FREE PRIZES**

There is still time to enter! The contest does not close until May 1. It is the easiest contest you ever saw. All you need to do is just write a sentence. There are going to be 500 winners of valuable prizes! And the winner of the V-8 Truck will be personally advertised in the Saturday Evening Post in a Raytheon Advertisement!

Ask your jobber *today* for an entry blank!

RAYTHEON

RAYTHEON PRODUCTION CORPORATION

420 Lexington Ave., New York, N. Y.

449 Lake Shore Drive, Chicago, Illinois

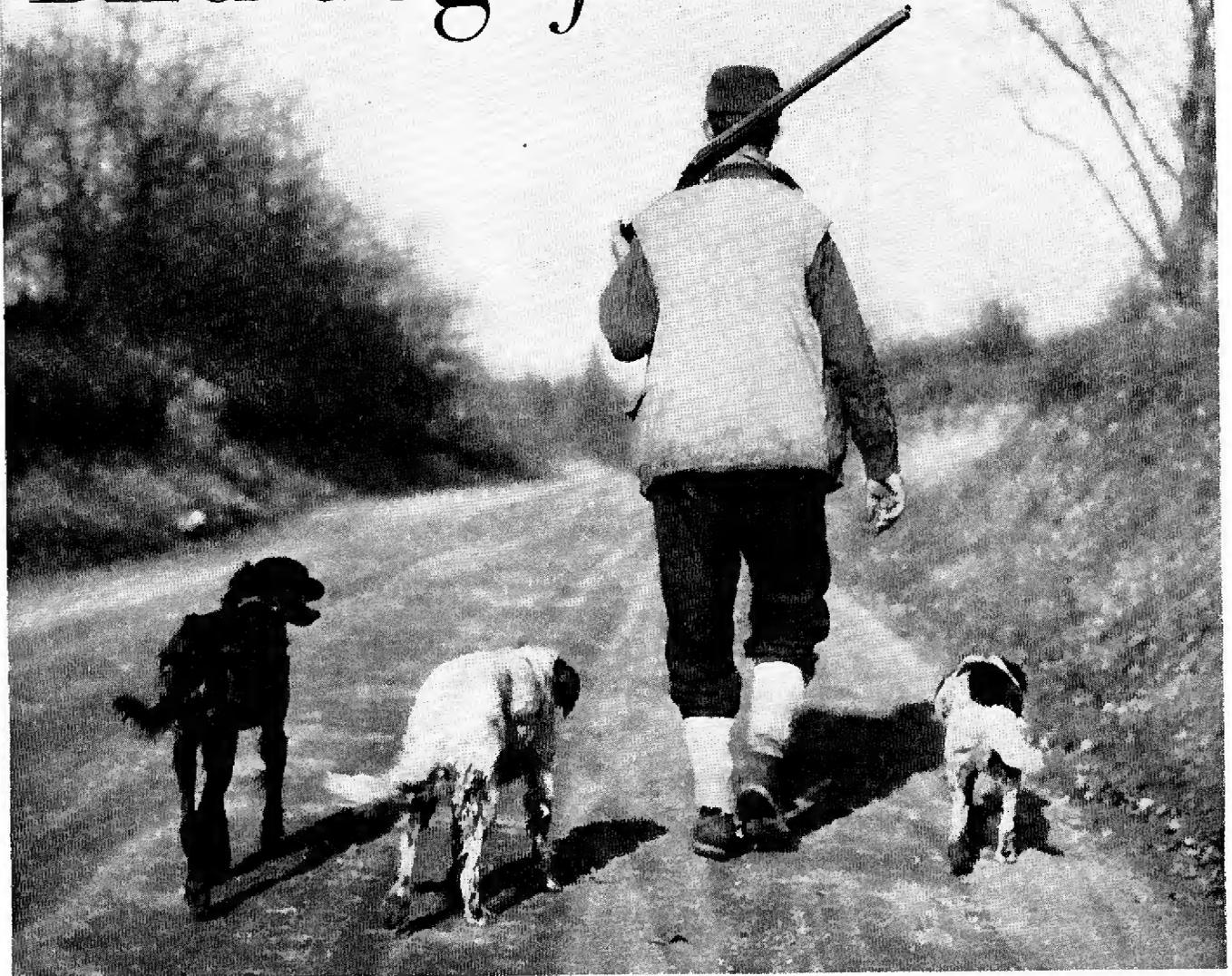
55 Chapel Street, Newton, Mass.

555 Howard Street, San Francisco, Cal.

415 Peachtree St., N. E., Atlanta, Ga.

RAYTHEON IS THE MOST COMPLETE LINE — ALL TYPES OF CLASS, OCTAL BASE, METAL, RESISTANCE AND AMATEUR TRANSMITTER TUBES

Bird-dogs for BUSINESS



Push Sylvania Tubes!
They'll hunt out profits
in more ways than one

No matter how profitable your tube business may be... you can make it *better*—and Sylvania, we honestly believe, can show you how.

Not only because Sylvania tubes are good tubes in themselves. But because they lead indirectly—and often directly—to other, bigger sales. The satisfied tube customer is a potential new-set customer

every time... and his sale is *yours*, if the tubes you sell him *treat him right*.

Here's why you can depend on Sylvania to increase your tube business and tone up your business in general. *First*, every Sylvania tube, during the process of manufacture, undergoes scores of separate tests for your protection. *Second*,

Sylvania's technical and sales helps are designed to build business for you. *Third*,—well, sell Sylvania and watch them go to bat for you on performance!

Get in touch with Sylvania now. For complete sales and technical information, write to the Hygrade Sylvania Corporation, Emporium, Pa.

SYLVANIA

THE SET-TESTED RADIO TUBE



MERCHANDISING IN MAUI—From far-away Hawaii comes this interesting shot of a Zenith distributor and his employees. Seven nationalities are represented in this Von-Hamm-Young setup: Chinese, Philippino, Japanese, Korean, Hawaiian, Portuguese and American. The gent at the extreme right is *J. D. Summers* of Perfection Stove



ASSISTS NU'S COBURN—*R. H. Van Dusen* of National Union. His title changes from New York office manager to assistant sales manager



ZENITH'S EXPORT EXPERT—*James F. Weldon*, Gene McDonald's new export manager.



SHOT OF A SIAMESE SUBSCRIBER—Out in Bangkok, *Far Eastern Radio* reads *Radio Retailing*. This picture was taken for us to show that they do a good display job even at the other side of the world

ARGENTINA PROMOTES FARM SET SALES

BUENOS AIRES—The Ministry of Agriculture of Argentina has appointed a committee to determine the type or types of radio receiving sets suitable for use on the farm and ranches of this country, according to the Department of Commerce's assistant trade commissioner *J. D. Walstrom*.

The general plan is to select one or more types combining adequate performance with low cost and then to actively promote the widespread use of these among farmers and ranchers. Due to the advanced stage of the Argentine radio industry manufacturers in that country seem confident that they will have little difficulty competing with imported equipment.

BRUSH BUYS BUILDING

CLEVELAND—The Brush Development Company, widely known for its pioneering of Rochelle salt crystal elements for radio, public address and general electronic applications, moved April 1 to its own building at 3311 Perkins Avenue.

CONNELLY COMPANY EXPANDS

SPOKANE—The F. B. Connelly Company will soon remodel its branch here along modernistic lines, preparatory to broadening operations throughout the northwest. This company, maintaining its main office at Seattle, now extends its sphere of influence to eastern Washington, northern Idaho, the larger part of Montana and eastern Oregon.

BLAKESLEE JOINS ZENITH

CHICAGO—H. W. Blakeslee now heads promotion activities in the Zenith Radio Corporation parts and accessories department. R. F. Miller continues as operating manager of this department.

Blakeslee was previously with the Hanff-Metzger advertising agency.

Standard Parts Moves

DAYTON—The Standard Radio Parts Company moved to new and enlarged quarters at 135 E. Second Street, invited dealers and servicemen in for a "house-warming" April 5.

Two to Tracy-Wells

COLUMBUS—*J. E. Howell* has joined The Tracy-Wells Company, will assist vice-president and general manager Hager. *John P. Castner* will assist Tracy, treasurer.

Fogelson Leaves Wholesale

CHICAGO—*Bob Fogelson*, purchasing agent of the Chicago division of the Wholesale Radio Service Co. is resigning April 1.

Hotpoint
THE NAME EVERYBODY KNOWS

offers **3**



3 NEW LINES HOTPOINT DELUXE LINE

Five popular models in the Hotpoint De Luxe line, all with gleaming baked Glyptal finish. All the features and style that a prospect could possibly want. Speed Freezer powered by the vacuum-sealed Thriftmaster is standard equipment on all Hotpoint Refrigerators.



HOTPOINT IMPERIAL LINE

Four popular models in the Imperial line, America's finest refrigerators, all in enduring porcelain enamel inside and out. Beautifully styled, attractively priced, and built to keep your customers boosting for you. The Imperial line has powerful sales appeal. It offers a host of extra features that convert lookers into buyers.



HOTPOINT STANDARD LINE

Three fast-selling models in baked Glyptal finish, porcelain interior. Dependability, long life and beauty in a line that does credit to the famous reputation which Hotpoint enjoys for full value. See this line and note the profit possibilities offered by its big value.

Hotpoint

REFRIGERATOR

NEW REFRIGERATOR LINES POWERFUL SALES FEATURES

3 GREAT FEATURES

HOTPOINT gives you a quick selling, profit building refrigerator line with plenty of easy-to-demonstrate features and plus values.

Beauty that sells on sight; lifetime all-steel cabinets; gliding shelves; ever-visible food safety gauge; are a few of the plus features. Read about the 3 Powerful New Sales Features of the new Hotpoint Refrigerators.

Then get the sensational Hotpoint story before you start your 1937 campaign. Call or write the Hotpoint distributor in your territory. Ride with Hotpoint in 1937.

Speed Freezer

Ice and desserts frozen faster than ever! Foods kept safe and crispy fresh in a gently floating blanket of frosty air — air held at constant chill, regardless of freezing speed, by Hotpoint's precisely balanced freezing control.



NATIONAL ADVERTISING EVERY MONTH DURING THE SELLING SEASON

Double pages in color and full pages featuring the Hotpoint refrigerator exclusively will appear in Saturday Evening Post and Collier's. Beginning in March this advertising will appear every month throughout the selling season.

VACUUM SEALED Thriftmaster

Delivers more power at lower cost. Tests prove that the Hotpoint Vacuum Sealed Thriftmaster is one of the most efficient mechanisms ever produced. Almost by magic a mere trickle of electricity is transformed into an abundance of freezing power. 5¢ worth of electricity makes twice as much cold as it did formerly.



STREAMLINED SALES PLANS

Fast-acting direct mail pieces, dramatic window displays, newspaper mats, powerful outdoor posters.

SALES FEATURES THAT GET THE ORDER

Look over the Hotpoint line. Count up the plus-value sales features that make the prospect want to sign the order. Get in touch with your Hotpoint distributor now.

EDISON GENERAL ELECTRIC APPLIANCE CO., INC.
5680 West Taylor Street, Chicago, Illinois

5-YEAR PROTECTION PLAN

The new Hotpoint line of refrigerators is backed by a 5-year protection plan. It is another strong sales feature which stresses the care-free performance of the Vacuum Sealed Thriftmaster. See the 1937 line of sales-winning Hotpoint Refrigerators.




RIDE WITH

Hotpoint

IN 1937

Edison General Electric Appliance Co., Inc.
5680 W. Taylor Street, Chicago, Ill.

Please send me full information, prices and sales plan on the new line of Hotpoint Refrigerators.

Name _____
Address _____
City _____ State _____

10,000,000 WOMEN STATE PROGRAM PREFERENCES

Vote Rudy Vallee Hour Best Variety Show; Ford Symphony Outstanding Straight Musical. Indicate Favorite News, Educational, Children's and Dramatic Broadcasts

NEW YORK—Ten million women affiliated with the Women's National Radio Committee have just voted Rudy Vallee's broadcast, sponsored by Standard Brands, the best variety hour of the year. Other preferences indicated at the organization's third annual luncheon, held at the St.

Regis, placed the Ford Symphony at the top of the straight musical heap, spotlighted Boake Carter, news commentator for Philco, labelled the Chicago University Round Table "best educational program," lauded Dorothy Gordon's "Children's Corner" and the Monday Night Radio

Theatre, presented by Lever Brothers. Vallee, copping top spot in the variety hour classification for the second consecutive year, struts his stuff for NBC, this chain also presenting Chicago University's program. Ford, Carter, Miss Gordon and Lever Brothers do their talking into a CBS mike. Mutual was commended for its contribution to the cause of good music through presentation of the summer Lewisohn Stadium concerts and operas. Dr. Walter Damrosch, who broadcasts musical appreciation courses for school children over NBC, received a special citation for his "foresightedness nine years ago in grasping the possibilities of radio for the dissemination of musical culture."

1000% INCREASE!

THIS FAST-GROWING BUSINESS WILL HELP YOU SELL MORE FARM RADIOS

FIRST WITH A PROFIT FOR THE DEALER!



Over one thousand per cent. increase in sales so far this year! That is the amazing record of the Parris-Dunn Corporation! Our powerful merchandising plan, though widely copied, has never been duplicated in GENUINE PROFIT POSSIBILITIES for the farm radio retailer.

No wonder the Dunn-Charger is "going to town"! The new 1937 features put it in A GLASS BY ITSELF. It has advantages that make it the FIRST CHOICE OF THOUSANDS OF FARMERS. The Hy-Tower makes the Dunn-Charger 27% more efficient, as it puts the charger in the unbroken wind stream and assures effective service with even the very slightest breeze. The extra heavy-duty generator is built from all new parts. Bearings permanently sealed in oil. Absolutely foolproof.

And the merchandising plan puts REAL PROFIT-POWER within the reach of the retailer of battery radios. Mail the coupon! Get details of this plan NOW!

MAIL THIS COUPON!

To Parris-Dunn Corporation
Clarinda, Iowa Dept. A30
RUSH FULL DETAILS OF YOUR SENSATIONAL SALES PLAN FOR SELLING MORE BATTERY RADIOS.

Name _____
Street _____
City _____ State _____
Make of Battery Radio Handled _____

DUN-CHARGER

is Approved by

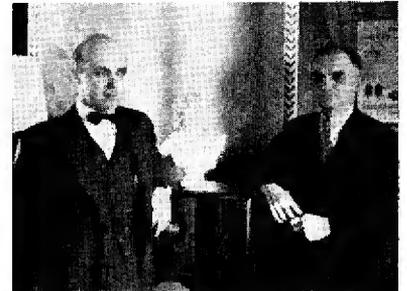
AMERICA'S LEADING RADIO MANUFACTURERS

NEW CONSOLIDATED CONDENSERS

CHICAGO—Consolidated Wire and Associated Corporations will soon announce a complete new line of midget condensers understood to involve a unique method of foil etching which permits high capacity units having high voltage ratings to be made in smaller cases. Consolidated engineers have been working on design for some time and the units are nearly ready for production.



PRESIDENT AGAIN — Pleased with his re-election is *W. M. Egan* of the L. Fish Furniture Company, once again president of the Illinois Electrical & Radio Dealers Association



SALT LAKE LEADERS—Radio Retailing's candid camera catches *R. W. Langley* (left) and *Frank Warren* of Christensen-Warren Radio & Appliance Company, resting for the moment on their oars

WISCONSIN GROUP ELECTS OFFICERS

Greusel, Seidel, Fairfield Re-Appointed to
Top Positions in Active Association

MILWAUKEE—Frank W. Greusel has been re-elected president of the Wisconsin Radio, Refrigeration & Appliance Association. A. F. Seidel is, once again, retail vice-president and Gordon Fairfield continues as wholesale vice-president. Arthur Schleiger is the Association's new treasurer and B. S. Wisniewski becomes secretary.

Members of the Board are: Michael Ert, honorary chairman; W. F. Seemuth, chairman; Henry Czeck, Howard Richardson, A. VanAntwerpen, Gordon Fairfield, Leroy Kunzelmann, F. W. Greusel, Gordon Ische, A. F. Seidel and G. J. Weiland.



TWO BOISE BOYS—(Top) O. W. Hon, president of Hon Electric and R. R. Boyer, sales manager of Radio Supply, face RR's personality picture-taker

SALES APPOINTMENTS

ATLAS SOUND—For Ohio and the city of Louisville, Ky.: *Edwards Sales*

Company of Cleveland. For Texas and Louisiana: *Schoonmaker* of Dallas.

CLAROSTAT—For New England: *Harry Gerber* of Boston.

EMERSON—For the Cincinnati area: *Kraus Radio Distributors, Inc.*, soon to be installed in a new building.

FAIRBANKS-MORSE — Complete line of radios, refrigerators, washers; In Cleveland, *B. W. Smith Company*. In Toledo, *Walding, Kinnan & Marvin Company*. In Peoria, *Klaus Radio & Electric Company*. In Denver, *Whitney Sporting Goods Company*. In Klamath Falls, *Lorenz Company*. In Jackson, Mississippi, *Koehneman Electric Company*.

OTHERS CAN AND DO COPY THE DUN-CHARGER

10 FT. HY-TOWER

"THE HIGHER THE TOWER — THE GREATER THE POWER"

10 FEET TALL

BUT THEY
CANNOT COPY
the **PATENTED**
DUN-CHARGER
Governing Principle
—No Broken Propellers
—No Ruined Batteries

10 FEET TALL

**BETTER!
BETTER IN
7 WAYS**

than any other
**WIND DRIVEN
CHARGER**

- ✓ The Dunn Governing Principle permits the propeller to tilt back and "slip the wind."
- ✓ Requires only 3 working parts (25 to 70 in others).
- ✓ It utilizes positively controlled propeller, eliminating breakage.
- ✓ The simple throw-out collar takes propeller out of the wind when battery is fully charged eliminating battery damage.
- ✓ Chains, pulleys and brakes are eliminated—nothing to wear out, stick or freeze.
- ✓ All weight and controls are taken off propeller so it can run in slightest breeze.
- ✓ Has simple, fool-proof collector ring. No brushes, nothing to wear out.

35 MILE WIND

20 MILE WIND

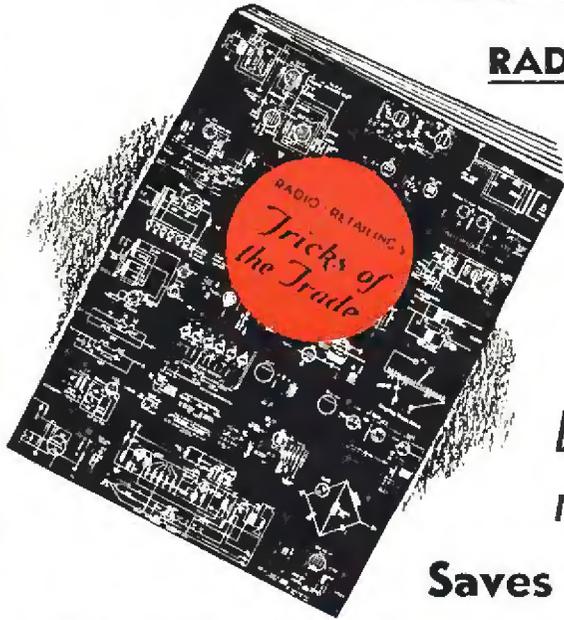
5 MILE WIND

is Approved by

**AMERICA'S LEADING
RADIO MANUFACTURERS**

RADIO DEALERS

RADIO SERVICEMEN



Get this new radio book

FREE

Explains just how to spot and repair over 700 set troubles.

Saves your time! Saves your money!

Time-Saving Information

• Certain radio sets develop troubles peculiar to their particular type of circuit. Each month "Tricks of the Trade" explains how to locate and fix specific set failures. The following are examples of the quick, practical way Radio Retailing offers this vital information to you.

BREMER-TULLY, BRUNS-WICK 88

Bad volume control . . . Often due to fibre projecting too high, causing rotor arm to miss. Push fibre down before readjusting control.

CLARION 60, 61

Set dead or very scratchy . . . Look for failure of special audio input transformer primary. Replace with same device or substitute resistance coupling. Tone will suffer if ordinary transformer is used for replacement due to special characteristics of original.

CROSLEY 143

None pilot lights when set switch is in OFF position . . . Replace leaky 8 milks, 150 volt condenser.

MOTOROLA 77

Poor tone . . . Check to see if voice-coil or field wires have been reversed. This causes voice-coil form to become blackened and charred inside due to heat. If swollen, discolored appearance is noted replace.

RCA 120

Operates at low volume on strong signals. Intermittently comes up to good volume. Check .05 condenser between center terminal of volume control and control grid lead of 2B7 second detector.

• Every issue of Radio Retailing will bring you more of these "Tricks". File them and in a short time with this FREE book you'll have a service manual of un-equalled value.

HERE at last is a trouble-shooting guide that will ring the bell with every serviceman and dealer in the radio game. It contains no useless description, no theories, no amateur data. Every single one of its 56-pages is packed with practical, hard-bitten "how" information that can be used profitably on your service jobs every day in the year. "Tricks of the Trade" is a service book that is different. Once you get your copy you won't part with it for a minute. This one book contains:

704 tested ways of finding and fixing the troubles in specific set circuits.

157 tube socket diagrams showing the connections for that many tubes.

Reference charts showing—the cost of electricity used in operating various appliances—the correct and incorrect way to install radio aerials—reception spectrum—etc.

• Every one of these "tricks" (see typical examples in column to left) were volunteered by

active radio men from their own experiences. Why spend hours testing and re-testing a balky set, when with this book, you can put your finger on the most probable cause of the trouble in a few seconds.

• These "Tricks" will show you how to spot a lot of troubles that won't show up in any test equipment. If you value your time and are interested in saving yourself a lot of headaches—get a copy of "Tricks of the Trade"—today. **IT IS FREE TO YOU** if you accept this offer now.

How to Get This Book FREE

Fill in and return the order blank below with the subscription fee to cover one year of Radio Retailing for \$1 or three years for \$2 and you receive this new book—FREE—as our gift.

The book is not for sale separately. No credit orders can be accepted. Don't delay. They won't last long. Mail your order—NOW.

Mail this coupon and payment—Today!

FREE-BOOK SUBSCRIPTION ORDER FORM

PRESENT SUBSCRIBERS NOTICE

Present subscribers may obtain a copy of this FREE book by renewing their present subscription. Regardless of when your present subscription expires, you must send in another PRE-Paid renewal order. Your subscription will be extended for additional time without duplication. No previous renewal orders count. We must show a matching order for every book sent out. Mail in your order and payment today.

This offer only applies to U. S. and possessions, Canada, Mexico and Central and South America. All other countries add 50c to rate to cover postage charges on book.

All books are sent out by express to insure safe delivery. There is a small handling charge of 15c—payable to the expressman upon delivery of the book. If you prefer book sent prepaid, add 15c to the subscription fee at time of ordering.

O. K. Attached is \$2 for a 3 year subscription to **Radio Retailing**. With this order I am to get a FREE copy of the 56-page service book—"Tricks of the Trade". I'll pay the expressman 15c for delivery charges. Send the book at once. Check here if this is renewal order.

Name..... Position.....

Street

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

Our Main Business Is.....

Check here and remit \$1 if you wish only one year subscription. PLUS FREE book.

No orders accepted without payment attached

RADIO RETAILING
330 West 42nd Street
New York, N. Y.

This offer ends after July 1st, 1937

*Pin
\$1 or \$2
Here*

PREVIEW of NEW PRODUCTS

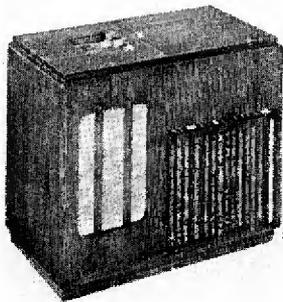


RECOTON

Recoton Corp., 178 Prince St., New York, N. Y.

Device: Phono attachment.
Description: As front panel is drawn down, the record shelf automatically moves out; high fidelity crystal pick up; locking device for pick up arm for transportation; self-starting motor; 12 in. turntable; volume and speed controls; 17x9x15 in.; ac or ac-dc; walnut cabinet with hand rubbed lacquer finish.

May be used under midget radio or on top of console. — *Radio Retailing*, April, 1937.



SONORA

Sonora Phonograph Co., Inc., 160 Varick St., New York, N. Y.

Model: Arm-chair model.

Description: Available as a straight electric phonograph or in combination with a radio; receiver is a 6-tube ac-dc superhet covering from 550-1700 kc. and 17-55 mc., 10 in. speaker.

The feature of this model is the compartment for 100 records. Comes in walnut, mahogany or maple, 27x23x15 in. — *Radio Retailing*, April, 1937.

CROSLLEY

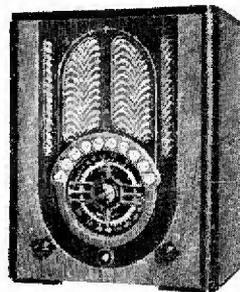
Crosley Radio Corp., Cincinnati, Ohio

Models: "Fiver" with Teletuning.

Description: 540-1720 and 5800-15,400 kc., three-dimensional glass magna ceramic dial; a.v.c., power supply noise filter. A feature of the set is the Teletuning dial.

Also available without Teletuning and as a battery set covering from 540-1725 kc.

Prices: Teletuning, \$24.95; without Teletuning \$19.99, battery model \$19.99. — *Radio Retailing*, April, 1937.



EMERSON

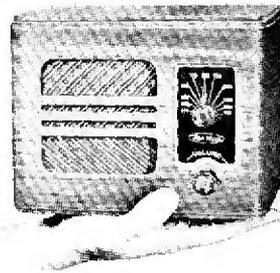
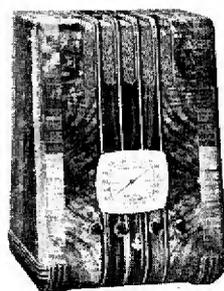
Emerson Radio & Phonograph Corp., 111 Eighth Ave., New York City

Models: Z-159; Z-160.

Description: Z-159, 6-tubes, a.c. superhet, 540-1750 and 5,600-18,000 kc., upright table model with slanted front panel.

Model Z-160, same technical features, compact horizontal table cabinet, speaker grille open on front and side, projecting ebonized base.

Prices: Z-159, \$44.95; Z-160, \$39.95. — *Radio Retailing*, April, 1937.



AIR-KING

Air-King Products Co., Inc., 27 Hooper St., Brooklyn, N. Y.

Models: Radios in color.

Description: Models 1000 and 1001, 4 tubes, ac-dc, 540-1750 kc., small table sets in black and gold, red and gold, and ivory and gold, as well as walnut, maple or mahogany.

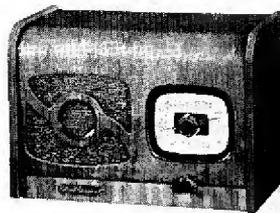
Model 77, upright table set in a molded cabinet in varying colors and finishes, including ivory, ebony, green, red. Phono-graph jack, a.v.c., 16-52, and 55-560 meters. — *Radio Retailing*, April, 1937.

FREED-EISEMANN

Freed Radio & Mfg. Co., 44 W. 18th St., New York, N. Y.

Model: FE-24.

Description: 5 tubes ac-dc, tri, 530 to 1820 kc., illuminated gold and blue scale. 12x8½x6¼. — *Radio Retailing*, April, 1937.



PIERCE-AIRO

Pierce-Airo, Inc., 510 Sixth Ave., New York, N. Y.

Model: 700.

Description: 7 tubes; Syn-cro-beam tuning; indirectly illuminated etched dial; 19-550 meters; de luxe bentwood American duo-tone walnut cabinet. — *Radio Retailing*, April, 1937.

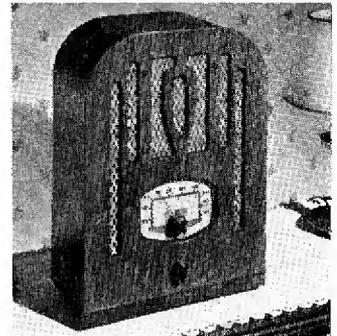
RCA-VICTOR

RCA Mfg. Co., Inc., Camden, N. J.

Models: 84-BT; 84-BT6.

Description: Supersede Model 5-BT; available for 2 or 6 volt operation; 4 tubes; p.m. dynamic speaker; high gain antenna circuit; low battery drain; a.v.c.; 530-1720 kc. Either model in illustrated cabinet.

Price: 84-BT (2 volt), \$27.95; 6 volt, \$37.95. — *Radio Retailing*, April, 1937.



CINAUDAGRAPH

Cinaudagraph Corp., Stamford, Conn.

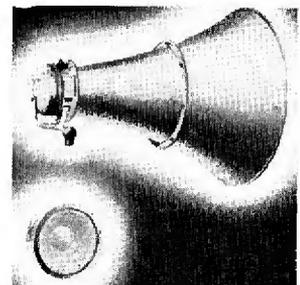
Models: Magic Magnet exponential speakers.

Description: All units are of 6 ohm voice coil impedance; provided with air column horn type baffles; Nipernug permanent magnets.

Smallest is Model FYA, 9 lb. without horn; capable of handling a steady power input of 15 watts.

Model HWA, weighs 26 lb. without horn; handles 25 watts continuously and 30 watts on peaks; higher efficiency than FYA and improved frequency response.

Model SUA, flat response up to 8000 cycles; handles 30 watts of audio continuously. — *Radio Retailing*, April, 1937.



Every Day Sales Prove It...

THE HEADLINE REFRIGERATOR OF 1937 IS

STEWART-WARNER

**MORE FEATURES FOR YOUR
MONEY**



**FAMOUS SLO-CYCLE TWIN
CYLINDER UNIT—RUNS LESS,
COSTS LESS**



**NEW FLOOR AND SPECIAL
RETAIL FINANCE PLANS**



**MORE POWERFUL MERCHAN-
DISING AND ADVERTISING**



**C. B. S. COAST-TO-COAST
BROADCASTS—HORACE HEIDT
AND HIS BRIGADIERS**



STEWART-WARNER
Alone Gives You:

- SAV-A-STEP
- 16-Point Lighted Airplane-Dial Freezing Control
- Vapor Sealed Cabinet
- Slo-Cycle Twin Cylinder Compresso
- Reversible Evaporator Door

STEWART-WARNER

CHICAGO, ILLINOIS



DICTOGRAPH

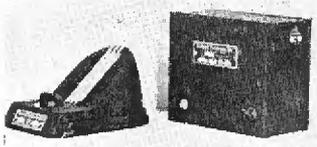
*Dictograph Products Co., Inc.,
580 Fifth Ave.,
New York, N. Y.*

Model: Inter-office communicating systems.

Description: Duo-Matic system—provides simultaneous two-way talk without use of a listen-talk key; absolute privacy; no tubes; operates 8 to 12 months on a few dry cell batteries.

Sizes to meet any requirement—Junior model with 1 executive and 4 or 5 staff stations; Duo-Matic, two stations; and the larger system for large firms, hospitals, schools.

Prices: Duo-Matic (executive station with hand-set-operated staff station), \$65; with both executive and staff stations equipped with loud speaker, \$75.—*Radio Retailing*, April, 1937.



INTERCOMMUNICATOR

*Sound Systems, Inc.,
1311 Terminal Tower,
Cleveland, Ohio*

Model: Intercommunication system.

Description: This model is a departure from the various types available using midget-radio-cabinet design. The unit is in an unusually small aluminum casting, 7x5x4 in., with speaker-microphone unit mounted at a 45° angle.

1 to 18 units may be used with one central amplifier and it may be combined for two station one-way or two-way conversation; 2 to 18 station one-way master; two way master or all master 100% intercommunicating. Amplifier is similar in size to the ordinary telephone ringer box.—*Radio Retailing*, April, 1937.

CONVERSAFONE

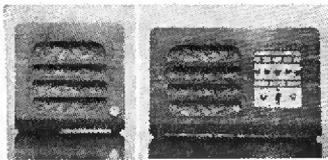
*Conversafone Co., 17 W. 60th
St., New York, N. Y.*

Model: Inter-communication equipment.

Description: Master and up to 7 sub-stations; selective, permitting conversation between one or more sub-stations separately or combined; outlying stations can respond to Master station without use of keys or switches.

For factories with high noise level, a trumpet is available permitting direct two-way communication at distances over 75 ft.

When two or more master stations are required a



coordinator is used, allowing master stations to talk with one another and both masters to talk to individual sub-stations.

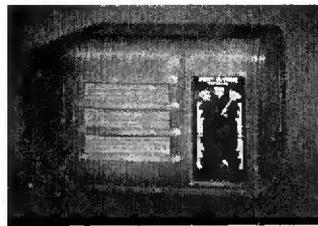
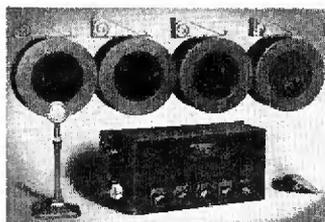
For strictly private conversation an earphone may be added to any station.—*Radio Retailing*, April, 1937.

OPERADIO

*Operadio Mfg. Co.,
St. Charles, Ill.*

Model: Amplifier paging system.

Description: Supplied complete with contact type crystal microphone, special amplifier which mounts on the wall near the mike, a foot switch for use when talking and a complement of four p.m. dynamic speakers in attractive steel wall-cabinets. Speakers are connected in parallel through a two wire system. Additional speakers may be added. Suitable for factories, hotels, public buildings and similar places.—*Radio Retailing*, April, 1937.



PORT-A-FONE

*Electronic Devices, Inc., 626
Broadway, Cincinnati, Ohio*

Model: Inter-office communication systems.

Description: No wiring; plugs into the electric light line; portable; may be carried to any point and plugged in; improved volume control. For 110-118 volt, 25-60 cycle a.c. or 110-120 volt, d.c.—*Radio Retailing*, April, 1937.

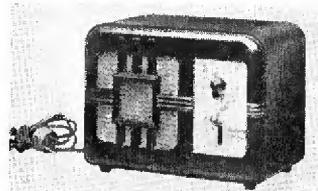
WEBSTER-CHICAGO

*Webster Co., 3825 W. Lake
St., Chicago, Ill.*

Model: Inter-office communicating system.

Description: Two types: Model OC-2 for operation between two points only; Model OCM, a multiple system designed to accommodate up to ten stations. With the latter a number of simultaneous conversations may be carried on.

The equipment is furnished in an attractive, highly polished wood case with ebony finish.—*Radio Retailing*, April, 1937.



STROMBERG CARLSON

*Stromberg Carlson Tel. Mfg.
Co., Rochester, N. Y.*

Device: Voice paging system.

Description: Replaces buzzers, codes and bells, reaches anyone any place in the plant, or, all employees may be addressed at their desks. Equipment consists of amplifier, 1 to 12 speakers, and microphone.—*Radio Retailing*, April, 1937.

BULLET-PHONE

*Transducer Corp.,
30 Rockefeller Plaza,
New York, N. Y.*

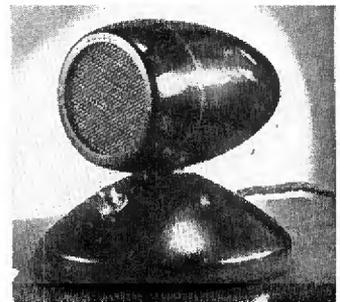
Device: Communication systems.

Description: The "Bullet-Phone," illustrated, acts as both microphone and speaker; takes up less space than a telephone; single control gives instantaneous connection; high sensitivity.

Series C is a 2-way system permitting instantaneous conversation between master unit and up to 3 remote stations.

Series T is a multi-station system with selective master station.

Series S is a deluxe system; each station is a Master having full control over every other station; two simultaneous private conversations are possible; Master unit and amplifier at each station.—*Radio Retailing*, April, 1937.

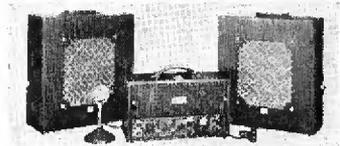


BELL

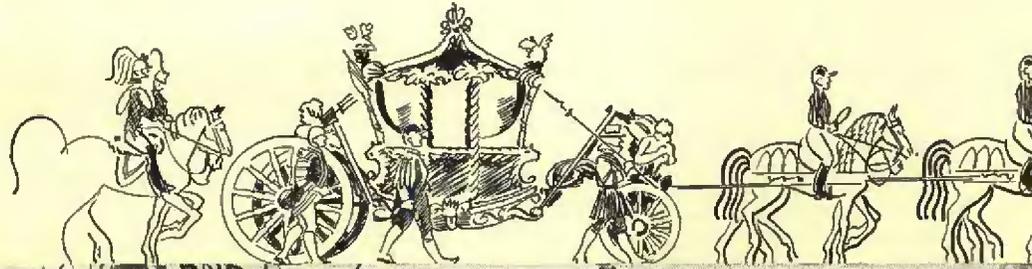
*Bell Sound Systems, Inc.,
61 E. Goodale St.,
Columbus, Ohio*

Device: PA-4-C p.a. system.

Description: 20 watt portable; amplifier arranged in carrying case so that it can be set up by merely removing cover; 2 heavy duty high velocity speakers of the infinite baffle type; high gain amplifier; 2 in.-put channels; facilities for utilizing and matching up to 6 speakers; high velocity type crystal microphone; overall gain of amplifier, 112 db; frequency response within plus or minus 2 db. from 35 to over 10,000 cycles.—*Radio Retailing*, April, 1937.



All the World's a



RADIO MAKES THE CORONATION A NEIGHBORHOOD AFFAIR

On May 12, 1937, the first British Coronation ever given to the world by radio will come to America... "RCA all the way!"

Neighborhood—

Thanks to Radio!



GREAT BRITAIN'S neighbors all over the world will tune in on the Coronation. They will hear the sound of tramping feet, hoof-beats, the wheels of the royal coach, from Buckingham Palace to Westminster Abbey and back again...bands playing...the rattle of sabres...the cheers and remarks of millions of onlookers...the service in the Abbey...and a running-fire description from the lips of skilled commentators.

NBC's picked staff will tell the story, using microphones and transmission equipment built by RCA Victor. RCA Communications will speed the description across the Atlantic. NBC's Red and Blue Networks will carry it into millions of American homes, where

RCA Victor radios will reproduce it with faithful accuracy. While this is going on, RCA Communications will also be sending photographs of the procession across the Atlantic, and you can see the pictures in your afternoon paper while the parade is still actually going on in London!

In today's world-neighborhood of radio, the RCA Victor dealer occupies an outstanding position. He connects the RCA family of radio services with 25 million families of radio patrons. He shares the prestige of the only organization active in every branch of radio. His merchandise embodies the complete range of actual radio experience...from microphone to receiving set...expressed in the phrase "RCA all the way!"

Listen to "The Magic Key" every Sunday, 2 to 3 p. m., E. S. T., on NBC Blue Network

RCA MANUFACTURING CO., INC.	RCA INSTITUTES, INC.
RCA COMMUNICATIONS, INC.	RADIOMARINE CORP. OF AMERICA
NATIONAL BROADCASTING CO.	

RADIO CORPORATION OF AMERICA • *Radio City, New York*

Everything in radio for service in
Communications . . . Broadcasting . . . Reception



RCA

RCA Mfg. Co., Camden, N. J.

Model: Aerodynamic microphone.

Description: Pressure operated; frequency range, 100-6000 cycles; impedance, 250 ohms; average operating level, -68 db. (10 bar signal across open circuit). May be used for close talking or normal public address work.

Price: Microphone only, \$26.50; table or hand stand, \$3.75, adjustable stand, \$16.50.—*Radio Retailing*, April, 1937.



CROWE

Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill.

Model: Panel controls for auto radios.

Description: Complete line for all 1935, '36 and '37 cars; standard controls and shafts are used in all cars, the only new part required when moving the set from auto to auto is the panel kit; easy to assemble.—*Radio Retailing*, April, 1937.

KRAEUTER

Kraeuter & Co., Newark, N. J.

Model: Pliers.

Description: Designed for pulling out and cutting cotter pins; as the cotter pin is started out it is gripped into a special groove in the diagonal jaws which allow for a maximum of leverage. 6, 7 and 8 in. sizes.—*Radio Retailing*, April, 1937.

WESTERN ELECTRIC

Western Electric Co.,
195 Broadway,
New York, N. Y.

Device: Convertible microphone.

Description: May be conveniently and instantly changed from a non-directional unit to a semi-directional unit; can be mounted on desk or floor stand or suspended from overhead.

A small detachable disc makes it possible to use this unit for a wide variety of applications including directional and non-directional service.—*Radio Retailing*, April, 1937.



LAFAYETTE

Wholesale Radio Service Co.,
Inc., 100 Sixth Ave.,
New York, N. Y.

Model: Tele-Dial Console.

Description: 17 station control buttons are arranged around the edge of the 8½ in. dial; conventional 5½ in. pointer-type dial is included for use when Tele-dial tuning is not desired.

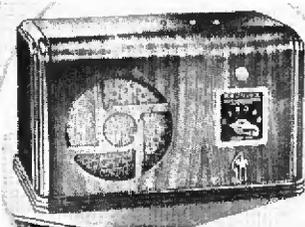
13 tubes, two 12-in. auditorium speakers, 16.4 to 568 meters.—*Radio Retailing*, April, 1937.

RADOLEK

Radolek Co., 601 W. Randolph St., Chicago, Ill.

Model: Inter-office communication system.

Description: Selective type; up to five outlying stations may be used with the master unit.—*Radio Retailing*, April, 1937.



EVEREADY

National Carbon Co., Inc.,
30 E. 42nd St.,
New York, N. Y.

Device: Battery container.

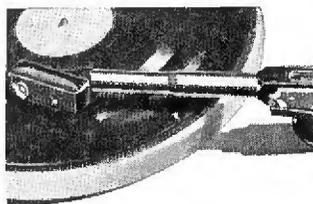
Description: With this battery container dealers can make a "B-C" pack for almost any battery radio. Made from strong, durable, corrugated boards, finished in mottled walnut brown. Holds three large size heavy duty "B" batteries and up to three 4½ volt "C" batteries. All plug-in connections to the battery cable are made inside the package.—*Radio Retailing*, April, 1937.

AEROVOX

Aerovox Corp., 70 Washington St., Brooklyn, N. Y.

Model: Condenser kit for Thordarson oscilloscope.

Description: A convenient kit of condensers called for in the construction of the new Thordarson cathode-ray oscilloscope.—*Radio Retailing*, April, 1937.



TRU-TAN

Astatic Microphone Laboratory, Inc., Youngstown, Ohio

Model: B-16 pickup.

Description: Introduces to the professional field the Astatic offset head design which results in a marked reduction in tracking error; plays all sizes of lateral transcriptions; arm length, needle point to center of base, 12 in.

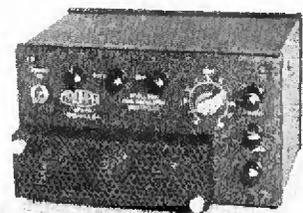
Price: \$27.50.—*Radio Retailing*, April, 1937.

TRIUMPH

Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.

Device: Fixed frequency audio oscillator.

Description: New type electronic audio oscillator which can be used as a driver source for constant modulation of air beacon transmission beams, bridge analysis or other applications where approximately 35 milliwatts of pure sine wave a.f. may be used; 500 and 5000 ohm output terminals.—*Radio Retailing*, April, 1937.



ELIMI-O-STAT

Solar Mfg. Corp., 599 Broadway, New York, N. Y.

Device: Radio interference filter for electric razors.

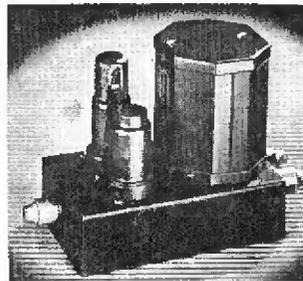
Description: Efficient filter of the capacitive-inductive type containing not only the conventional condensers but also induction coils for maximum filtering effect. Installation easily made by means of built-in plugs.—*Radio Retailing*, April, 1937.

UNITED TRANSFORMER

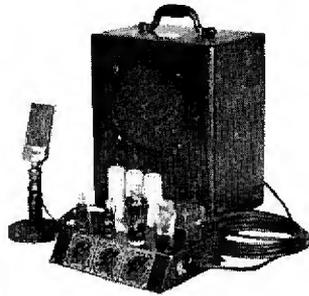
United Transformer Corp.,
72 Spring St., New York, N. Y.

Models: Pre-amplifier.

Description: Obtains its power supply directly from the main amplifier; incorporates a 6F5 resistance coupled to a 6C5 providing 60 db. of gain.—*Radio Retailing*, April, 1937.



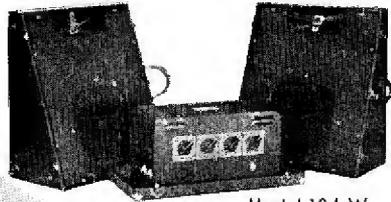
YOU ARE LOOKING AT THE
**1937
 OPERADIO
 LINE**



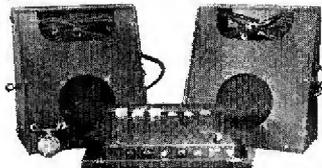
Model 108
 8 Watt Portable P. A. Unit
 List Price \$83



Model 117
 14 Watt Portable P. A. Unit
 List Price \$117



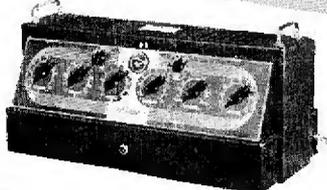
Model 124-W
 22 Watt Portable P. A. Unit
 List Price \$198



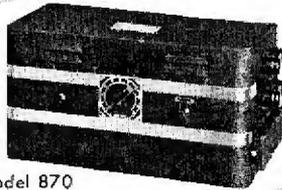
Model 110-R
 20 Watt Portable P. A. Unit
 List Price \$190



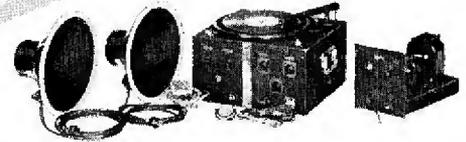
Model 835
 35 Watt Amplifier
 List Price \$120



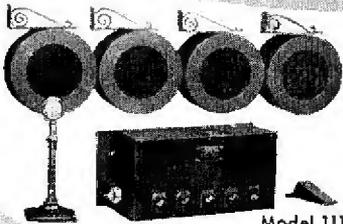
Model 855
 55 Watt Amplifier
 List Price \$180



Model 870
 70 Watt Booster Amplifier
 List Price \$125



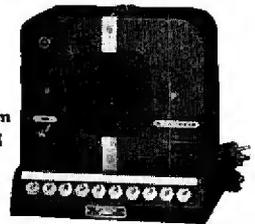
Model 132-BAC
 25 Watt Mobile P. A. System
 List Price \$240



Model 111
 Amplifier Paging System
 List Price \$220



Model 135
 Intercommunicating System
 Obtainable in both Wood
 and Steel Cabinet
 List Price \$57.50
 per pair



Model 145-10
 Intercommunicating System
 Obtainable in both Wood
 and Steel Cabinet
 List Price from \$38 to
 \$56.25 per station

*Also a complete line of
 P. A. and Radio Replace-
 ment Speakers

*All Prices
 INCLUDE Tubes

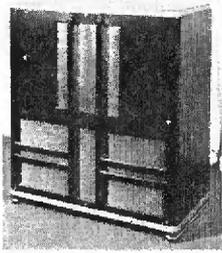
OPERADIO

MANUFACTURING COMPANY
 ST. CHARLES • ILLINOIS

**New Catalog
 Describes NEW LINE**

MAIL COUPON

Operadio Manufacturing Company, Department R4R, St. Charles, Illinois
 Please send me your NEW 1937 Illustrated Catalog describing the COMPLETE
 Operadio Profit line for 1937.
 Name.....
 Name of Firm.....
 Kind of Business.....
 Street Address.....
 City..... State.....
 My Jobber is.....
 Address of Jobber.....



RCA VICTOR

RCA Mfg. Co., Inc.
Camden, N. J.

Model: High fidelity speaker.

Description: Console cabinet model with a substantially uniform frequency response of from 60 to 10,000 cycles; speaker unit is of double voice coil electro-dynamic type; power handling, 10 watts; voice coil impedance, 15 ohms. Receptacles for supplying either ac or field current supply to the unit and also for audio input. Modern cabinet finished in black with aluminum trimming.

Price: \$133.20.—*Radio Retailing*, April, 1937.

BOONTON

Boonton Radio Corporation,
Boonton, N. J.

Models: Hi-Q parts.

Description: The main items in this line of low-loss radio parts are: threaded and grooved low-loss Isolantite forms for high frequency coupled coils, as well as complete inductors and aluminum shields. Special flat sockets are available to take the prongs of the inductors and coils. There is also a line of special low-loss mica-insulated binding posts, jacks and terminals, together with miscellaneous parts.—*Radio Retailing*, April, 1937.

MEISSNER

Meissner Mfg. Co.,
Mt. Carmel, Ill.

Device: Dual - universal wave trap.

Description: Eliminates both channels of interference and at the same time eliminates i.f. and broadcast band interfer-



ence; range, 400-1720 kc.; use of ferrocarr (iron core) provides high "Q" circuit.

Price: \$2.65.—*Radio Retailing*, April, 1937.

HAYES

Hayes Body Corp.,
Grand Rapids, Mich.

Models: Business trailers.

Description: Counters, display cases, special wiring, lounges for visitors, equipment for display and demonstration—all may be included. New models have heavier construction throughout.—*Radio Retailing*, April, 1937.

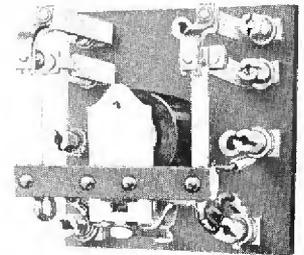
WARD LEONARD

Ward Leonard Electric Co.,
Mount Vernon, N. Y.

Device: R. F. relays.

Description: Two sizes: 15 and 4 amp. capacity; specially designed for antenna changeover and for switching directional antennas.

The midget type, with 4 amp. contacts arranged for double pole, double throw, is available for operation on 6-8 volt d.c. and 110 volt a.c. circuits; particularly adapted for

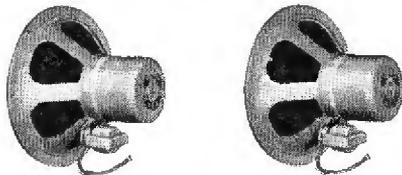


mobile installations such as police and aircraft transmitters.—*Radio Retailing*, April, 1937.

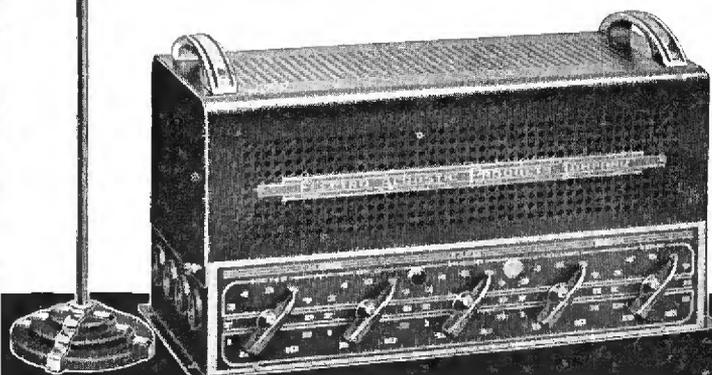
YOU CAN SELL MORE SOUND JOBS WITH



THE SENSATIONAL NEW MAGNAVOX
HIGH FIDELITY 12" P. A. SPEAKERS



CRYSTAL MIKE FLOOR STAND
FULLY LICENSED
30 Watt Amplifier



The NEW ELECTRO-ACOUSTIC 30 WATT SOUND SYSTEM FOR PERMANENT INSTALLATIONS

HIGH FIDELITY PERFORMANCE
FROM THE MICROPHONE THROUGH THE SPEAKERS.

COMPLETE \$170.75

As Illustrated

WITH THIS SYSTEM YOU CAN USE

- ★ ONE, TWO or THREE high impedance mikes.
- ★ ONE electro-dynamic and SIXTEEN P. M. speakers.
- ★ TWO electro-dynamics and EIGHT P. M. speakers.
- ★ THIRTY-TWO P. M. speakers.
- ★ A high impedance phonograph turntable.
- ★ As many Electro-Acoustic Model A-3041 30 Watt Beam Power Stages as needed.

WRITE FOR CATALOG OF COMPLETE LINE

ELECTRO-ACOUSTIC PRODUCTS COMPANY
SUBSIDIARY OF THE MAGNAVOX COMPANY
FORT WAYNE, IND.



NOW! *RADIO'S GREATEST DRAMATIC SHOW*

THE MARCH ^{OF} TIME

**IS HELPING DEALERS MAKE RECORD PROFITS WITH
SERVEL ELECTROLUX**

Outstanding program reaches millions every week . . . builds goodwill and sales for this Different Refrigerator that can be enjoyed by any family anywhere

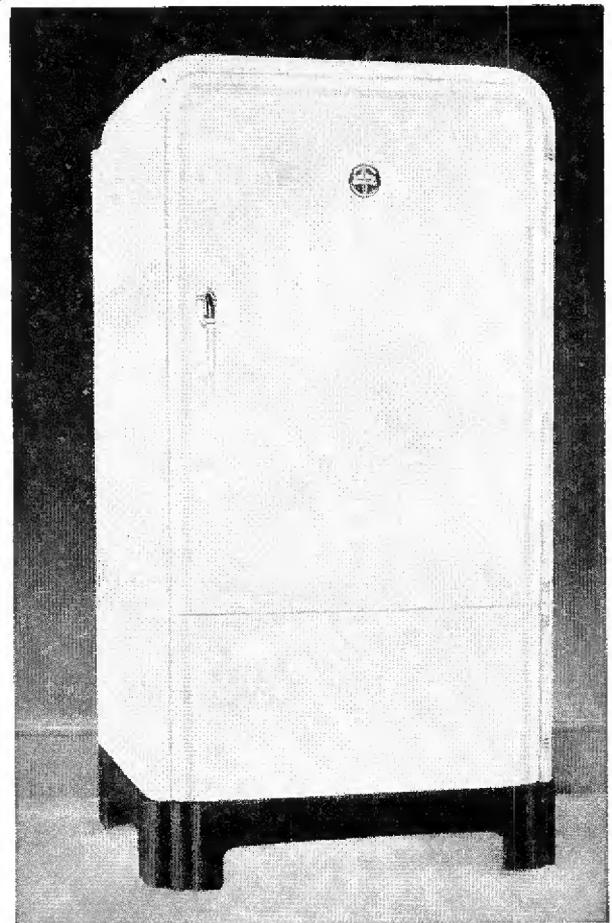
HERE'S BIG NEWS. "The March of Time"—radio's most popular dramatic program—is on the air for Servel Electrolux every Thursday evening, 10:30, E.S.T., over the Columbia Network.

"The March of Time" has been a leader among broadcast programs for six years. It has won a large and loyal audience . . . is constantly attracting new listeners. And, today, the same live, stirring quality—the same showmanship—that has captured the attention of millions is telling the story of the *different* refrigerator. Millions will hear about Servel Electrolux. Millions will be convinced. From coast to coast, new doors will be opened for those who sell Servel Electrolux.

This great radio program is a highspot in the most aggressive promotion drive that Servel Electrolux has ever put behind its product. A gigantic magazine advertising campaign is in progress, reaching 32,000,000 people a month. Intensive newspaper advertising is being launched locally. And now comes "The March of Time."

No matter where you are located, you can take advantage of this tremendous drive. Because every family is a prospect for Servel Electrolux. In cities and towns, it runs on manufactured or natural gas. For farm homes and other dwellings beyond gas and power lines, it operates on either kerosene or bottled gas.

There are several dealer franchises still open. Write for information. Servel, Inc., Servel Electrolux Sales Division, Evansville, Indiana.



SERVEL ELECTROLUX

THE *Gas* REFRIGERATOR

THESE EXCLUSIVE SELLING POINTS ARE YOUR STAR SALESMEN

- Permanent Silence
- Lasting Efficiency
- Finest Modern Beauty
- No Moving Parts To Wear
- Continued Low Running Cost
- Every Worthwhile Convenience



TRIPLETT

Triplet Electrical Instrument Co., Bluffton, Ohio

Models: 1260 portable audio oscillator.

Description: Frequency range: 100-250-500-1000-2000-3000-4000-5000-7500-10,000 cycles; signal furnished is sufficiently strong to be used in checking weak amplifiers; attenuation for the measurement of gain percentage is extremely accurate and impedance matching is variable.

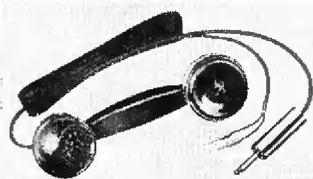
Price: \$28.33 net to dealer. —*Radio Retailing*, April, 1937.

CLAROSTAT

Clarostat Mfg. Co., Inc., 285 N. 6th St., Brooklyn, N. Y.

Device: Tapped control replacement kit.

Description: Complete assortment of tapped control replacements in handy kit form. Fourteen units, one of each of the types needed to take care of past and present models. —*Radio Retailing*, April, 1937.



TURNER

Turner Co., Cedar Rapids, Iowa

Model: Handset.

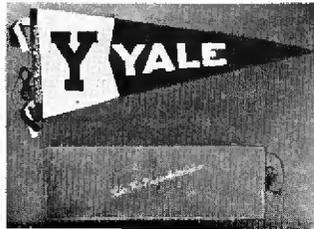
Description: A crystal microphone which is efficient at voice frequencies and a sensitive magnetic receiver combined in an attractive molded one-piece unit; particularly adaptable to portable transceiver work. —*Radio Retailing*, April, 1937.

HICKOK

Hickok Electrical Instrument Co., Cleveland, Ohio

Model: 4900 set tester.

Description: Has zero current voltmeter for measuring voltage in high resistance networks besides the usual ranges of a.c. and d.c. volts, milliammeters, resistance and capacity. The zero current voltmeter has three ranges, 0-10, 0-50 and 0-250 volts at an infinite resistance per volt and will give voltage readings independent of circuit resistance. —*Radio Retailing*, April, 1937.



HIDE-ME ANTENNA

Modern Inventions Co., 890 Bush St., San Francisco, Calif.

Device: Indoor antenna.

Description: Two types—the flat felt model may be hidden under rug or radio or used as a drape over the radio; the pennant type hangs on the wall.

Consists of 65 ft. of Anaconda special radio wire hidden in a felt oblong pad; no ground wire necessary. Any school or college pennant available.

Price: Flat felts, \$2.25; pennants, \$3.50. —*Radio Retailing*, April, 1937.

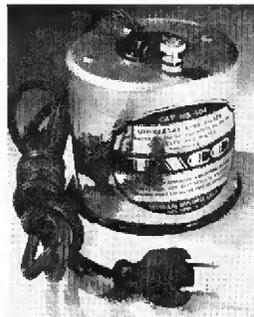
MOTORTONE

Pierce-Airo, Inc., 510 Sixth Ave., New York, N. Y.

Model: 527 auto radio.

Description: 5 tubes, super-het, sloping dynamic speaker, avc, hi-efficiency iron core antenna coil.

Flat top permits mounting without removing compartments or instruments; chassis may be removed from the case without unsoldering wires. Size 11x6½x4 in. —*Radio Retailing*, April, 1937.



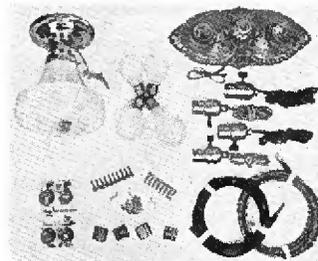
TACO

Technical Appliance Corp., 17 E. 16th St., New York City

Device: Line-noise filter.

Description: Not only line noises within the broadcast band but also those in the shortwave band are prevented from reaching the all-wave set because of the 50 db. drop in the filter; housed in a round polished-aluminum casing with standard receptacle and ground-connection binding post at top.

Price: \$4. —*Radio Retailing*, April, 1937.



PIONEER

Pioneer Gen-E-Motor Corp., 464 W. Superior St., Chicago, Ill.

Device: Complete lighting kits.

Description: Three practical lighting kits for complete wiring.

Model LKS is made up of basic equipment only, such as bulbs, fuses, sockets, wire, etc.

Model LKA includes also a 2-light living room fixture and a 1-light chrome kitchen unit.

Model LKB provides fixtures for dining room, living room, bedroom, kitchen and porch.

Prices: LKS, \$14.95; LKA, \$19.95; LKB, \$28.95. —*Radio Retailing*, April, 1937.

PRECISION

Precision Apparatus Corp., 321 E. New York Ave., Brooklyn, N. Y.

Model: Series 830 Multimeter.

Description: Eleven range service instrument; large three-inch square meter of modern design.

Five d.c. voltage ranges: 0-10, 0-100, 0-250, 0-500, 0-1000 at 1000 ohms per volt; four d.c. current ranges: 0-1, 0-10, 0-100 and 0-250 ma. Two resistance ranges: low ohms shunt method, 0-500 ohms; high ohms reading, 0-300,000 ohms. Selector controlled throughout. —*Radio Retailing*, April, 1937.

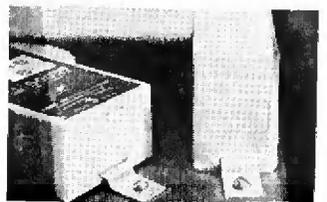


TOBE

Tobe Deutschmann Corp., Canton, Mass.

Device: New mounting clip on electrolytics.

Description: Clip, which is not permanently affixed to condenser, may be inserted in accurately spaced slits in the condenser ends for rigid and easier mounting; provision for either flat or edge-wise mounting. Now supplied with all T-D electrolytics. —*Radio Retailing*, April, 1937.



ARCTURUS

Arcturus Radio Tube Co., Newark, N. J.

Models: New tubes.

Description: Following new types: 6J5G, 6K5G, 6U7G, 6V7G, 25L6G, 950. —*Radio Retailing*, April, 1937.

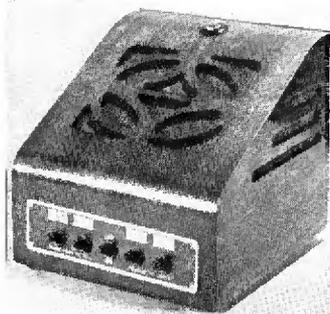
ERLA

Electrical Research Labs.,
Inc., 2222 Diversey Park-
way, Chicago, Ill.

Models: 72AT, 76AC.

Description: Model 76AC, 11 tubes; all-wave; auto-
matic tuning system
which provides for call
letters of selected stations,
each individually and auto-
matically lighted in tun-
ing; easily set up by user
and may be changed at
any time; 12 in. speaker.

Model 72AT, 5 tubes;
540-1720 and 2300-6300
kc.; large rectangular dial,
avc, table cabinet.—*Radio
Retailing*, April, 1937.



COMMUNO-PHONE

David Bogen Co. Inc.,
663 Broadway,
New York, N. Y.

Device: Intercommunicat-
ing systems.

Description: Five models,
three "wired" and two
"wireless" types; all oper-
ate on ac or dc; plug and
socket connections on two
of wired systems elimi-
nate wiring connections.

Model 5W is free from
audible line noises due to
circuit developments; sev-
eral systems may be used
independently in same
building; 3W, lower cost
wireless system with 2
master stations, lower
power.

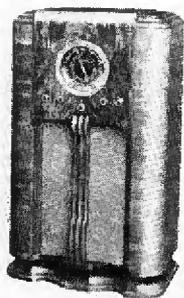
The three wired sys-
tems are: 5SC, 5 station
all master, selective con-
trols to enable conversa-
tion with any or all sta-
tions either independently
or simultaneously; 2SC, 2
station selective, one am-
plifier for operation of
both stations; 3A, 1 mas-
ter and choice of 4 re-
mote stations, one ampli-
fier, provides either elec-
tive talk back from any re-
mote station or complete
control from master only.
—*Radio Retailing*, April,
1937.

ONAN

D. W. Onan & Sons,
43 Royalston Ave.,
Minneapolis, Minn.

Device: A.C. current gen-
erating plants.

Description: Of stream-
lined, fully enclosed,
symmetrical design; small
and compact; operate on
gasoline; may be serv-
iced entirely from the ex-
haust side enabling instal-
lation in close quarters;
starting with thermal con-
trol; welded all-steel gen-
erator with special cool-
ing; wide range tempera-
tures; special impulse
dampener for portable
jobs. — *Radio Retailing*,
April, 1937.



SUPREME

Supreme Instruments Corp.,
Greenwood, Miss.

Device: Oscilloscopes.

Description: Two - inch
tube featured allowing
four times the screen
area of a one-inch screen
tube yet is only 7 in. long;
requires no more operat-
ing voltage than smaller
tube. Two models avail-
able.

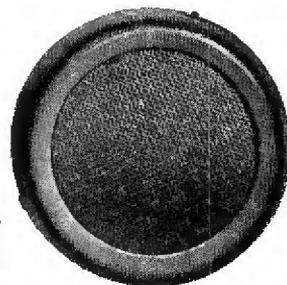
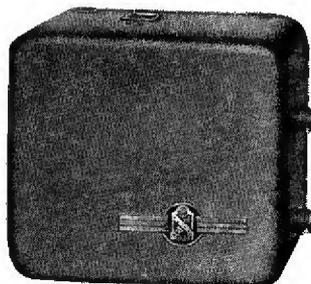
Model 535, the larger,
employs return sweep
eliminator for completely
removing high frequency
linear sweep return; in-
cludes positive interlock-
ing circuit between linear
time base and incoming
signal; special uni-control.

Model 530 has selective
return sweep eliminator
for inclusion or rejection
of power supply frequency
return sweep.

Prices: 535, \$49.95; 530,
\$29.95.—*Radio Retailing*,
April, 1937.



DELCO AUTO RADIO LEADS AGAIN!



5 POPULAR-PRICED MODELS—*Illus-
trated is the CHAMPION—one of
the five popular Delco models com-
prising the finest line of auto radios
on the market.*

Tie-in with the new and complete Delco Auto
Radio line for 1937. Sell the radio that every-
body wants! There's a model for every taste
. . . prices to suit every purse . . . famous
Delco quality assures perfect customer satis-
faction. Get the bulk and the cream of the
business for quicker sales and bigger profits.

Custom-Built Controls

Only in this new and complete 1937 line of Delco
Auto Radios do you get controls that match all the
instrument panels of 1935, 1936 and 1937 cars. You
can fit practically any car on the road today.

Outstanding Features

Custom-Built Header Speakers . . . Instrument Panel
Speakers for 1937 Buick and Olds . . . Continuous Vari-
able Tone Control Mounted on Control Panel . . .
Automatic Bass and Treble Compensation . . . 6V6G-
Beam Power Tube . . . Metal Tubes . . . Glass Tubes—
Octal Base . . . More Tuned Circuits . . . Motor Noise
Eliminator . . . Robot-Controlled Synchro-Tuning . . .
Full-Vision Dials . . . Easy to Install and Service.

Popular Prices for All Models

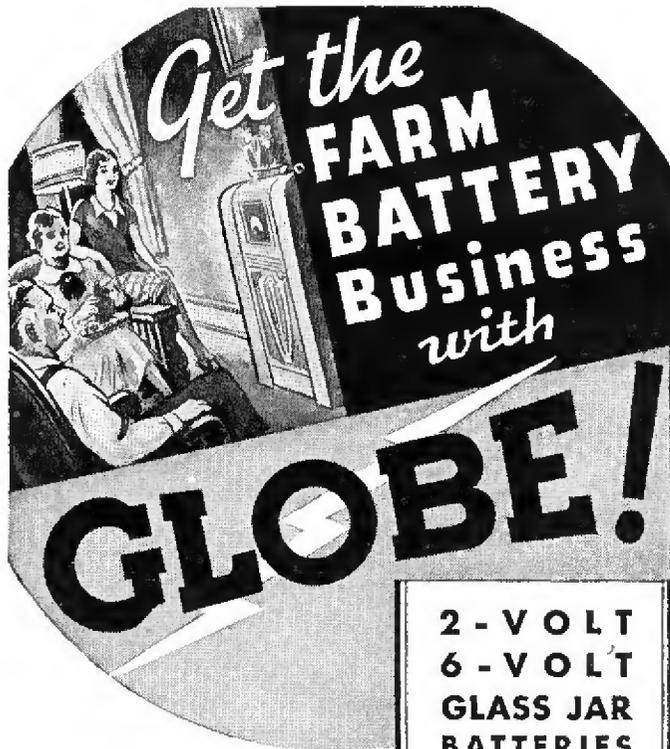
Prices of these new 1937 Delco Auto Radios run all
the way from \$39.95 to \$65.95 in a variety of beautiful
suede-finish models. Each with clearer tone . . . more
power . . . bigger speaker . . . more tubes . . . greater
range of stations.

Sure-Fire Sales Helps

A complete cooperative advertising campaign, including
vigorous newspaper advertising . . . hard-hitting direct
mail . . . attractive display stands . . . banners and
other merchandising helps that sell Delco Auto Radios.
*For quick action in getting full particulars, write,
wire or phone your nearest United Motors Branch or
Distributor.*



UNITED MOTORS SERVICE
3044 W. Grand Blvd. Detroit, Mich.



For Every Rural Radio or Light Requirement —

Farm Radio business is highly profitable when you handle Globe Batteries. By giving your farm customers the best batteries, you not only get a substantial volume of battery business, but you also have an opportunity to sell more radios and light plants.

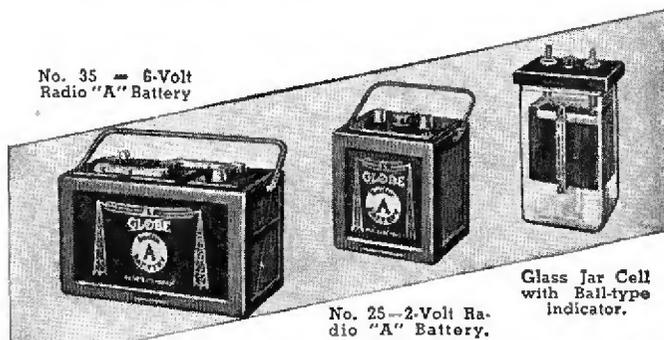
The Globe line is complete for all farm uses. It is nationally advertised and in great rural as well as city demand. 8 large Globe factories and 6 Globe branches — from coast to coast — facilitate deliveries and assure good service.

You can build a highly profitable and permanent battery business with Globe. Mail coupon for new Radio Battery Bulletin.

GLOBE-UNION INC., Milwaukee, Wisconsin

**2 - VOLT
6 - VOLT
GLASS JAR
BATTERIES
FOR RADIO
AND LIGHTS**

for
**Farm Homes
Summer Cottages
Camp Trailers
Freight Trailers
Boats and Yachts
Tenders
Filling Stations
Garages
Stores**



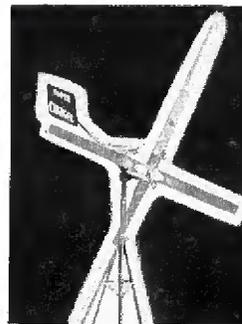
No. 35 — 6-Volt Radio "A" Battery

No. 25 — 2-Volt Radio "A" Battery.

Glass Jar Cell with Ball-type indicator.

GLOBE-UNION INC., Milwaukee, Wisconsin
Rush Bulletin 87-A and full details about Globe radio and light batteries.

Firm Name.....
Street.....
City and State.....
Individual..... RR-2



SUPERCHARGER

Breez-Electric Corp., 440 N. Oakley Blvd., Chicago, Ill.

Device: Wind charger.

Description: Designed especially for use in areas of low wind velocity; will furnish electric lights in addition to radio service in most areas; 8 ft. airfoil propellor; governor consists of a 5 ft. propellor mounted at right angles to the main propellor on a variable-pitch hub energized by flyball weights; heavy duty, slow speed type; weight 45 lb.; built-in radio noise suppressor.

Breez - Electric also makes 32 volt wind-driven farm lighting plants.—*Radio Retailing, April, 1937.*

DYNAPHONE
Ansley Radio Corp., 240 W. 23rd St., New York, N. Y.

Model: Arm chair combination.

Description: 7 tube radio, shortwave and broadcast, 12 in. speaker, Ansley crystal pick up, sliding top cabinet.

Price: \$99.50.—*Radio Retailing, April, 1937.*



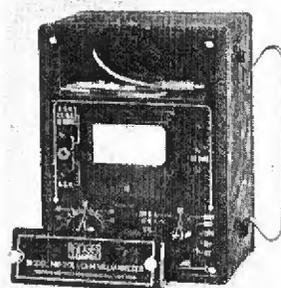
ELECTRO ACOUSTIC

Electro-Acoustic Products Co., Ft. Wayne, Ind.

Device: 15 watt portable system.

Description: High gain amplifier for direct operation with all crystal type microphones; delivers undistorted output of 15 watts; incorporates inputs for microphone and high impedance phonograph; 3 controls for mixing, fading and tone; output receptacles for 2 speakers; Magnavox high fidelity 12 in. speaker; complete system self-contained in tray type weatherproof carrying case.

Price: \$134.50 with tubes.—*Radio Retailing, April, 1937.*



RANGER-EXAMINER

Readrite Meter Works, Bluffton, Ohio

Model: Model 740 volt-ohm-milliammeter.

Description: Has Triplett precision instrument with scales reading; 10-50-250-500-1000 a.c. and d.c. volts at 1000 ohms per volt; 1-10-50-250 d.c. milliamperes; 0-300 low ohms; high ohms to 250,000 at 1 1/2 volts.

Metal case, 5 1/2 x 7 1/2 x 4 1/2 in. Built-in compartment with snap-on cover holds all accessories.

Price: \$18.60 net to dealer.—*Radio Retailing, April, 1937.*

AEROVOX

Aerovox Corp., 70 Washington St., Brooklyn, N. Y.

Device: Universal mounting electrolytics.

Description: The slotted metal flanges are fully adjustable so as to hold the unit flat against chassis, upright, or stacked by interlocking and soldering the flanges. Variable spacing of mounting holes possible; available in 200 and 450 volts working ratings, all popular capacities in single, dual and triple sections.—*Radio Retailing, April, 1937.*

EVERY CAR OWNER IS A PROSPECT *for*

Admiral TOUCH-O-MATIC *tuning!*

TWENTY million or more car owners—each and every one of them a potential customer for touch-o-matic tuning. This latest Admiral sensation is easily installed on *any* car radio . . . old or new. Just touch a button . . . and presto! In comes one of your favorite stations clear as a bell.

Streamlined, handsomely faced with chromium, the touch-o-matic control mechanism is easily attached to steering column. The operating mechanism is housed in a compact metal case installed on the side of the radio. Make 1937 your biggest auto radio year with touch-o-matic tuning and the new 1937 Admiral Auto Radios. Write for details today.

CONTINENTAL RADIO & TELEVISION CORP.
325 W. Huron St. Chicago, Ill.

\$8.95

Plus INSTALLATION
ON ANY CAR RADIO

America's Smartest AUTO RADIOS

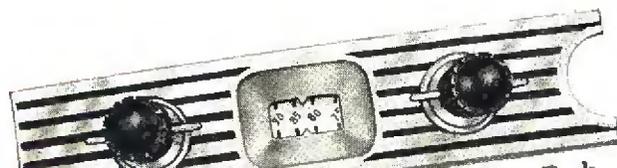
6-7-8 Tubes - External or Self-Contained Speakers
Powerful superhet circuit operates entirely from 6 V car battery. Lowest drain. 10KC selectivity. Variable tone control. Iron core antenna gives 1/4 MV sensitivity and increases antenna "pick up" 2 to 7 times over other car radios. Heavy duty dynamic and permanent magnet type speakers. Dash controls to match dash. (Touch-O-Matic tuning optional.)

Admiral
AUTO RADIOS

\$35.95

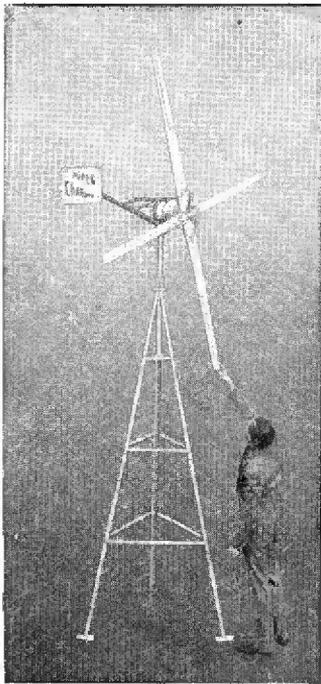


DASH CONTROLS
TO MATCH ANY CAR



ANNOUNCING-----

Breez-Electric SUPERCHARGER



The largest, most powerful 6 volt windcharger manufactured!

Only **SUPERCHARGER** offers distributors and dealers these sales features:

- (1) **PROFIT** on every sale with no investment. No carrying in stock or service responsibility.
- (2) **FINANCE PLAN** requiring only \$5.00 down-payment from customer, leaving more cash for radio down-payment.
- (3) **SUPER PERFORMANCE** assuring successful operation in any territory. Starts charging in **FOUR-MILE WIND!** Top output 25 amperes. **TWO TO FIVE TIMES THE OUTPUT** of conventional chargers. More hours of radio operation anywhere, **LIGHTS** in addition to radio in most areas.
- (4) **BIGGER**, more rugged, superior in every respect. **EIGHT-FOOT** propeller instead of six; extra-heavy-duty **FORTY-FIVE lb.** generator instead of twenty-two; **TEN FOOT** tower instead of five; **FOUR-BLADE** propeller smoothness instead of two-blade — **PLUS** the quietest, most dependable governor ever used on a 6 volt charger.

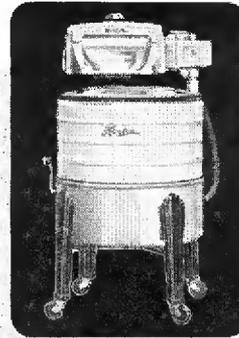
DISTRIBUTORS AND DEALERS:

Write or wire today for complete information!

BREEZ-ELECTRIC CORPORATION

440 N. Oakley Blvd.

CHICAGO, U. S. A.



HORTON

Kleen-Zoning

WE'RE TELLING THE WORLD!

The sensational news about Horton Kleen-Zoning is being carried to your prospects in one of the broadest advertising campaigns (including 17 national magazines) ever put behind home laundry equipment.

To cash in on the consumer interest and demand *identify your store definitely* as Horton headquarters in your community—use Horton sales promotion help—and follow every lead to the limit!

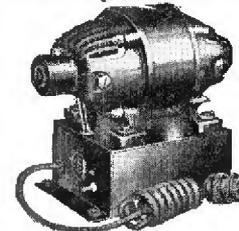
Horton has created the biggest news in the home laundry industry with Kleen-Zoning Washers and Beauty-Aid Ironers. Get in on the big push now and watch your sales and profits mount. Ask your Distributor, or write

HORTON MFG. CO., 408 OSAGE ST., COOT WAYNE, INDIANA

HORTON WASHERS—IRONERS Since 1871

Janette Rotary Converters

The original D.C. to A.C. converters with all wave filters developed exclusively for radio and sound apparatus.



CAPACITIES:

35 to 3250 watts.

6, 12, 32, 115 and 230 volts D.C. to 110 or 220 volts, 1 phase, 60 cycle A.C.

Insist on a Janette
Ask For Bulletin No. 13-25

Janette Manufacturing Company

555 W. Monroe Street, Chicago, Ill., U. S. A.

New York — Boston — Philadelphia — Los Angeles — Milwaukee

YOU NEED THIS GREATEST OF ALL SELLING AIDS!



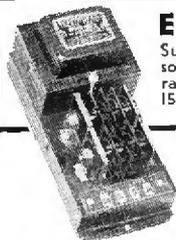
EPCO STORAGE BATTERY ELIMINATOR

For Perfect Demonstration of Auto and other D.C. Radios

Provides 6 volt-10 amps, filtered D.C. from 110 volt A.C. Assures instant, adjustable current at minimum power consumption. Ends forever the messy battery-charging nuisance. Also efficient as battery-charger.

\$19.75

As Illustrated Variable Voltage List Price



ELECTROPAK

Supplies rectified D.C. for operating relays, solenoids and remote controls. Voltage ranges from 6 to 24 volts, rated at 2 to 15 amps. Operates on 110 volt A.C.

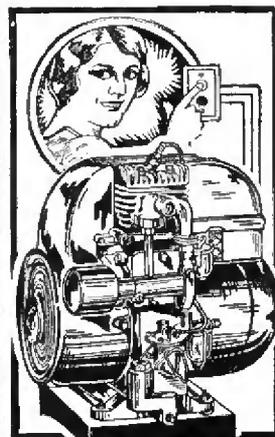
ADAPTOPAK

Operates A.C. radios in D.C. districts and 110 volt A.C. radios in autos and trailers.

ELECTRICAL PRODUCTS CO.

6537 RUSSELL AVENUE

DETROIT, MICHIGAN



COMPLETE ELECTRIC PLANTS

ONAN ALTERNATING CURRENT GENERATING PLANTS operate on gasoline and furnish current for running AC RADIOS, Household Appliances, Motors. The right sizes for Portable Installations, Trailers, Public Address Work, Demonstrating Car Equipment, Talking Moving Pictures, X-Ray—anywhere electricity must be provided.

Sizes 350 Watts and Up

LIGHT and PORTABLE. Complete ready to run. Rubber mountings, flexible exhaust pipe and extra silent muffler available. Shipment from stock. Also 32 volt, Direct Current Models. Gasoline, Gas or Oil Burning types in larger sizes. Write for details.

D. W. ONAN & SONS

488 Royalston Ave. Minneapolis, Minn.

AND NOW! Ready for Nation Wide Distribution
An Outstanding Achievement

TICHENOR "OVER-CAR" AERIALS

For Those Who Care!

Style of the Highways—Boss of the Skyways

POSITIVELY RUST PROOF

TICHENOR Real Profits
Most Efficient Design
Many Exclusive Features
Accentuates Streamline Effect
Adjustable Long Distance Adapter
"Jiffy Plug In" Installation Feature
Thousands in Use Are Evidence of Their Superiority.
Tie in with TICHENOR for 1937.
Manufactured by and under personal supervision of
Colonel Carl M. Tichenor (One of America's Radio Pioneers).

WRITE NOW! TICHENOR CO.

7323 W. Chicago Blvd.
Detroit, Michigan

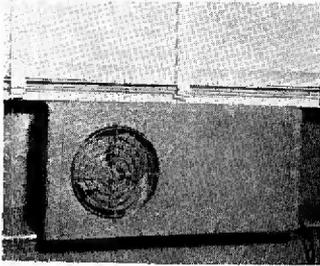


CLIMAX

Climax Machinery Co., 121 E. Morris St., Indianapolis, Ind.

Model: Air conditioner.
Description: Refrigerates, de-humidifies, circulates, filters, and ionizes; walnut cabinet no larger than a radio; water cooled, including condensers, motors and compressors; Freon refrigerant. Four models.

Prices: \$249 to \$507.50.—*Radio Retailing*, April, 1937.



NORTHWIND

Pleasantaire Corp., 304 E. 45th St., New York, N. Y.

Model: Room cooler.
Description: Consists of an air-cooled condensing unit with an evaporator and fan mounted in a cabinet 14½x28x13½, to be placed on window sill. Two adjustable steel rods are provided to fix the position of the unit on the sill. Plugs into the electric outlet; may be moved from room to room; circulates more than 300 cu.ft. of cool air per minute.

Price: \$175; after May 1, \$189.50.—*Radio Retailing*, April, 1937.

SAVAMAID

Crosley Radio Corp., Cincinnati, Ohio

Models: Washers, ironers.
Description: Washers—3 electric and 2 gas engine models; Lovell pressure cleansing safety wringer; life-time lubricated type

motor; some models have invertible agitator.

Ironers—two models; large self-aligning chromium ironing shoe; one model has white enameled cabinet cover with aluminum top.—*Radio Retailing*, April, 1937.

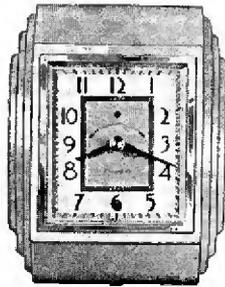


FROSTOFF

Frostoff Co., Inc., 250 E. 43rd St., New York, N. Y.

Device: Automatic defroster.
Description: Housed in a modern electric clock; enamel case, trimmed with chrome. Defrosts the refrigerator automatically, preventing ice incrustations and reducing current consumption. Wall model.

Price: \$15.—*Radio Retailing*, April, 1937.



GRUNOW

General Household Utilities Co., 2650 N. Crawford Ave., Chicago, Ill.

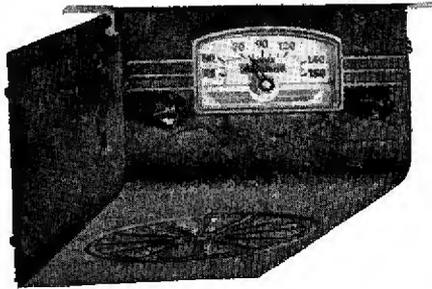
Models: 1937 refrigerators.
Description: 7 models; newly designed cabinets of modern lines; chrome hardware; Carrene refrigerant; Aerator "deodorizer"; interior light; thermometer on 4 models; 2 round dishes, a water bottle and vegetable pan standard on all models; some also have sliding "Serve-Shelves," hydrator pan, fruit basket, mezzanine shelf, foot pedal.—*Radio Retailing*, April, 1937.

A NEW VALUE STANDARD!

DEWALD MOTORTONE

Streamline Model No. 527

Supreme in Design • Tone • Sensitivity



Exclusive Features

Adaptable to all cars . . . can be mounted without removing compartments, instruments, etc. . . . No repercussion on sound waves. 5-tube superheterodyne . . . automatic volume control . . . full range control . . . sloping speaker throws clear tones to rear of car. . . . Hi-audio undistorted output. Compact, beautiful . . . dependable in PERFORMANCE!

Write for complete literature

PIERCE-AIRO, Inc.

512 Sixth Avenue New York, N. Y.

NEW!

Latest Western Electric Mike gives high quality at low cost!

Non-directional mike . . . plus acoustic baffle . . . equals directional mike.

This low-priced "Salt-Shaker" mike is a winner! Bell Telephone Laboratories designed it for broadcasting and public address.

It's both directional and non-directional — assures regular Western Electric quality at a new low price!

Distributed by GRAYBAR Electric Co. In Canada: Northern Electric Co., Ltd.

GRAYBAR ELECTRIC CO., Graybar Bldg., New York. RR-1-37

Please send bulletin describing the new Western Electric 633A microphone.

Name _____

Address _____

City _____ State _____

See Radio's Latest Developments

at the

BIGGEST RADIO PARTS SHOW EVER HELD!

130 Booths, Filling the HUGE EXHIBITION HALL

At the **STEVENS HOTEL**



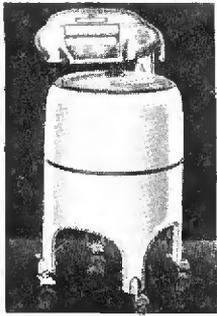
*Every Conceivable Kind of Apparatus for the Service Man,
the Amateur, and the Public Address Man*

CONDUCTED BY

**RADIO PARTS MANUFACTURERS
NATIONAL TRADE SHOW**

and Endorsed by

RADIO MANUFACTURERS ASSOCIATION and THE SALES MANAGERS CLUB



KELVINATOR

*Kelvinator Div.,
Nash-Kelvinator Corp.,
Detroit, Mich.*

Models: Washers.

Description: Smartly streamlined and featuring new and improved mechanism; seven models ranging from the small, single tub to the large 13SA with rotary dryer and spin-rinse features; five of wringer type; two employ rotary principle of drying.

Models finished in white have a band of blue, others come in two-tone gray.

Gasoline motors are available; automatic drain pumps at slight extra cost on all models.—*Radio Retailing*, April, 1937.

HOTPOINT

*Edison General Appliance Co.,
Inc., Chicago, Ill.*

Models: Washers; ironers.

Description: Washers—five models; three offered in both standard and de luxe styles with the remaining two in de luxe style; Thriftivator provides three separate zones of washing action.

Ironers—The roll moves to the shoe and not the shoe to the roll; adjustable thermostat safety and simplicity of operation emphasized.—*Radio Retailing*, April, 1937.

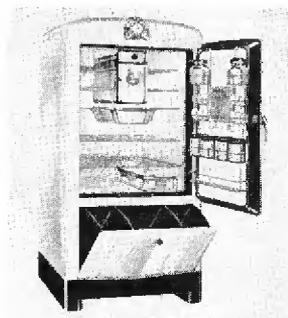


SPARTON

*Sparks-Withington Co.,
Jackson, Mich.*

Models: 1937 refrigerators.

Description: 7 models; 4.6 to 9 cu. ft. capacities; electric clock with silver dial on outside of cabinet;



SAMSON

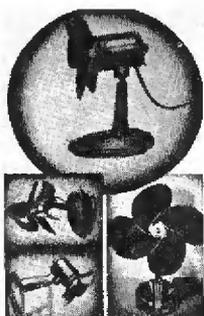
*Samson-United Corp.,
Rochester, N. Y.*

Model: Electric fans.

Description: Smaller edition of the rubber-bladed Safe-Flex. Added to the safety feature is the fact that it is really silent, no metallic echo.

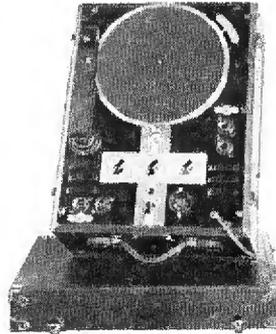
Can be stood on the table; pinned on the wall with the special pin provided; or, clamped with a steel clamp sealed in the base.

Prices: \$3.95 each.—*Radio Retailing*, April, 1937.



defrosting controlled by clock; Thrifter—storage space or door fitted with 6 ebony topped glass receptacles; built in vegabin which is accessible without opening food compartment; glass crispers in most de luxe models; thermostatic temperature control; black base and trim on vegabin, clock and escutcheon—trim also available in red or green.—*Radio Retailing*, April, 1937.

**For Sound Trucks
U.S.E. 20-E Amplifier**



Operates on Car battery or 110 volts a.c. 20 Watts output. Dual mike input. Electric-eye Monitor. U.S.E.'s new 16 page catalog lists complete Sound Truck Systems using the 20-E Amplifier. Write for Catalog No. 107 and proposition.

UNITED SOUND ENGINEERING CO.
Manufacturers of Electronic Equipment
2241 University Ave., St. Paul, Minn.
Licensed by arrangement with E.E.P.F. under patents owned and controlled by A. T. & T. and Western Electric Co., Inc.



The deadly enemy of "man-made" static

• A. A. & K. licensed, replaceable foe of nuisance noises caused by electrical appliances near the radio set. No. 14, illustrated, lists at \$6.75. Other units at various prices. In any location, NOISE-MASTER proves effective on broadcast as well as shortwave bands. Send for complete information.



CORNISH WIRE CO., Inc. • 30 Church St., N. Y. City

DISTRIBUTORS and MANUFACTURERS

Here's the new and more profitable way to SELL—with a Covered Wagon trailer! Take your product direct to present dealers, prospective dealers and retail prospects. Covered Wagon Commercial trailers are now being used by leading radio and electric appliance manufacturers and distributors with similar success at distinct savings in sales and merchandising costs. Write for full information about the new Covered Wagon Commercial Trailer Sales Exhibits.

New Low Time Payment Plan

COVERED WAGON COMPANY
572 Cass Avenue
Mt. Clemens, Michigan

Builders of Trailer Homes and Commercial Display Coaches



COVERED WAGON TRAILER COACHES

\$395
AND UP
F.O.B. FACTORY
EQUIPMENT
EXTRA

Introducing the CHIEFTAIN

MODEL F.M. — \$2.45

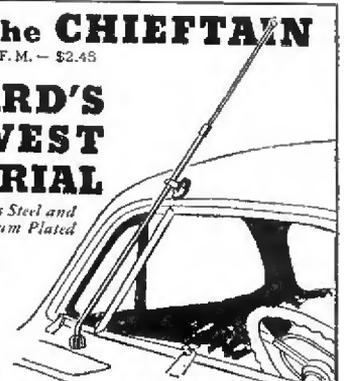


WARD'S NEWEST TOP AERIAL

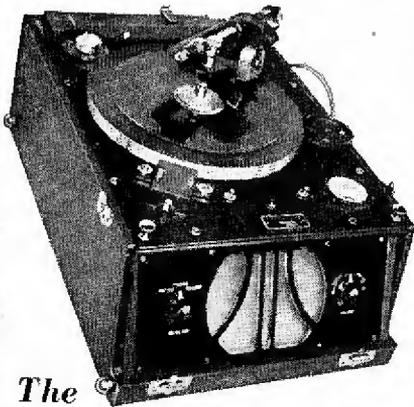
Made of Stainless Steel and Brass—Chromium Plated—Telescopic

WARD PRODUCTS CORPORATION
MANUFACTURES THE WORLD'S FINEST LINE OF AERIALS
TOP — POLE — UNDERCARR

The WARD PRODUCTS Corp.
WARD BUILDING CLEVELAND, OHIO



Here is the
NEWEST MONEY MAKER
FOR RADIO DEALERS



The
PRESTO MODEL D
SOUND RECORDER

IT MAKES phonograph records that sound like the finest high fidelity radio reception . . . no needle scratch, no distortion.

IT PLAYS any Phonograph Record
IT OPERATES as a Public Address System

You can sell the model D recorder and record blanks to high schools, colleges, radio broadcasting stations, music teachers, churches, detective agencies and business houses.

You can sell recording service to orchestra leaders, radio artists, music students, convention speakers, ministers and in the home.

DISPLAY A PRESTO RECORDER
IN YOUR WINDOW

YOU WILL BE AMAZED WHEN
YOU SEE THE SALES POSSIBILITIES DEVELOP.

Write today for Literature and Tested Sales Promotion Data.

PRESTO
RECORDING CORPORATION
 149 W. 19th St., New York, N. Y.

Export Division (Except Australia and Canada)
 M. SIMONS & SON CO., Inc.
 25 Warren Street, N. Y. Cable: Simontrice, N. Y.
 Australia and New Zealand Agents and Stockists
 A. M. CLUBE & CO., Ltd.
 45 King Street, Sydney, N. S. W., Australia

PRESENT PRICE BRACKETS
ARE NOT MAGIC

(Continued from page 15)

the next higher brackets. While they do that they study their customer to find the particular model which seems to arouse the greatest interest, and that is generally the higher priced set. After preference has been ascertained, that set is "turned on" and then the salesman begins to expand all its good points in tone quality, selectivity, sensitivity and volume.

"It is important to note that the demonstrating rooms of that concern are so wired that *only one set can be played at a time* which is done as a further aid to the salesman so that he can concentrate his own sales talk and the customer's attention very definitely on *the one set* and generally that practice results in the customer buying a set at a higher price than the one originally mentioned."

Mr. Angle closed the interview by saying: "If all the dealers followed that simple process of concentrating sales effort and customer interest the whole industry could get along with much fewer sets, fewer price brackets and every dealer would make more money on less investment."

WOOD—WHAT YOU
SHOULD KNOW ABOUT IT

(Continued from page 17)

many an earlier model. The effect of wood carving can be had by molding the design with wood paste and attaching it to the cabinet. Close observation will reveal, however, that the grain of the flat surfaces does not go through the carved portions, thereby proving it false. In machine carving, the grain carries through the design. Yet there is a roundness—a scooped out—effect that tips off the machine origin.

True hand carved designs have very sharp edges, made as the tools cut away wood in a fashion impossible with machines. However, where machine carving has been used to do the principal design and it has been touched up by hand, there is virtually no difference from the hand made article.

The year 1937 is going to reward salesmen who learn the interesting

ANSLEY
DYNAPHONE



The NEW Model D-23 "Arm Chair" Combination 7-Tube Radio—Short Wave and Broadcast—Ansley Crystal Pick-up—12 inch Speaker—Sliding Top Cabinet

\$99.50

ANSLEY was

FIRST with satisfactory AC-DC Radios

FIRST with Electric Portable Phonographs

FIRST with Portable Radio-Phonographs

AND NOW
FIRST to give its dealers the protection of the N. Y. Fair Trade Law

ANSLEY LEADERSHIP
means Dealer Profits

Write for details of complete line

ANSLEY RADIO CORPORATION
 240 West 23rd St., New York City

facts about cabinet work and tell about it.

Literature put out by the American Walnut Manufacturers Association, 616 South Michigan Avenue, Chicago; the Veneer Association, same address; and the Mahogany Association, 75 East Wacker Drive, Chicago, will be of help to the sales force that is interested in further details about the new cabinets they are about to sell.

a quantity of sets at a sacrifice should observe the following basic rules when sponsoring a trade-in allowance drive:

(a) Leave the previously established list prices undisturbed so as to check the growing doubt on the part of the public of the efficacy of list prices in general.

(b) Announce specific trade-in allowances that will be available only against the actual delivery of the set for which an allowance is claimed.

(c) Inform dealers that credit memos, equivalent to the amount of the advertised trade-in allowance will be issued *only* against the actual delivery of the traded-in set to the manufacturer or his representative.

(d) Arrange to have a direct representative of the manufacturer or his authorized distributor visit every dealer who participates in the surplus sale and there supervise *the actual physical destruction of every trade-in set*, handing over to the dealer his credit memo *after* the sets have been destroyed.

(e) Dealers might be permitted to retain trade-in sets by forfeiting the manufacturer's allowance if they feel that they can dispose of certain trade-ins at more than the amount granted by the manufacturer.

* * *

Plan No. 2. Manufacturers and distributors who are operating in a given territory might sponsor a plan by which dealers in a given retail area would cooperate in jointly op-

erating a single second-hand radio store. None of the cooperating dealers would offer trade-ins for sale in their own store. Entirely useless, obsolete and orphan trade-ins would be destroyed at the cooperative second-hand store and a nominal salvage credit allowed to the dealer who brought it in.

Trade-ins with a definite re-sale value would be reconditioned and sold at the cooperative store and at the end of fixed periods the profit or losses would be pro-rated on the basis of the number of trade-ins which each dealer cleared through the store.

Wherever this plan is put into operation the participating manufacturers and distributors might find it advisable and even profitable if they jointly offered a bonus for trade-ins destroyed.

The particular merit claimed for this plan by its proponents is that it makes every participating dealer *exclusively a new set dealer* and thus may be expected to stimulate better sales effort and increase sales of new sets.

* * *

Plan No. 3. This plan is based on the premise that any offer for a flat trade-in allowance in the long run is injurious to the best interests of the manufacturer who makes it and to his dealers, but takes cognizance of the fact that trade-ins are a necessary evil and as such should not be handled on a catch-as-catch-can basis but dealt with intelligently.

It is suggested that any trade-in offer that is to be advertised in a newspaper by either the manufacturer or his dealers should provide for at least 3 different amounts of trade-in allowances as follows:

(a) The highest possible amount is to apply only to sets of the same manufacture but of older vintage or technically obsolete.

(b) The intermediate amount is to be allowed on sets that are not over 3 years old and made by a manufacturer who is still building sets.

(c) The lowest allowance would apply on sets of any make over 3 years old and would permit the manufacturer to pay the dealer a special *additional* compensation for sets destroyed under the manufacturer's supervision.

It is claimed that under this plan the radio industry would prevent the further undermining of public confidence in its "list price" quotations by paralleling the practices that prevail in the automobile industry where trade-in allowances are definitely based upon the probable re-sale value of the old car.

Proponents of this plan also point out that the "destruction bonus" provided for in this plan already has been tried out successfully in the automobile industry where certain large makers have paid dealers \$15 to \$25 for old cars that then were scrapped by the manufacturer and thus definitely taken out of circulation as an incumbrance to future sales.

RECORDING—NEW BUSINESS FOR THE RADIO DEALER (Continued from page 23)

rented to professional or semi-professional customers it also has a natural market among ordinary people who buy radio sets. Families frequently can be sold the idea of recording their son's or daughter's voice on a birthday, saving the record together with a snapshot.

A number of customers do this very thing at Steadman's Music Store, Yonkers. Frank Steadman tells us that on the average his recordings run 12 to 15 a week. One youngster in particular makes recordings twice a month and sends these to relatives in Germany. Steadman is quite enthusiastic over the results.

At Rabsons Music and Camera

Store, New York, 15 machines will be sold this year if the demand continues at the present rate. This is a double store; radio sets and equipment occupy one section while cameras and supplies take up the other half.

The sales method employed at Rabsons is to send the machine to the customer's home. A short demonstration is all that is necessary to convince the prospect of the usefulness of the device. Almost invariably the lifelike reproduction of the customer's voice clinches the sale. Although the sale of recordings is not an important item here the unit sales provide a nice income.

Blank recordings are available in 6, 8, 10 and 12 in. sizes at prices from \$.40 to \$1 list. The playing time for each side of a 6 inch disc is 1½ minute, the 8 inch size takes 2½ minutes; 10 inch 3½ minutes; and 12 inch 4¾ minutes. The actual recording time is the same. However, a short rehearsal is usually necessary in order to "time" the recitation. On the average a half hour is sufficient for a 12 in. recording. Some recitations will take up an hour's time.

The usual retail prices of records are \$1, \$1.50, \$2.50 and \$3 for one side of a 6, 8, 10, 12 inch disc, respectively. Recordings on both sides of the discs bring \$1.50, \$2.75, \$4 and \$5.

AGAIN SUPREME SCOOPS THE FIELD!

WITH A
2"
INCH



THE GREATEST OSCILLOSCOPE VALUES EVER OFFERED!

Imagine! An oscilloscope with a brand new Cathode Ray Tube which has a large 2" screen—but costs you no more than any ordinary oscilloscope containing a Cathode Ray Tube having only a 1" screen. It's the most amazing oscilloscope value in the radio testing industry! **A Scoop in Engineering!** And what a scoop! Supreme engineers, to prove the merit of the 1" Cathode Ray Tube before incorporating

it in an instrument bearing the Supreme name—discovered that the 1" oscilloscope was too small for efficient operation!

The result was Supreme's 2" oscilloscopes—with a screen area 4 times as large as the 1" size! Plus extra, exclusive practical features that only Supreme can offer—at no extra cost to you! Write for details today.



ONLY \$49.95
\$5.50 Down
\$4.95 for 10 Months

Model 535—2" Oscilloscope

10 EXCLUSIVE features found in no other instrument of similar price!

1. The only 2" Oscilloscope at this price!
2. Exclusive RETURN SWEEP ELIMINATOR for completely removing high frequency linear sweep return!
3. Exclusive SELECTIVE RETURN SWEEP ELIMINATOR for inclusion or rejection of power supply frequency return sweep!
4. Exclusive SNAP-LOCK SYNCHRONIZER for positive interlock between linear time base and incoming signal—Range 15 cycles to over 500 k.c.!
5. Exclusive UNI-CONTROL allows separate control of two potentiometers from one shaft protrusion—Grouping of controls eliminates groping for controls!
6. Exclusive ANTIQUE BRONZE PANEL!
7. Exclusive SMALL SIZE AND LIGHT WEIGHT!
8. Exclusive MINIMUM number of PANEL KNOBS control MAXIMUM number of INSTRUMENT FUNCTIONS!
9. Exclusive "POWER ON" INDICATOR lamp!
10. Exclusive FLEXIBILITY OF CONTROL FUNCTIONS!

Model 530—2" Oscilloscope

8 EXCLUSIVE features found in no other instrument of similar price!

1. The only 2" Oscilloscope at this price!
2. Exclusive SELECTIVE RETURN SWEEP ELIMINATOR for inclusion or rejection of power supply frequency return sweep!
3. Exclusive UNI-CONTROL allows separate control of two potentiometers from one shaft protrusion on the panel!
4. Exclusive ANTIQUE BRONZE PANEL!
5. Exclusive LIGHT WEIGHT and SMALL SIZE!
6. Exclusive "POWER ON" indicator lamp!
7. Exclusive MAXIMUM FUNCTIONS with MINIMUM number of PANEL KNOBS!
8. Exclusive FLEXIBILITY OF CONTROL FUNCTIONS!

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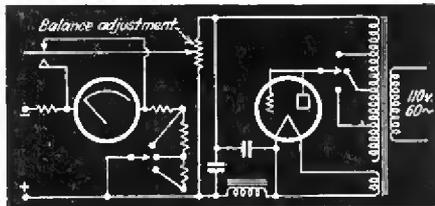
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CIRCUITS



Infinite Resistance Voltmeter

A voltmeter by Hickok designed around a d.c. potentiometer offers infinite resistance to a circuit under test. The usual vacuum tube voltmeter has a high resistance leak connecting the grid circuit to ground. Therefore a device of this type does not give a truly accurate reading. The infinite resistance voltmeter draws no current whatsoever from the measured circuit.

The voltmeter works on the principle that if two equal voltages are connected in parallel no current flows. However, if one voltage is higher than the other, current will flow. If a potentiometer is connected across the larger voltage a true balance may be obtained by adjusting the arm of the potentiometer. A standard voltmeter connected from the arm to one end of the potentiometer will then read the voltage of the circuit under test. The reading will be taken from the supply which is balancing the voltage to be measured. However, since the two voltages are equal, no current flows. The reading obtained will be the exact voltage conditions of the circuit.

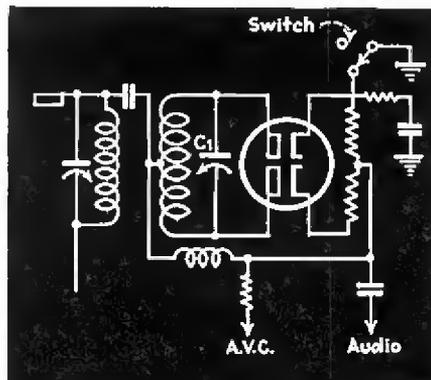
Referring to the diagram, the circuit shown is the basis for the voltmeter. One meter is used in conjunction with a suitable switching arrangement to indicate balance and also read voltage. Although the input circuit of the meter is comparatively low resistance, no current is drawn since a balanced condition is necessary when the actual readings are taken.

The balancing voltage is obtained from a built-in power supply, which operates from the a.c. line. Adequate filtering is used so that the instrument

may be connected directly to the grid of an r.f. tube without introducing objectionable hum.

Three voltage ranges of 10, 50 and 250 volts are provided by the switch S_1 . This gives ample coverage for any grid voltages commonly encountered as well as plate voltages in resistance coupled stages.

Included in the infinite resistance voltmeter are the usual ranges of a.c. and d.c. voltages at 1,000 ohms per volt. Also a rectifier type output meter as well as resistance, current and capacity ranges.



Aligning A.F.C. Circuits

The serviceman who is called upon to align one of the a.f.c. controlled receivers will have to follow a different technique. One recommended in an Aerovox bulletin is as follows:

First align the entire receiver with the a.f.c. cut out. Then loosely couple the signal generator to the last i.f. stage, the one that drives the discriminator. This may be done by bringing the output leads close to the grid cap. The signal generator should be unmodulated and tuned to the i.f. frequency.

Tune in a station and adjust for zero beat between the station's carrier and the signal generator. Then switch in the a.f.c. and retune the secondary of the discriminator transformer ($C1$) for

zero beat. It now should be possible to obtain zero beat at both positions of the a.f.c. switch. If beat signal is heard when the cut-out switch is rotated the entire process should be repeated.

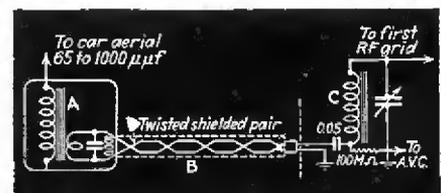
Transmission Line Auto Antenna

Coupling a car antenna to the receiver by a transmission line is a new feature devised by Arvin. The circuit, acting as a filter as well as feeder system consists of three parts: an antenna coupler, transmission line and a tuned resonant circuit at the receiver end.

The antenna coupler is designed to resonate at 500 k.c. with an antenna capacity of 75 mmf. Higher capacities will, of course, resonate at lower frequencies. Some metal insert top cars will perform quite satisfactorily although most of them have too much capacity. Energy from the antenna is impressed on the primary of the circuit. This energy is induced into the secondary and fed into the matched transmission line which is loaded with a 1000 mmf. condenser at the input end.

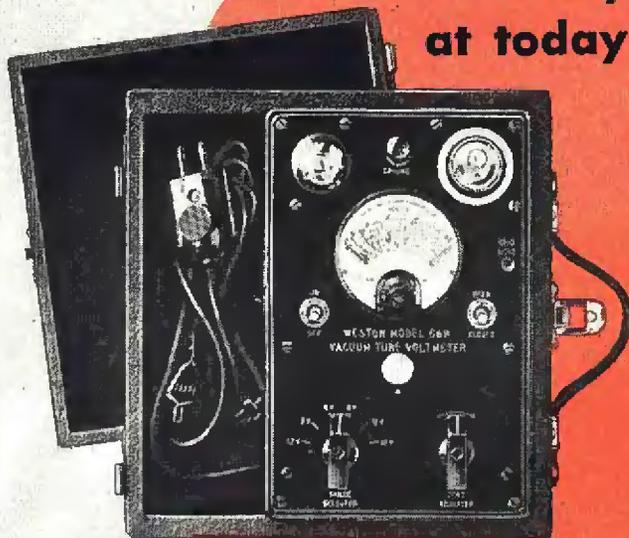
As the transmission line is of low impedance, very little loss from radiation occurs. Static pickup and car noises are prevented from entering the line by the shielding. Further, the action of the twisted pair would be to balance out any stray pickup.

The transmission line is terminated in series with the antenna coil. The capacity of the line and loading condenser have an effect on the tuning of this circuit. High-Q construction using iron core and double-pie coil design permits an overall gain of from 14 to 24 in the antenna stage.



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RIGHT—Model 771 Checkmaster . . . tube checker plus continuity tester. Has 3 voltage and 3 current ranges, and resistance ranges for point-to-point and continuity testing. Price \$45.00 net in U.S.A.



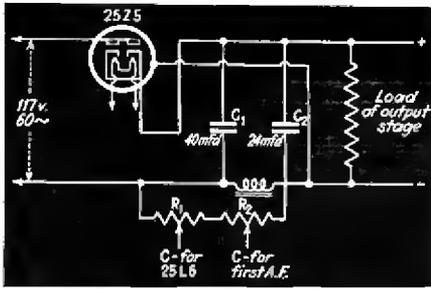
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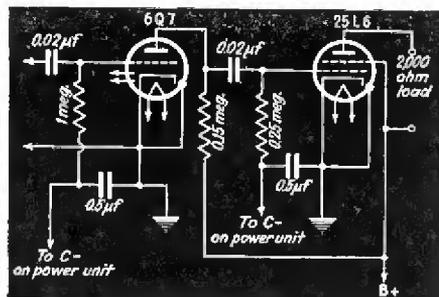


A.C.-D.C. High Output Stage

The high power sensitivity of the 25L6 permits its use in sensitive, low-cost circuits. A single 25L6 can be driven to rated output by a single 6Q7 as a second detector and first a-f amplifier. A bulletin by RCA describes the operation of the 25L6 in typical circuits.

The circuit of the power-supply unit used in these tests is shown in Fig. 1. In this power unit, R_1 and R_2 are resistors used to obtain bias voltages from the voltage drop across the filter choke which is connected in the negative side of the line. This method of obtaining bias has two important advantages. The full output voltage of the power-supply unit is available for plate and screen voltage. When the choke is connected in the positive side of the line and bias is obtained by some other method, plate and screen voltages are necessarily decreased by an amount equal to the bias. For a.c.-d.c. operation this decrease in voltage may cause an appreciable loss in power output. Other methods of obtaining bias may require the use of at least one resistor and a high-capacity by-pass condenser; the suggested arrangement requires only two resistors and a low-capacity by-pass condenser.

In the test of this arrangement, an a-f signal was fed to the grid of a 6Q7; the output of the 6Q7 was resistance-coupled to a 25L6. The bias

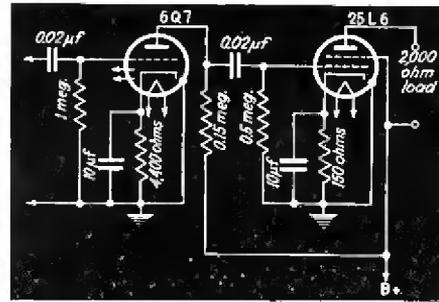


for each tube was obtained from the voltage drop across the filter choke connected in the negative side of the line, as shown in Fig. 1. The circuit and operating characteristics of the amplifier are shown in Fig. 2. With an input condenser of 40 mfd (C_1) and a power supply load of 5,000 ohms, 2.5 watts of audio is available at the grid current point. Total distortion was 15 per cent. Somewhat higher distortion

takes place when either of these values are reduced.

In a self bias test, bias for the 6Q7 and 25L6 was obtained from individual self-bias resistors, as shown in Fig. 3. As in all self-bias tests, the filter choke was connected in the positive side of the line. Hence, resistors R_1 and R_2 in Fig. 1 were not required.

In this case 1.8 watts are available with a distortion of 11 per cent. This indicates that the power output, with reference to distortion is better using choke bias than with self bias. At the same output level of 1.8 watts, choke bias develops only 8 per cent distortion.



New Tubes

24-XH A two inch screen cathode ray tube interchangeable with the 913. Overall length is $7\frac{5}{8}$ in. From 300 to 600 volts may be used on the second anode. Short persistence screen of greenish hue.

Heater voltage.....	6.3 volt
Heater current.....	.6 amp.
Maximum voltage (Anode No. 2).....	600 volts
Maximum voltage (Anode No. 1).....	300 volts
Grid voltage for cutoff.....	-60 approx.
Power per sq. cm. of screen	10 milliwatts

Deflection Sensitivity

Plates D_1 and D_221 to .14 mm/volt
Plates D_3 and D_423 to .16 mm/volt

6U7C. An r.f. pentode similar to a 6D6 but equipped with an octal base.

OPERATING CONDITIONS AND CHARACTERISTICS

Amplifier (Class A)

Heater Voltage.....	6.3	6.3	Volts
Plate Voltage.....	100	250	Volts Max.
Grid Voltage.....	-3	-3	Volts
Screen Voltage.....	100	100	Volts Max.
Suppressor.....	Tie to Cathode		
Plate Current.....	8.0	8.2	Ma.
Screen Current.....	2.2	2.6	Ma.
Plate Resistance.....	0.25	0.8	Megohm
Mutual Conductance.....	1500	1600	umhos
Mutual Conductance at -40 volts bias.....	10	10	umhos
Amplification Factor.....	375	1280	umhos
Direct Interelectrode Capacitances:			
Grid to Plate (with tube shield).....	0.010	0.010	uF Max.
Input.....	4.7	4.7	uF
Output.....	6.5	6.5	uF

OPERATING CONDITIONS WITH VARIABLE BIAS

First Detector in Superheterodyne Circuit

Heater Voltage.....	6.3	6.3	Volts
Plate Voltage.....	100	250	Volts Max.
Grid Voltage.....	-10	-10	Volts Min.
Screen Voltage.....	100	100	Volts Max.

AMATEUR NOTES

RK37 is a high mu triode by Raytheon with a thoriated tungsten filament. It is designed for use as a class "B" modulator or amplifier, R.F. amplifier or oscillator. The plate is made of tantalum and the base isolantite.

Filament voltage.....	7.5	volts
Filament current.....	3.25	amperes

Average Direct Interelectrode Capacities

Grid to plate.....	3.2	mmf.
Grid to Filament.....	3.5	mmf.
Plate to Filament.....	.20	mmf.

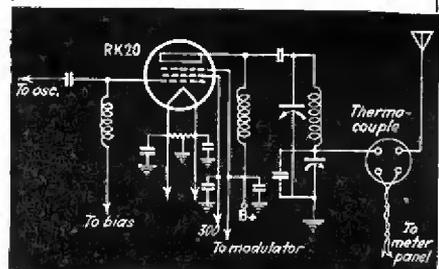
Typical Class "C" Specifications Are:

DC plate voltage.....	1,250	1,000	volts
DC grid voltage.....	-90	-70	volts
DC plate current.....	90	95	ma.
DC grid current.....	20	20	ma.
Plate dissipation.....	35	35	watts
Peak R. F. input.....	172	140	volts
Driving power.....	3.2	2.8	watts
Power output (Carrier)	78	60	watts

FIVE BAND TRANSMITTER—A power output of 90 watts on c.w. and 16 to 20 watts on phone can be obtained from a new two staged crystal controlled transmitter by Harvey Labs.

A 6L6 oscillator drives an RK20 to 125 input on c.w. Only three tuned circuits are used exclusive of the antenna. The crystal frequency is normally amplified, for outputs up to 7 mc. Above this the signal is doubled and quadrupled for the 14 mc. and 28 mc. bands respectively. Plug in coils are used throughout.

The tank circuit of the amplifier is of the impedance matching type so that any antenna or wire may be used to radiate the energy. A novel idea is the use of a thermocouple in the antenna lead at the tank coil. The meter is thus kept clear of the r-f fields and is mounted on the meter panel. The leads from the thermocouple run up to this meter. This is illustrated in the circuit diagram.



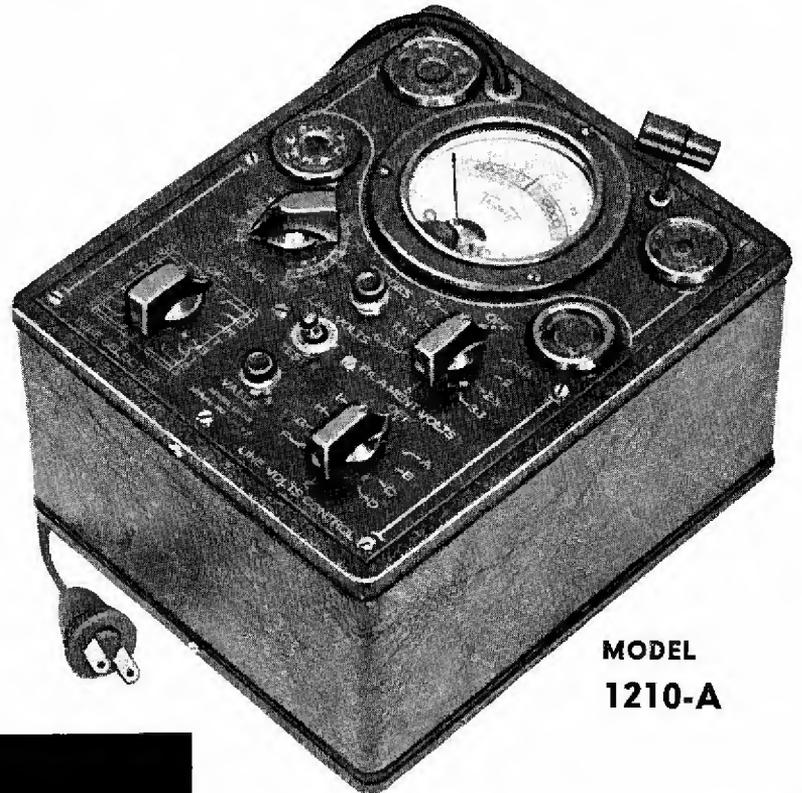
The amplifier is suppressor grid modulated. A 6F6 modulator preceded by a 6J7 and a 6C5 speech amplifier supply the necessary audio for this operation. Sufficient gain is developed for use of a crystal microphone.

Neutralization is unnecessary since the final is a pentode. Thus band changing is a simple procedure.

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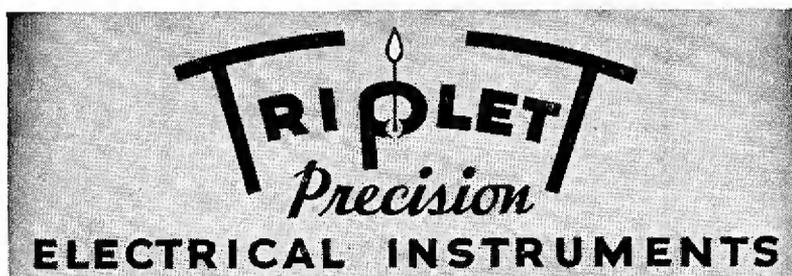
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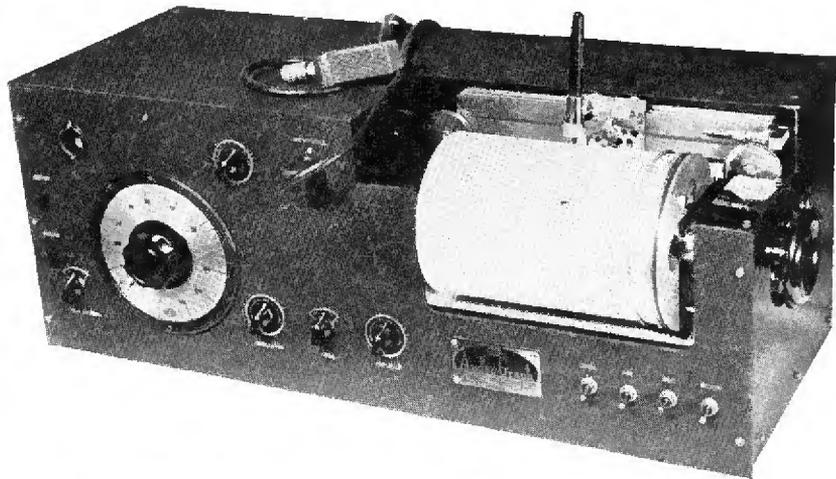
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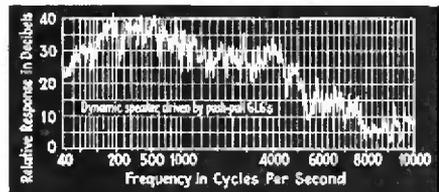


The Triplet Electrical Instrument Co.
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Without obligation please send me more information Model 1210-A; Triplet Master Unit Model
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Address
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Audio Response Recorder

To make a frequency run on microphone, loudspeaker or other apparatus necessary in the reproduction of speech or music used to be a long process. The Tobe Deutchman Corp. has designed a device that performs all the necessary functions in one operation. Variations in a speaker's output are reproduced directly on a graph as shown in Fig. 1. This curve illustrates the exact response



of a typical dynamic speaker. The short variations in output are of little consequence in a speaker since, on the average, they follow a comparatively even line. The sharp drop at 5000 cycles, however, would be noticeable.

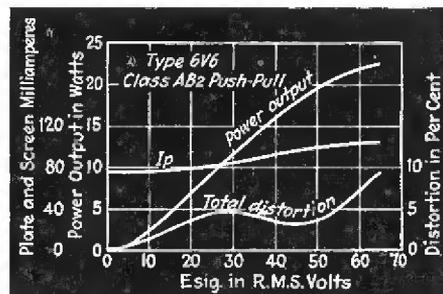
The recording instrument consists of a graph mounted on a motor-driven drum. This drum also drives the variable condenser of a beat frequency oscillator. A multicell crystal microphone picks up the sound vibration set up by the speaker under test. The vibrations are amplified and feed an electro-mechanical bridge assembly of the constant output type. The construction and operation of the bridge are such that a motor driven volume control maintains the output constant. The volume control is direct connected to a pen carriage which records the amount of unbalance resulting from the change in microphone output with variation in frequency. If the output in one instance was too high, causing an unbalance in the bridge circuit, the motor driving the attenuator and pen carriage would decrease the signal. If the signal is low, the opposite is true. The motor is of the reversible type.

By adjusting the speed of the motor which drives the recording drum, the time required for securing a complete chart may be varied between one minute and ten minutes. As a rule, a recording time of two and one half to three minutes is sufficient.

6V6 Operating Characteristics

The 6V6 is particularly adapted to portable amplifier circuits since it provides large outputs with relatively low plate voltages. A bulletin by Sylvania describes the operation characteristics.

For single tube operation a 5,000 ohm load is suitable for general use since the sensitivity and output are good. The distribution of total distortion



between the second and third harmonics is better than that obtained with ordinary pentodes. If lower percentage of third harmonic is desired, the load should be reduced to 4,000 ohms. However, there will be a slight decrease in power sensitivity and approximately 0.25 watt less power available. An increase in load to 7,000 ohms would result in higher distortion, especially in third harmonic, and the regulation of the screen current is not as good as with the lower load values.

Output values up to 5 watts can be obtained from a single tube with a

SOUND, EVERY MONTH . . .

Radio Retailing has recognized the importance of Sound Equipment in its editorial columns since the business began, periodically carrying major articles on the subject.

Because Sound is becoming more and more important to the trade we now inaugurate a regular monthly technical section on the subject, devoting this to problems of design, installation, operation and maintenance. This section will be supplemented, too, by sales suggestions published "up front."

Suggestions, contributions will be welcomed.

total distortion value of 8 per cent. These results were obtained with a plate voltage of 263 volts; plate current was 45 milliamperes. The cathode bias resistor was 240 ohms bypassed with a 10 mfd condenser.

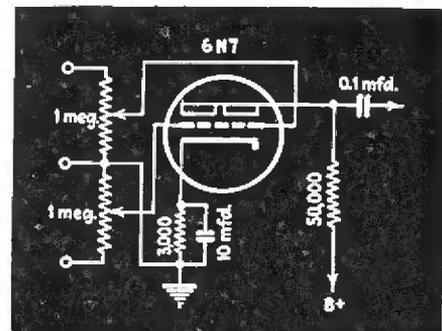
In pushpull, 22 watts output can be obtained with a distortion less than 10 per cent. Under these conditions plate and screen current were 100 milliamperes with a plate voltage of 320 volts and bias resistor of 225 ohms. Output load was 7,000 ohms.

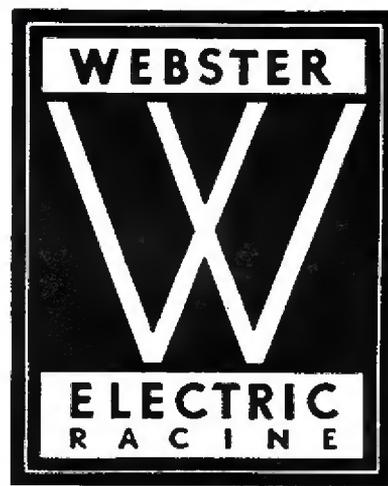
Electron Mixer

Modern microphone technique frequently requires the use of more than one microphone simultaneously. An electron mixer designed by U.T.C. engineers enables a sound man to mix or fade two high impedance microphones or pickups.

The circuit consists of a 6N7 dual triode. The plates of this tube are connected in parallel to a single load resistor. A .1 mfd condenser couples the output to the following stage.

The grids are fed separately to the arms of two 1 meg. potentiometers. Thus the input to each grid may be controlled separately. The energy impressed on either or both grids is amplified and appears across a common output network.





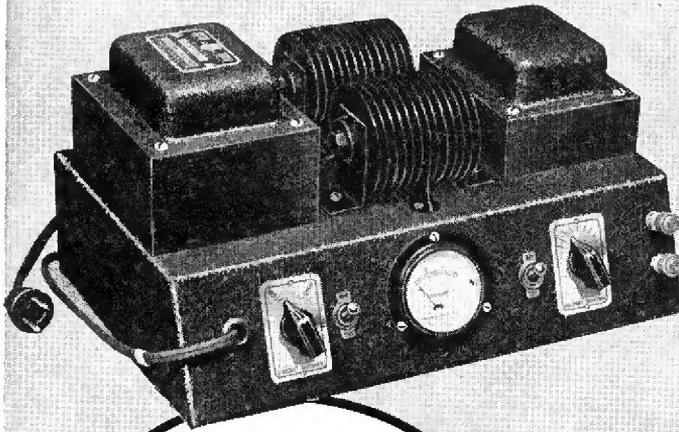
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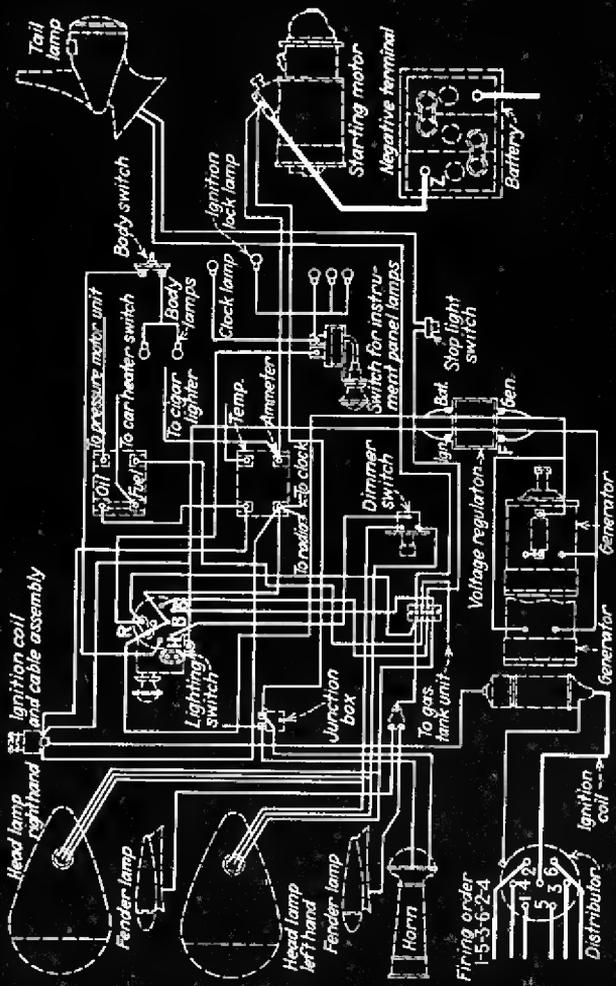
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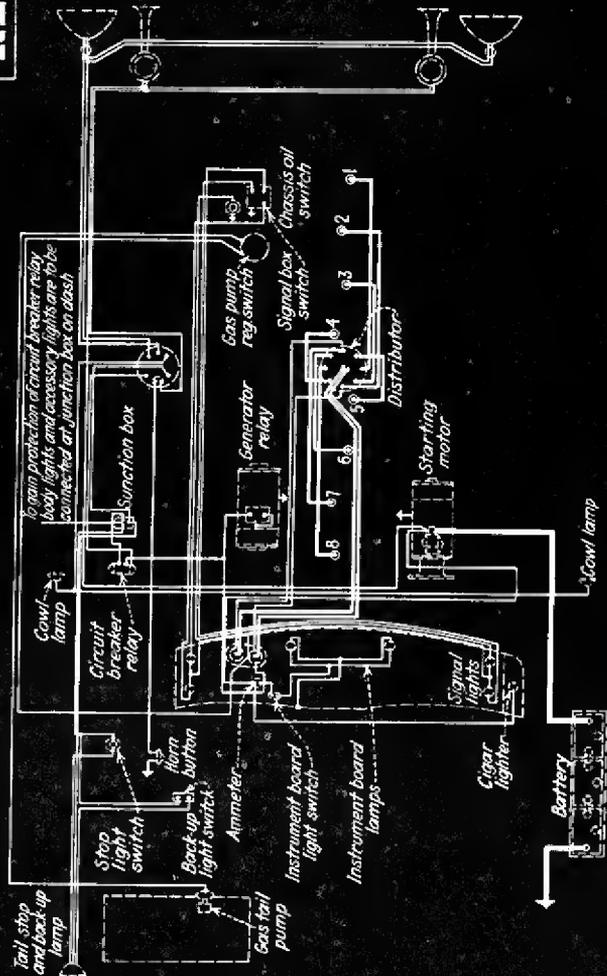
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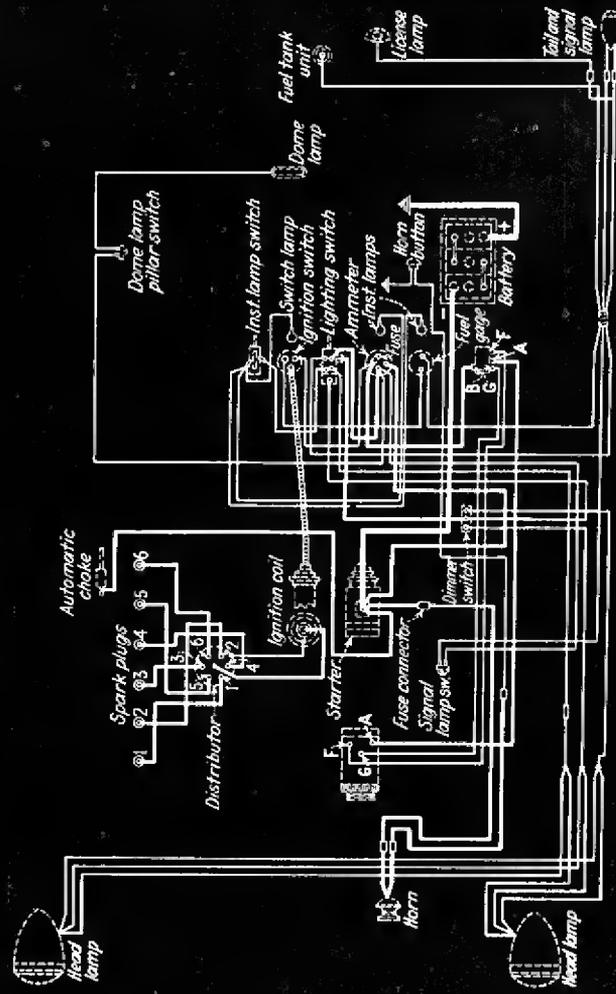
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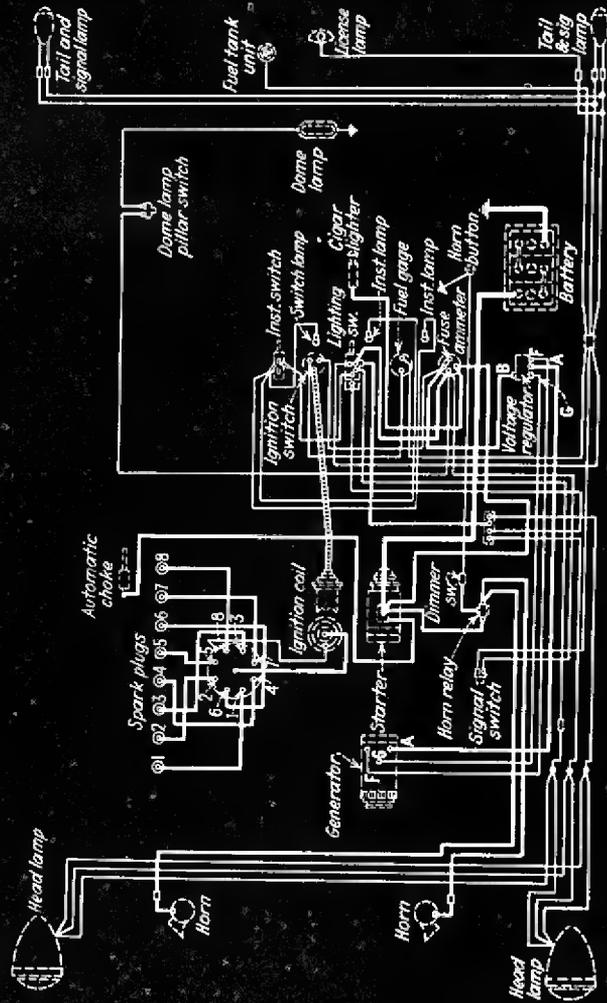


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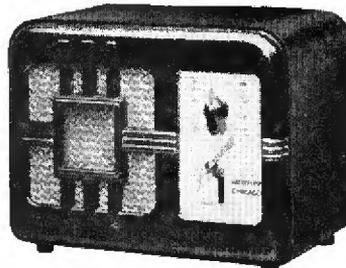
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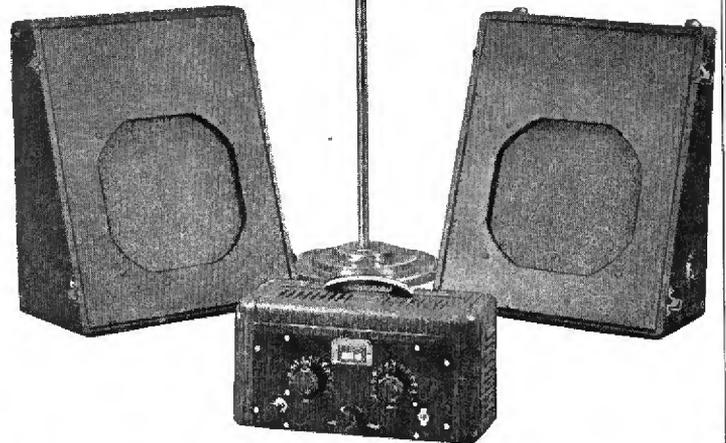
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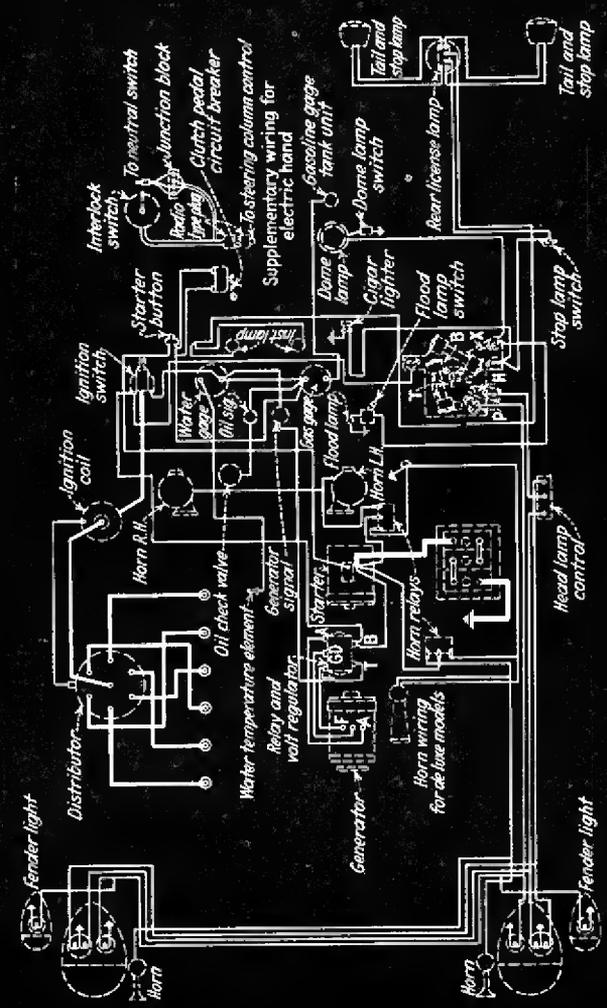
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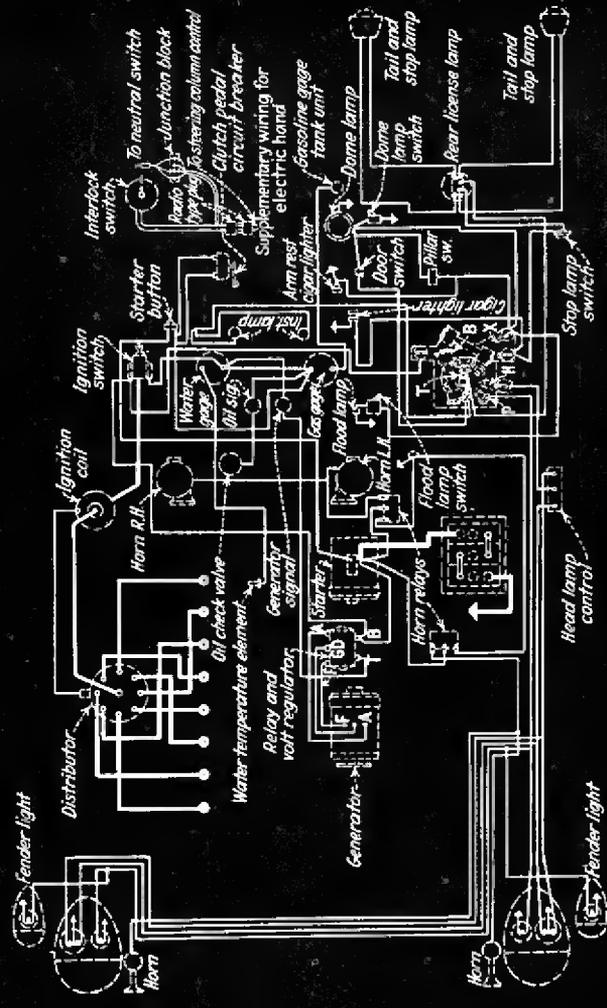
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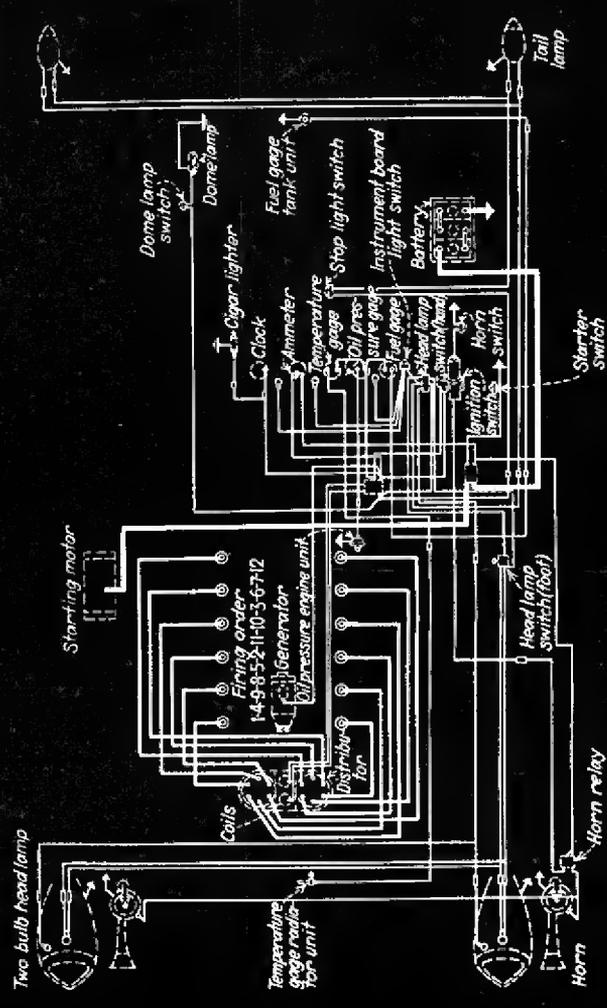


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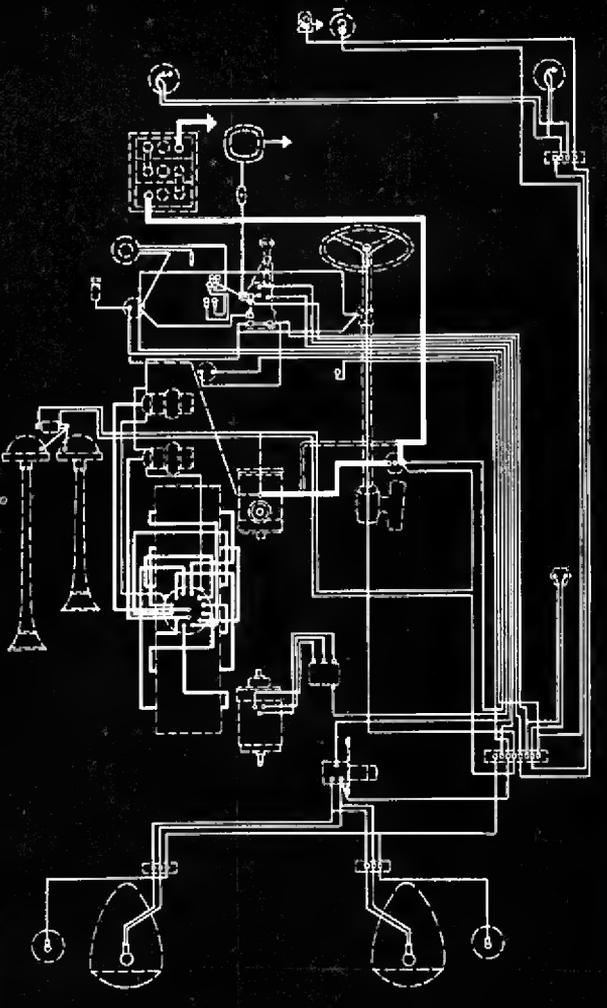


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SHORTCUTS

Testing Condensers Without Unsoldering

By George Messig

Leaky capacitors in a set always present quite a problem to the service man. It is impossible to check all these units while they are connected to their usual circuits yet, when they are unsoldered the heat necessary to melt the solder very often damages the condenser. Then too, the leads are often so badly twisted together that they break when attempting to get the kinks out of them.

A more satisfactory way is to clip one lead of the condenser, thereby eliminating the associated circuit. The unit under question can then be tested in any one of many ways. An ohmmeter or a condenser tester will indicate the condition of the condenser. To connect back in the circuit is a simple matter when a number of the following spring connectors are made up.

Procure a length of No. 16 or 17 piano wire such as used on automobile chokes. If a lathe is on hand one end



of the wire is placed in the chuck and the other allowed to rotate freely through a small hole drilled in steel post which in turn is clamped to the lathe bed. A washer and loop will prevent the wire from coming loose. Now if the lathe is started we find we have a shaft of No. 16 wire rotating freely. If the wire is too loose it can be tightened by sliding it further into the chuck jaws. We are now ready to make the connectors.

One end of a length of No. 24 copper wire is also clamped in the chuck along with the piano wire. Begin to wind the copper wire on the piano wire. The turns can be spaced by twisting two turns of the same wire around the piano wire and guiding this along as you wind. The small coil thus formed will be open just the width of the wire itself. After a foot or so is wound stop the lathe and take the coil off the piano wire. It should then be cut into $\frac{1}{2}$ in. $\frac{3}{4}$ in. lengths. These gadgets can then be slipped over each end of the clipped lead and soldered. A solid and serviceable joint is the result with no damage to the condenser.

If a lathe is not obtainable for making the connectors any one of a number of other methods may be used. A hand drill and vise would do the trick nicely. They could also be found

by hand on a short length of stiff wire. It is a good idea to keep a number of these gadgets on hand, as they are invaluable on a condenser job. This idea can also be applied to resistor networks.

Repair for Push-On Knobs

By Morris E. Skidmore

Very often the small spring inside the slip on type knob gets lost or broken. A great deal of time is lost looking for a new knob or trying to make a new spring.

A satisfactory repair can be had by breaking the butt end of a steel pen point with a pair of pliers. By placing this inside the knob and inserting on the shaft a good grip is obtained. With a little practice it is a simple matter to break the points at the desired length.

Improving Speaker Fidelity

By Leslie C. Vickery

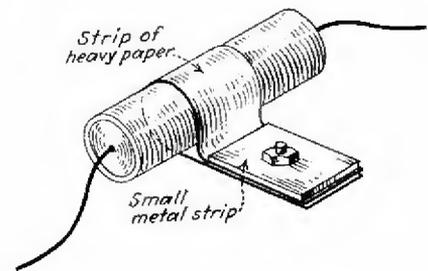
Many old speakers rattle or buzz at certain frequencies even after the voice coil is centered and everything else is adjusted. This is due to stiffening of the cone through climatic conditions.

By softening the cone a very noticeable improvement in tone and volume results. This can be done easily by rubbing the entire surface of the diaphragm with a damp cloth. Care should be exercised so as not to rub too hard or have the cloth too wet. Allow a few minutes for the moisture to penetrate the fibers before checking the results.

Tubular Condenser Mount

By S. Ray

A rigid support for tubular condensers can be made simply as shown in the illustration. A strip of heavy paper or cardboard is bent around the condenser and a hole drilled through the ends. A small screw is then slipped through this hole. Before putting on



the nut a strip of brass is placed on top of the cardboard ends to prevent the cardboard from tearing when the nut is tightened.

Different size clamps of this type can be quickly made for mounting electrolytes or paper condensers. If asbestos paper is used a satisfactory resistor mount is obtained.

Aligning Variable Selectivity Receivers

By H. D. Hooton

Automatic selectivity sets should always be aligned with the switch or knob placed in the maximum selectivity position. If no delay has been incorporated in the AVC design, it is usually the best policy to temporarily "short-circuit" the AVC resistor in order to remove the action from the circuits to be adjusted. Likewise the AFC circuit, if one is used, should be inoperative. Now connect the output of the test oscillator to the mixer control grid and peak each I.F. trimmer for maximum output in the usual manner.

The next step, leaving the I.F. trimmers and the selectivity-fidelity control undisturbed, is to bring the R.F. and oscillator circuits into their proper relation to each other and the I.F. channel, "peaking" each trimmer for maximum output as outlined above. After this has been done we are ready to check the response in the "fidelity" or broad positions. The simplest method of doing this, provided the oscillator dial can be read with a fair degree of accuracy, is to adjust the test oscillator to some point on the broadcast band, say about 1,000 kc., tune in the signal as accurately as possible on the receiver, place the control in the "medium" or "full" fidelity positions and then rotate the oscillator dial a few degrees off resonance on each side, watching the output indicator. If the adjustments have been correctly made, the needle of the meter should remain practically stationary for a degree or so each side of resonance.

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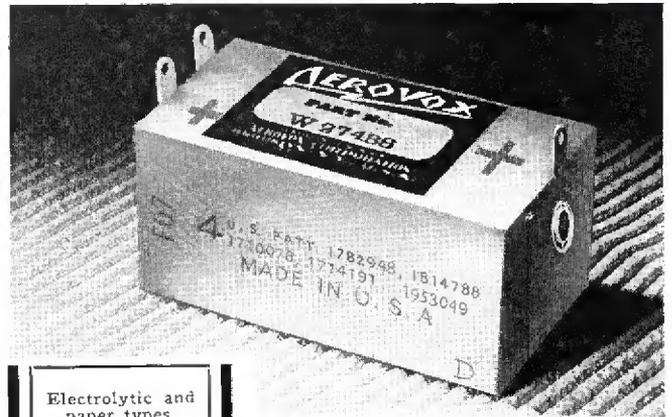
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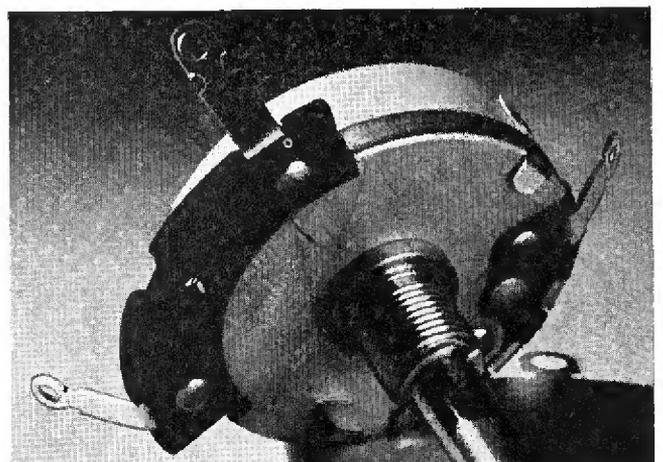
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Checking Superhet Oscillators

By Gerald Evans

When a radio comes in for service and the oscillator is suspected or if the radio appears normal but no station can be tuned in, it is advisable to first check up to see if the oscillator is operating. Very often this is rather difficult, but if another radio is available, it can be made quite easy.

Tune the radio that is in working condition to a station as near the 1500 kc. side of the scale as possible. Try to avoid one that may be mixed up with interference. Then with the dead radio turned on, start rotating its dial over its scale from about 1400 kc. to the 550 kc. side. If the oscillator is working it will cut the carrier of the station being heard as it passes it, and a whistle will be noted. If no whistle is heard it is certain that the oscillator in question is inoperative, it is hardly possible that a radio would be shielded so well as to prevent radiation by its oscillator.

The IF of the radio under test will be approximately equal to the difference between the dial readings of the two receivers when the whistle is heard, but this does not mean that it will be accurate enough to use instead of the makers rating for alignment.

Interference Sleuthing

By Anthony J. Zugel

On all my calls I carry a small sensitive five tube radio with built-in aerial. If noisy reception is encountered after I finish repairing a radio I carry the small set from room to room or basement, trying to localize the noise by the intensity of the disturbance.

Some of the most common offenders found are: defective power transformers in homes with two or more sets, leaking or intermittent shorts in condensers shunted across power transformer primaries, slipping refrigerator belts causing static discharges, poor electrical contact between refrigerator motor and base. In this last case a cure can be effected by bonding the two, eliminating the static discharge through the layer of paint insulation.

Other disturbances are caused by heating pads, electric water heaters, universal fans, sewing machines,

vacuum cleaners, oil and gas burners and their thermostatic controls, electric fish aquariums, irons, toasters and heaters. In each case the trouble was completely eliminated by a standard filter by a reputable manufacturer.

If I suspect the noise is outside the building I use the auto radio, with a special probing rod as a noise pickup. The lead to the rod is shielded. Any disturbance caused by power lines or street car noises should be reported directly to the company, in every case they have cooperated to the fullest extent.

In apartment houses where noise is most always present, I take my radio to the basement of the building, installing it near the main line switches and fuse boxes of each apartment with the radio tuned to the spot where noise is loudest. I proceed to break the circuit, one at a time, to each apartment, either with the switch or by backing off a fuse, never touching the neutral if a three wire system is used. In this way I can trace the noise to a particular apartment or circuit, and then proceed as if it were a private house.

In one instance I was called in to trace noise in an apartment building containing over a hundred apartments. Several radio men and a man from a power company said nothing could be done about it as the noise was coming from the outside. The disturbance was so heavy day and night alike that it was impossible for anyone in the building to receive any stations except locals. I installed my radio in the basement and found the noise to be originating in an apartment where I discovered a small electric water heater

thermostatically controlled used in a fish aquarium to be the source of all this noise. A filter cured the trouble.

Another case exactly like the above was traced the same way to a defective radio power transformer on the fourth floor of the building.

The resident managers in both cases were very much pleased, as they were continually getting complaints over periods of months, and it has proven very profitable to me to be able to help them out.

Aligning Checkup

By Americus Molinara

If located in the immediate vicinity of a broadcast station, it is easily possible to ascertain whether or not an all-wave receiver is properly aligned, without using any equipment. This is done by shifting to each band and listening for the harmonic of the local broadcast station. If the harmonic does not occur at the proper place on the dial then a tuning up is in order.

As an example, assume we are in the vicinity of station WPG operating on 1100 KC. When the set is shifted to the next short wave band, it should be possible to hear a harmonic of WPG at 2200 KC. In like manner a harmonic should be heard at 4400 KC. and so forth. If the harmonics do not appear at these frequencies the set needs aligning.



TUNING UP—Keith Martin of Sterchis', Knoxville, Tenn., aligning a job on the oscillograph. Since this picture was taken Keith has added a copper screened cage with gratifying results; WMOX is next door.

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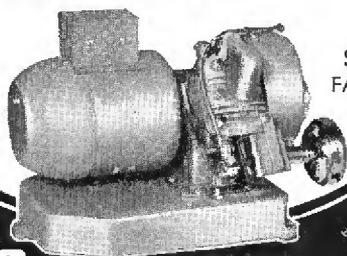
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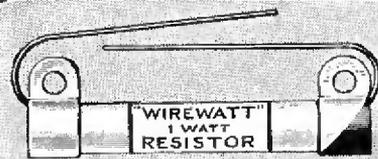
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TRICKS

AIRLINE 182

Power transformer heats badly after a few minutes operation . . . filament leads to various tubes are twisted together and bunched close to chassis, sometimes shorting to it. To test unsolder center tap of filament winding from ground and check continuity. Any reading indicates a short.

A.K.60

Inoperative . . . 1050 ohm flat wire-wound resistor located under red and yellow resistor mounting open. Cut lead where it solders to condenser terminals. Replace with 1 watt carbon unit soldered from this condenser to ground.

A.K. 317, 337, 637

No broadcast reception . . . check voltage on oscillator section of 6A8. This should be approximately 185 volts. If lower replace 30,000 ohm plate dropping resistor.

FADA 25-Z

Volume control inoperative . . . Green 20,000 ohm resistor grounding.

EMERSON 36

No screen voltage . . . shorted or leaky .02 mfd. screen bypass. Often this causes the 9000 ohm section of the voltage divider to burn. If damaged replace divider with 9000 ohm 2 watt and 27,000 ohm 1 watt.

FADA 25-Z

Weak, poor tone . . . replace .25 mfd. 400 volt condenser from ground to green resistor at center bottom of chassis with 8 mfd. electrolytic unit.

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Acoustic feedback . . . insert $\frac{1}{4}$ in. rubber grommets on screws between tone projector and speaker.

FREED MB9-90

Fading . . . replace .02 coupling condenser between 55 and 56. Vibration or tapping will cause this condenser to short.

GRUNOW 1191, 1291

Low volume, volume control ineffective except in extreme off position . . . high resistance short in control. Oil from shaft has leaked on element.

HALSON N.5.40

Burns out 25Z5 and pilot light . . . replace 25Z5 socket which has blown over to ground. Pilot light is the 2.5 volt variety.

KING 94

Dead . . . check tubular r.f. plate bypass for short. There are three condensers, one adjacent to each r.f. coil. Pitch in defective unit often bulges out.

MAJESTIC 15

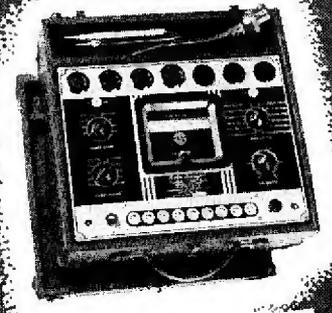
Dead . . . check .1 mfd. condenser in plate circuit of oscillator-detector. If this is shorted it burns the 2000 ohm plate dropping resistor.

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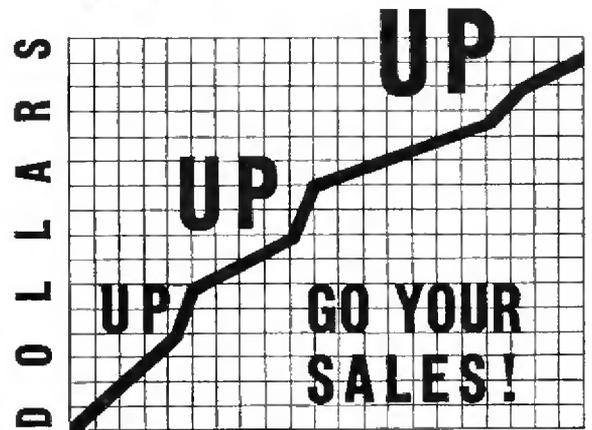
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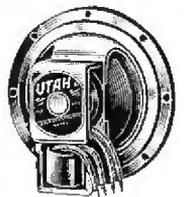
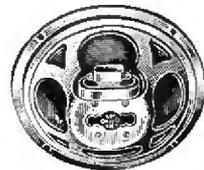
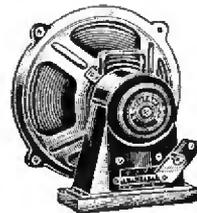
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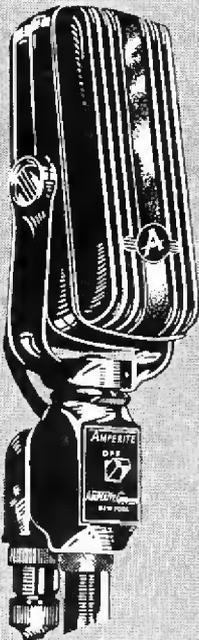
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T R I C K S

KOLSTER K23

Noisy, even when all r.f. tubes are removed . . . Clean grid leak clips and replace leaks with new ones.

MOTOROLA 80

Dead, draws high current . . . replace .008 mfd. buffer condenser from plate of 0Z4 to ground.

PHILCO 18

Oscillation over entire dial for removing grid cap on 78 i.f. set returns to normal . . . connect .005 mfd. 300 volt condenser from center lug of 3615 AA narrow bakelite condenser to ground.

PHILCO 59

Can't tune in stations, cuts out when jarred . . . tighten oscillator and i.f. shield cans nuts. Make sure there is a lock washer under each nut.

PHILCO 80

Insensitive . . . replace 240,000 ohm plate resistor. This unit has greatly increased value.

PHILCO 111, 111A, 211, 211A

Cutting off of signal followed by oscillation . . . intermittent opening of .05 mfd. condenser between cathode and low end of first detector grid coil.

PHILCO 112, 112A, 212, 212A

Oscillation and distortion when sensitivity switch snapped to maximum . . . open .5 mfd. condenser located in filter block bypassing screens of first detector and i.f.

Weak or dead . . . check 15,000 ohm resistor between minus of speaker field and chassis for decrease in value. Replace with 5 watt unit.

PHILCO 600

Fading . . . leaky twin .09 mfd. Bakelite housed condenser bypassing screen of 6A7 mixer and 77 detector. Replace with two .1 mfd. 400 volt units.

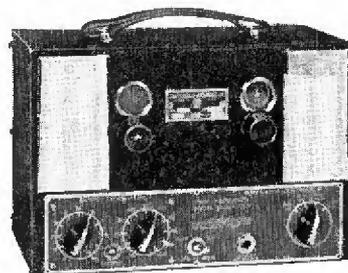
PHILCO 610

Chirping oscillation, decreases in intensity when tone control is on full . . . replace volume control.

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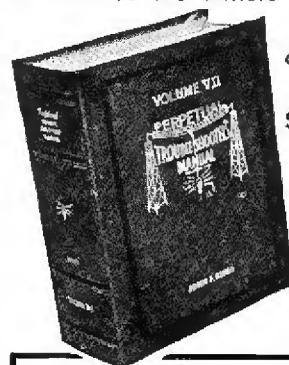
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TRICKS

PHILCO 635

When replacing tubes in this set be sure the grid cap lead of the 75 tube is inside the tube shield otherwise "birdies" will be present at one setting of the volume control.

RCA 143, 242

Periodic hum accompanied usually by distortion . . . Replace (C45) cathode bypass on first audio with 10 mfd. 50 volt unit. Also replace (C46), a 4 mfd. 450 volt electrolytic connected from same cathode to B plus.

RCA 281, 262

I.F. won't hold alignment . . . solder leads from r.f. transformer to insulated eyelets through which they pass.

Oscillation on high frequency end with sensitivity control advanced . . . replace i.f. cathode and screen bypasses.

RCA C13-2

Excessive hum level . . . open 8 mfd. a.f. plate bypass. Replace with 8 mfd. 250 volt unit, clipping red lead on capacitor.

RCA R11

Distortion on powerful locals, a.v.c. doesn't generate sufficient voltage to keep r.f. from overloading detector . . . connect 2 meg. resistor between junctions of R10 and R11 and R16 and R17.

RCA REB1

Motorboating . . . Clean condenser wipers, install .1 mfd. condensers between junction of R14 and R15. Connect 10 mfd. 50 volt electrolytic from green lead on volume control to ground. Positive foil of this condenser goes to ground.

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T R I C K S

RCA R-28, R-28 BW

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Oscillation . . . shield 6A7 tube.

SILVERTONE 42

Unsatisfactory reception between 540 and 950 kc. due to noise and whistling on weak signals . . . Ground one side of the antenna coil to the chassis. This coil is not originally grounded. An external ground to the chassis, also, takes out hum.

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Abnormal hiss on all stations except strong locals . . . poor contact on rotor wiper springs. Clean and bend for better tension and realign set. (i.f. 480 k.c.)

ZENITH 4T-26, 56

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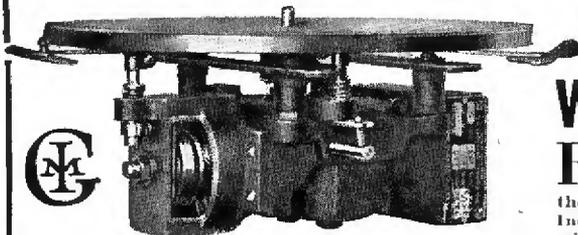
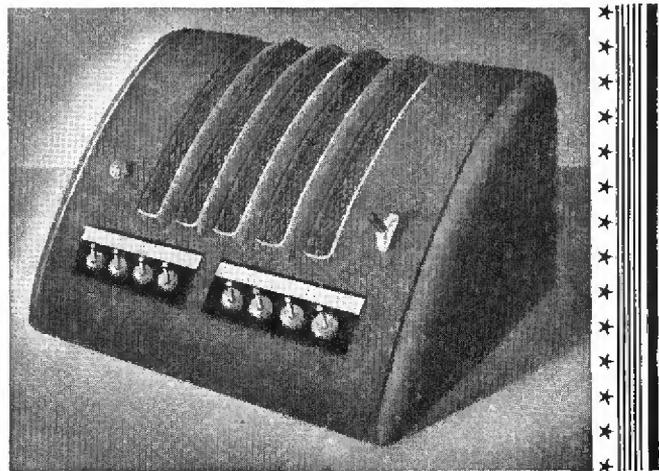
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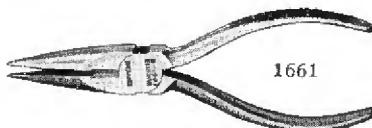
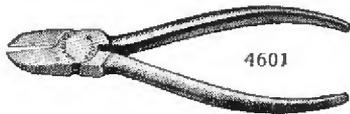
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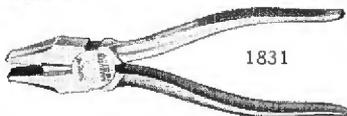
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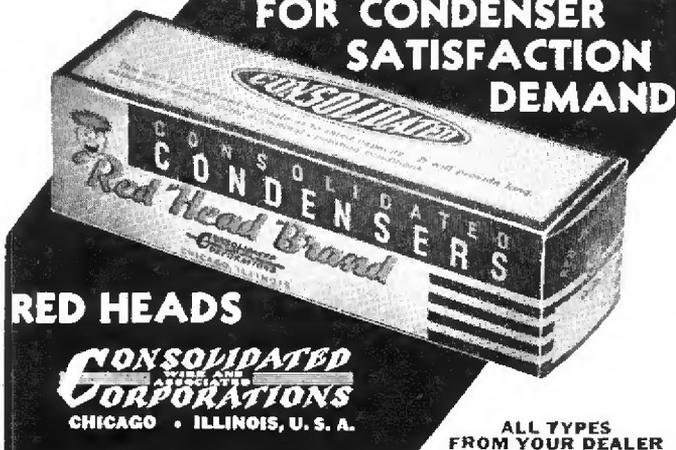
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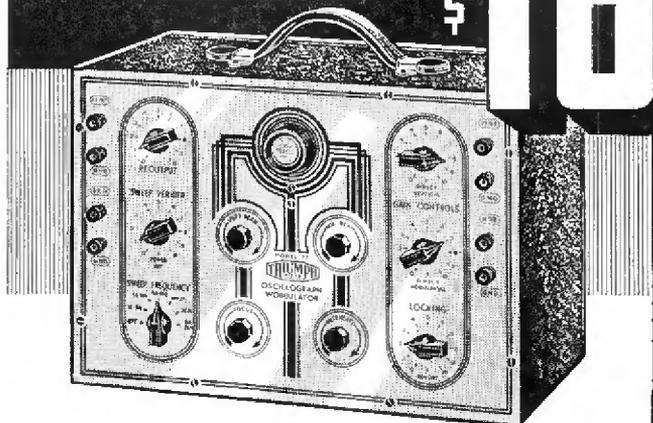
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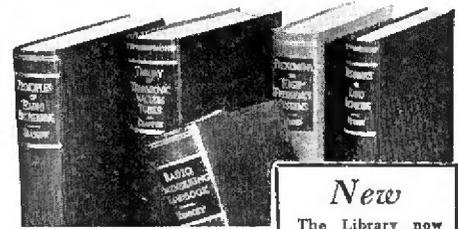
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Rely on Radolek for "Everything in Radio"

RADOLEK

601 W. Randolph St., Dept. A-6, CHICAGO

Name

Address

Serviceman? Dealer? Experimenter?

We Print Your Opinion, Too

Your position makes it possible to place your opinion about proper business conduct before your readers. It is not, however, always good to take it for granted that your opinions are always right.

I refer to your Editorial in the February issue called "Plugs," in which you give the reader the impression that Mr. Ford is wrong in his objection to having plugs placed before or after the Ford program. We beg to differ with you. Every one will try to pick the kind of company they feel most desirable and tasteful. We can well understand Mr. Ford's attitude to demand what he pays for. A full half-hour paid for should be a full half-hour given. Then the type of program the Ford Company places before the public leaves a taste of quality that the listener should be able to enjoy without being pumped full of the advertising and baloney of a cut rate store or such like. We recently checked a broadcast that was paid for by a group of dealers in South Jersey. The impression was created in our mind by the station that this 15 minute program was to follow a very popular program, 3 times per week. The moment the so-called popular program left the air a plug, as you call them, was added before the next program took over this supposed audience and I am quite sure there was little audience left after the plug was terminated. Consequently, the value of our program so far is zero as we see it.

Nor will Mr. Ford place his show room on the city dump.

DORCHESTER, N. J. DIRK GOUMA
Gouma Electric & Radio Shop

Voice From Heavener

Why don't you tell Mr. Gerald Evans of Ola, Arkansas and Mr. Arthur Risley of Richfield Springs, N. Y. what you think of their idea of home-built radio sets and let me tell them that I don't think it can be done. Sure would be grand to have a custom-built set come in for repairs with someone's pet circuit that even he couldn't even remember just how it was hooked up.

Mr. Evans chief trouble seems to be obtaining cabinets but there are two cabinet factories within seventy-five miles of him and there are two jobbers within the same distance that will sell him battery sets so cheap that he can sell them in competition to the mail-order houses and still make a fair profit. I can't see how anyone who can't sell standard brand radios in competition to the mail-order houses can sell custom-built sets.

I happen to know, incidentally, that Mr. Evans buys some of his supplies from a large mail order house that will sell to anyone and is his largest competitor.

As for *Radio Retailing*, you have a good

magazine and I am for commercial receiver discounts.

HEAVENER, OKLA. E. L. HAYES
Hayes Radio Service

Says It Can Be done

I notice that Arthur Risly would be interested in discovering a way to build radio sets for less than the ready-built jobs cost at wholesale.

Once upon a time I also had the idea that sets cost more to build than to purchase. And if Mr. Risly buys kits, as he states, there is no doubt but what it does. Really, a kit is a partially completed radio, the hardest part of the job already having been completed.

If you would make money building sets you must be a good buyer, chassis layout man, wirer, and have a complete knowledge of exactly what will be satisfactory to use in a radio. Buying the parts at the proper price is by far the small end of the job.

Close contact with the jobbers that have hot specials is absolutely essential, and when a Chicago house offers dual i.f. trimmers at 9 cents each these should be bought in quantities large enough to last until the next special. Coils must be wound, from i.f. to oscillator. Several houses are now handling cabinets at prices that appear to be less than cost of manufacture.

It is a pretty tough life, this building your own, but if you like to you can make good. But the serviceman who has the idea that he wants to build radio sets for profit only and gets no "kick" out of it will not get far in the set building business.

It takes a little money to carry sufficient quantities of materials, but not much more than to carry a stock of radio sets. As stated above, the hard part of this business is in turning out a really satisfactory set in competition with those produced by salaried engineers. However, it's up to you. It can be done.

OLA, ARK. GERALD EVANS

Sound Service Advice

The radio servicing trade has much to learn from the older repair crafts.

I came across a chap the other day who made a charge of \$1 for a three-minute job on a set. He permitted the customer to come to the rear of the shop and to watch while the set was being checked and the simple repair made. And did that customer kick at the \$1 charge! You would have thought the serviceman was a racketeer.

The moral of this little story is quite simple. I pass it on to all servicemen, for it will save them many an argument. Remember the watchmaker. He doesn't repair your watch while you wait. He tells you to come back in a day or two, or even a week. And when you get your watch back

in good working order you pay his price and like it.

There's no argument. The watchmaker may have put in five minutes or five hours. It's none of your business. The main thing is that the watch is now fixed. That's the way it must be with radio servicing in the shop.

Don't make repairs while the customer waits.

BROOKLYN, N. Y. CHARLES GOLENPAUL
Aerovox Corporation

More Noise Rumbings

Having fought for noise elimination for years while in the service business, and after reading your articles on the subject, I feel that some legislation would be helpful.

A bill has been introduced into the Pennsylvania Legislature to "require all noise-creating electrical apparatus manufactured or sold in the State to be properly filtered."

I would appreciate your comments for or against this bill, and any other help that you may be able to render, to aid its passage.

LEMOYNE, PENNA. CARL J. GRAY.

We're for anything that will reduce man-made noise, of course, and have sent many, many words over the dam campaigning on the subject. While a number of communities have passed ordinances such as you mention, none introduced in State Legislatures have so far gotten to first base and this one, in our estimation, probably hasn't a Chinaman's chance.

As pointed out in several of our articles, we believe that the time is not yet quite ripe for legislative action. The radio industry itself will have to contribute much more time, money and energy to solution of the problem before legislators can be expected to take up cudgels.

EDITOR

Suggestions Welcome

Is the "Sales Static" cartoonist also a serviceman? Or does he get the lowdown from his sales and service friends?

He sure hits the mark!
MISHAWAKA, IND. H. B. MILLER

The managing editor, who used to be a serviceman, and a salesman too, thinks them up and, frankly, sometimes has a deuce of a time keeping up with the parade. So if you have any suggestions don't be bashful.

EDITOR

Still Pulling

In looking over some back numbers and feeling an urge for some better advertising, I am writing you in regard to an article in November, 1936, "Why Good Service Can't Be Cheap."

Would it be possible to obtain copies of the article?

DEL RIO, TEX. CALDWELL RADIO SERVICE

Only by re-printing. But this is not expensive as we've had so many requests that we've held the plate longer than usual.

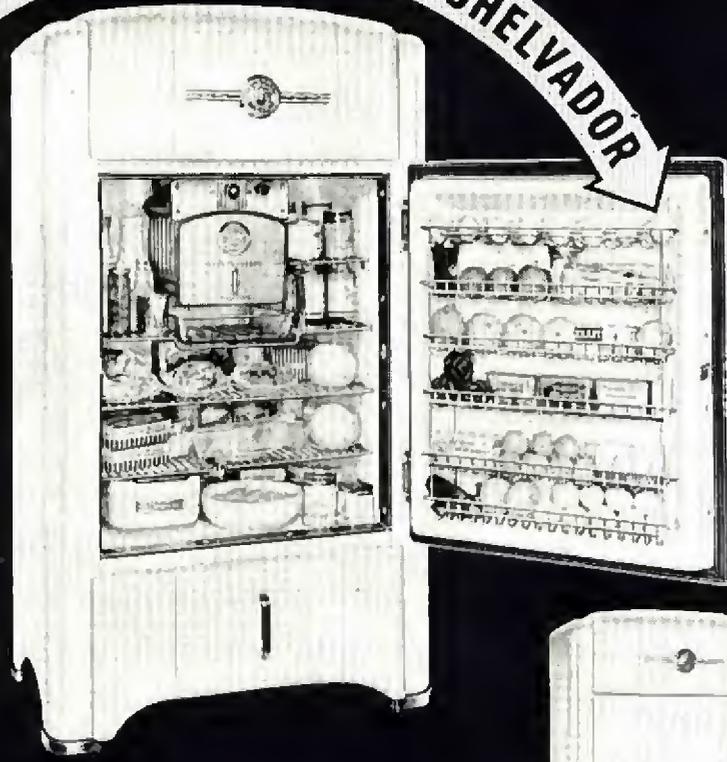
EDITOR

Sell

THE ELECTRIC REFRIGERATOR
THE ENTIRE NATION IS BUYING

THE NEW 1937 **CROSLY SHELVADOR**

THIS MUCH MORE EXCLUSIVELY IN A CROSLY SHELVADOR



Storm-shower



Electrosaver



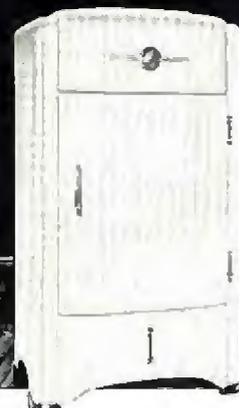
Built-In Thermometer



Beetleware Cups



Tea Tray Release



Removable Shelf Section

It's the sales-sensation of the year—this new 1937 Crosley Shelvador. Everybody's talking about it . . . everybody's buying it. "Mrs. America" has put her unreserved approval on the Shelvador because it alone offers her all the features she demands—MORE BEAUTY, MORE ECONOMY, MORE CONVENIENCE, MORE USABLE SPACE, MORE ACCESSIBILITY . . . plus the EXCLUSIVE, fully insulated shelves-in-the-door. Dealers are enthusiastic over the Shelvador because it gives them powerful selling features that can be convincingly demonstrated. It's a lot easier and more profitable to



The Crosley Electrosaver—15 Hermetic Unit—highest high efficiency, low cost refrigeration that makes more sales and creates customer satisfaction.

follow the trend than to buck it. Line up with the Crosley Shelvador and sell the electric refrigerator that everyone is buying. See your Crosley Distributor today for details of the Crosley Franchise.

Model shown above is the Deluxe HL5-71. Capacities: Net cu. ft. 7.1; shelf area 16.77 sq. ft. Features: Shelvador, Electrosaver, 15-Point Temperature Control, Built-In Thermometer, Automatic Interior Light, Stora-drawer, Tilling Shelves, Removable Shelf Section, Beetleware Cups, Crosley Crisper. Ten other standard and Deluxe Shelvador models priced from \$99.50.

THE CROSLY RADIO CORPORATION - CINCINNATI POWEL CROSLY, JR. President
Home of "The Nation's Station"—WLW—70 on your dial

CROSLY SHELVADOR

THE FASTEST WAY TO SALES AND PROFITS

IS WITH GENERAL ELECTRIC'S AUTO RADIO



AFC

EQUIPPED
AUTOMATIC FREQUENCY CONTROL

FOR

Safety Tuning

"FLICK . . . There's Your Station"

It's a hot sales feature . . . a real contribution to the DRIVE SAFELY Campaign. The driver merely turns the dial to approximately the station's dial position . . . and "PRESTO!" . . . the program comes in instantly. No dial rocking necessary to find the station's correctly tuned position.

"CUSTOM-BUILT" INSTRUMENT PANEL CONTROLS FOR ALL CARS



MODEL FA-80

Eight Metal Tubes. AFC. Compensating AVC. Class "B" Amplification. Antenna Circuit Matching System. 3-point Tone Control. 7 Watts Output. 6 1/2-inch Built-in Electrodynamic Speaker

Stations hair-lined tuned . . . At a flick of the dial!
Eyes concentrated on the road while driving and tuning!

You can really "go to town" this year with GENERAL ELECTRIC'S AUTO RADIO MERCHANDISING PACKAGE. See the assortment of FOUR new 1937 G-E AUTO RADIO MODELS, plus a big kit of SALES PROMOTION SELLING AIDS, plus a sensible plan on "custom-built" instrument panel mounting plates. It contains everything you need to speed up sales and profits.

Ask Your G-E Radio Distributor For Full Details.

FOUR G-E AUTO ANTENNAS DESIGNED FOR ALL TYPES OF CAR INSTALLATIONS

MODEL FA-61
Six Metal Tubes. 6 1/2-inch Speaker. Antenna Circuit-matching System.



MODEL FA-60
Six Metal Tubes. 6 1/2-inch Speaker. Antenna Circuit-matching System.



GENERAL ELECTRIC
Auto Radio

APPLIANCE AND MERCHANDISE DEPARTMENT, GENERAL ELECTRIC COMPANY, BRIDGEPORT, CONNECTICUT