

NOVEMBER, 1936

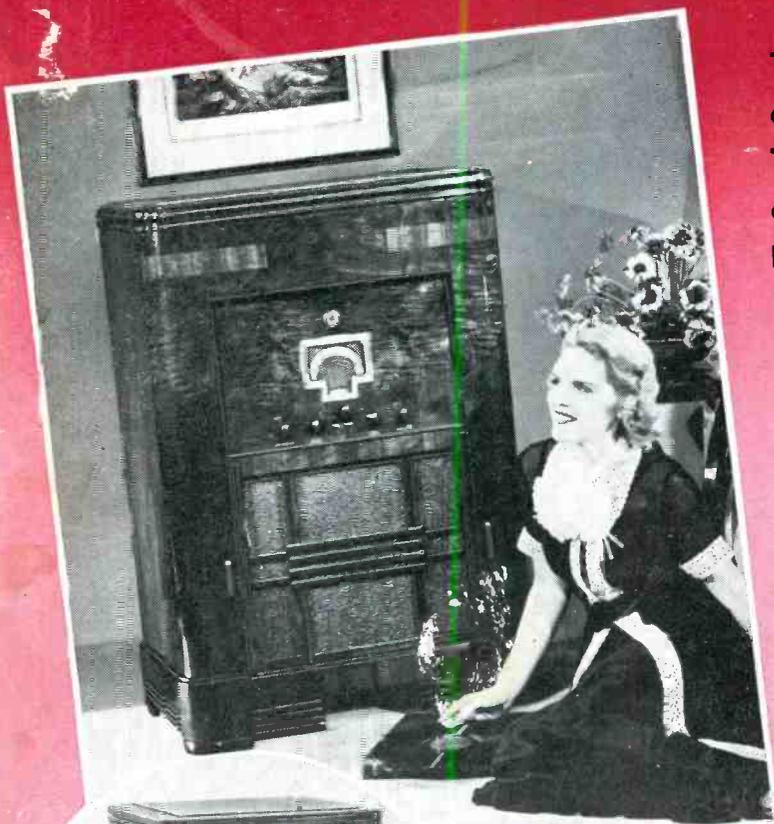
RADIO RETAILING

McGraw-Hill Publishing Company, Inc.

25 CENTS PER COPY

London and New York

HAIL PHONOGRAPH-RADIO COMBINATIONS!



These "Double Entertainment" instruments occupy center of attention at radio shows here and abroad. This widespread interest means more sales for dealers who feature RCA Victor's magnificent 1937 Phonograph-Radio models!

Human nature is the same the world over. This was forcefully demonstrated at two widely separated radio shows recently. One, the National Radio Exposition, was held in New York — the other, Radiolympia, in London. And, although thousands of miles divided these shows . . . although they differed in many respects . . . they had one thing in common.

That was the enthusiastic admiration shown for combination phonograph-radios! These "Double Entertainment" instruments were the center of attraction!

Vigorous, aggressive, sales-getting dealers are going to take advantage of this great public interest. They are going to feature RCA Victor's Phonograph-Radios.

RCA Victor's 1937 series of these de luxe instruments is complete. Ranges in price from \$69.95 for a delightful *table model* to \$600 for the most magnificent musical creation ever built! This comprehensive price range — plus the acceptance of the RCA Victor name — plus the great array of sales features — plus national advertising—means MORE MONEY FOR YOU! Get busy NOW!



RCA Victor Phonograph-Radio Combination Model 9U . . . Magic Voice. Magic Brain. Magic Eye. Metal Tubes. 9-tube superheterodyne with band coverage from 150-410 and 530-60,000 kcs. 12-inch dynamic speaker. Selector Dial. Band Spreader. Two speed tuning. Automatic Record Changer. Automatic Record Stop. Many other great features. \$250.00.

RCA Victor Phonograph-Radio Combination 5U . . . 5-tube, 2-band superheterodyne with 530-1900 and 5800-21,600 kc. tuning range. 8-inch dynamic speaker . . . illuminated dial . . . improved tone arm . . . many other great features. \$69.95.

Prices f.o.b. Camden, New Jersey. Subject to change without notice



Listen to "The Magic Key" Sunday, 2 to 3 P. M., E. S. T. on NBC Blue Network

RCA Victor

RCA MANUFACTURING CO., INC., CAMDEN, NEW JERSEY
A Service of the Radio Corporation of America

It's Not Only Quiet



It's SILENT!

Patent applied for



You Can't Hear It!

and of course... It's a

YAXLEY
Replacement
Volume Control

Perfect Smooth Taper.



Silent—soundless—you can't hear it—here's the answer to the Serviceman's prayer. Mallory-Yaxley has perfected the universal SILENT Replacement Control — and that's news you have been waiting to hear about volume controls for a long time.

The roller that doesn't roll holds the secret of silent, velvety smooth operation. With it goes a track with an exclusive Mallory-Yaxley compound (with twice the wear) that permits no hard, thin surface as on ordinary track. It means perfect, soundless contact; complete prevention of noise-making dust and dirt; with absolute electrical and mechanical smoothness.

*Pure Silver Shortcuts
for Switch Action.*



Silver to silver contacts eliminate corrosion. Silver shortcuts for switch action. Perfect smooth tapers. Low humidity and low temperature coefficients; no need to fear "damp spots" or "hot spots." Uniform characteristics. Long life. New spring wedge avoids possibility of loose terminals. Equipped with the famous Yaxley attachable switch and other exclusive universal features.

*New Spring Wedge
Prevents Loose Terminals.*



You'll want Yaxley Silent Replacement Volume Controls for every service requirement. If you haven't tried them yet, get after your distributor today. Just say—"I want a Yaxley Silent."

YAXLEY MANUFACTURING DIVISION

of P. R. MALLORY & CO., Inc.
INDIANAPOLIS INDIANA

Cable Address—PELMALLO

P. R. MALLORY & CO. Inc.
MALLORY

YAXLEY

RADIO RETAILING

NOVEMBER, 1936

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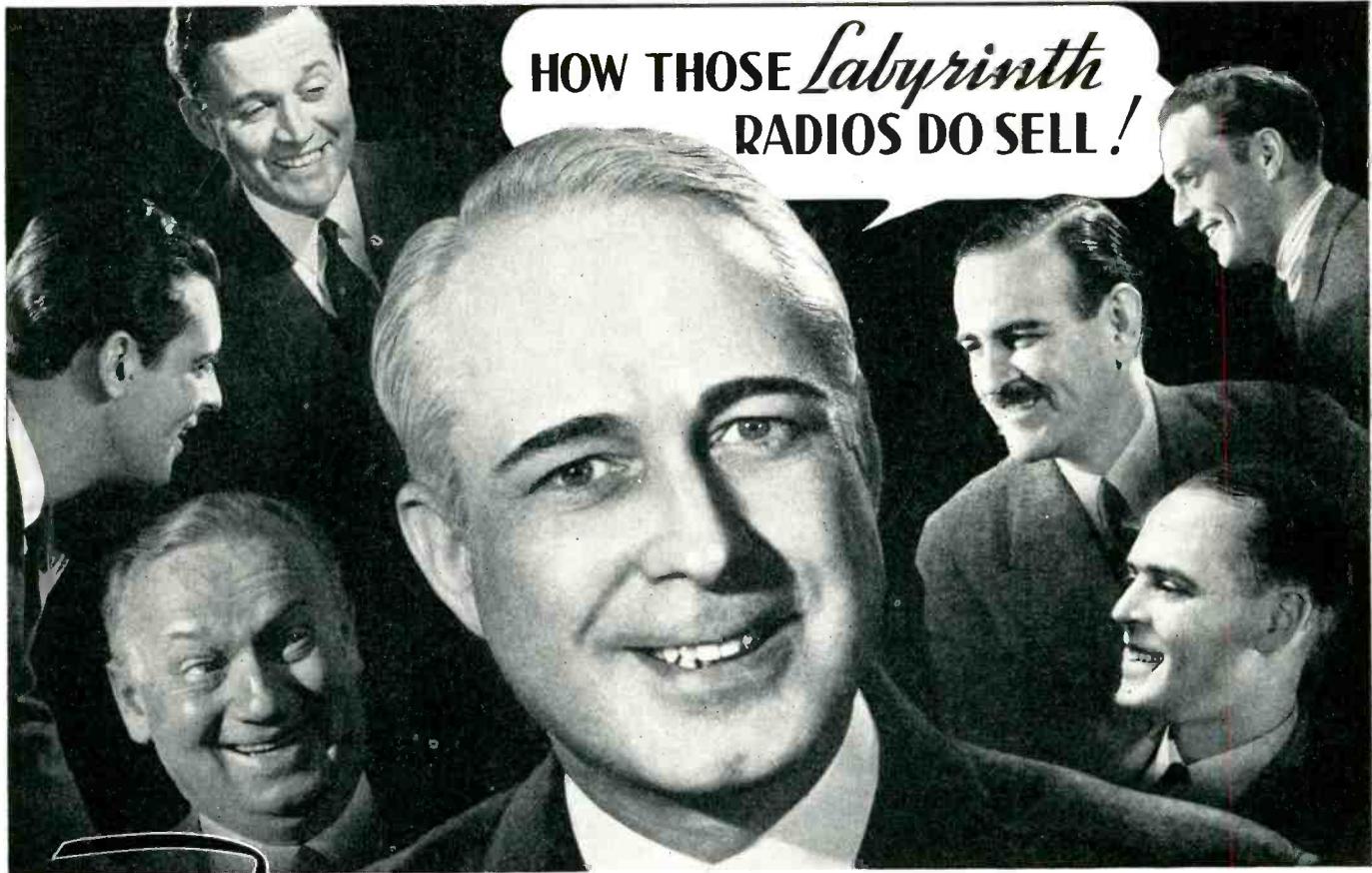
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SALES STATIC.... NEEDS REPAIRS? WHY YOU ONLY
 FIXED IT IN JULY!





HOW THOSE *Labyrinth* RADIOS DO SELL!

The Smiles tell the Story

LABYRINTH RADIOS PROVE THE SELLING HIT OF THE YEAR . . . FROM COAST-TO-COAST, STROMBERG-CARLSON DEALERS ARE SETTING NEW SALES AND PROFIT RECORDS

SMILE provoking sales are the rule with dealers who feature Stromberg-Carlson Labyrinth radios.

Here is a feature that out-demonstrates and out-sells anything the radio industry has enjoyed since all-electric sets. Here is an exclusive Stromberg-Carlson development that will prove to a customer, *in two minutes*, that his old radio is hopelessly out of date. The Labyrinth not only can be seen but explained, simply and in non-technical terms. It also can be demonstrated, with ear-startling success. *It is a proved sales-builder.*

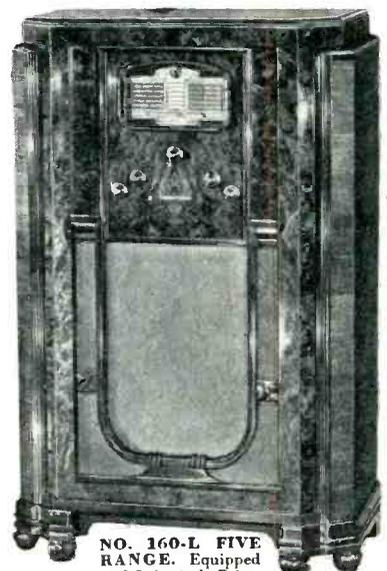
Selling-up becomes a habit with every salesman when he discovers how easy the Labyrinth Radio has made it.

"There is Nothing Finer Than a Stromberg-Carlson."

Stromberg-Carlsons range in price from \$49.95 to \$985. (All prices slightly higher in Southeastern States and West of the Mississippi.)

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

Stromberg-Carlson



NO. 160-L FIVE RANGE. Equipped with Labyrinth. Price, \$275.00

12 Labyrinth MODELS FROM \$149.50



The long, winding passageway of the Acoustical Labyrinth 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.

Tenth Anniversary



Greetings

*to those who have shared with us
in the advancement of broadcasting*

NATIONAL BROADCASTING COMPANY, INC.

A Radio Corporation of America Service

NEW YORK • WASHINGTON • CHICAGO • SAN FRANCISCO

MR. DEALER:
HERE'S PROOF!
 THAT AMERICA'S
 LEADING MERCHANTISERS ARE TURNING
 TO *Majestic*



● There are no two ways about it! The LEADERS are turning to Majestic. America's keenest merchandisers are SELLING the Majestic line in a big way. Orders are pouring in every day.

Dozens of letters like this come in every day:

"I was a Majestic dealer in the old days. Please rush me the facts about your new Selective Dealer Franchise."

Dealers are soliciting us. And no wonder!

Territorial Protection . . . Plus PRICE!

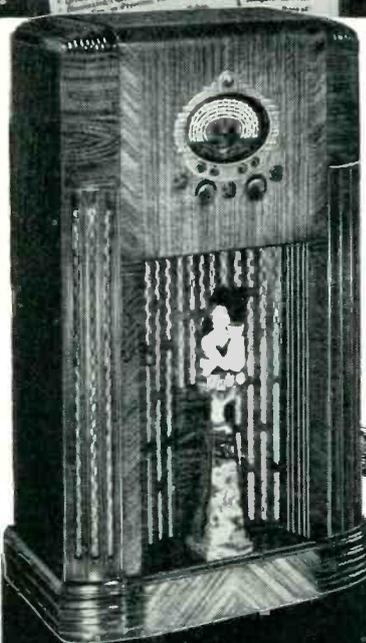
Positively NO destructive price cutting is possible. Majestic's *Selective Dealer Franchise* limits distribution to only a few dealers in each territory. In some towns we appoint only ONE dealer. Better still, Majestic not only offers you absolute profit protection . . . but a higher profit margin as well.

More Than 5,000,000 Majestics Sold!

More than 5,000,000 Majestics have been sold . . . and millions of satisfied prospects are open for replacement sales. These people will be hard to switch to any other brand. More than \$29,000,000 have been spent in advertising Majestic . . . a goodwill backing that staggers the imagination.

Get the FACTS about Majestic's revolutionary merchandising plan . . . the sweetest set-up in the radio field. Let it help you get *immediate sales* . . . *faster turnover* . . . *greater net profits* . . . with a growing sales volume.

Get the FACTS! Phone or wire us NOW!



Majestic gives your customers every important NEW scientific feature, plus additional exclusive improvements. 15 super-powered DeLuxe models competitively priced.



Majestic RADIO & TELEVISION CO.
 600 WEST ADAMS ST. CHICAGO, ILL.
 FACTORY: MARION, INDIANA NEW YORK OFFICES: 915 BROADWAY

RADIO RETAILING

NOVEMBER, 1936

O. FRED. ROST, Editor

BROADCAST the BROADCASTS

FOR THE RADIO INDUSTRY, the recent political campaign served to drive home a lesson that none can afford to forget, namely, if we want to get the most out of the business we are in, we must help to broadcast news about the broadcasts.

Radio receiving sets as such merely are so much wood and glass and metal; they are an inanimate, inarticulate mass of materials, which of itself would remain silent forever. Their conglomerate collection of gadgets can spring into activity, can bring forth voice and music, in fact the whole scale and variety of sounds, at the touch of a button only because somewhere those sounds are put on the air in receivable form. If there were no broadcasting, radio sets would be worth about fifty cents apiece net in scrap.

During the recent political battle, more extensively than ever before, radio was used as a tool of the campaigners. In their editorial columns newspapers announced radio speeches, printed radio speeches, discussed radio speeches. From hundreds of platforms speakers referred to radio speeches of others and advertised those yet to be made. In the streets sound trucks and posters advertised forthcoming radio talks. In other words, through the spoken and printed word coming broadcast events were effectively and continuously being advertised to thousands.

IT IS TOO SOON TO APPRAISE intelligently the extent to which radio dealers cashed in from this temporary but tremendous increase in the use of radio sets. However, many responsible dealers, contacted by *Radio Retailing* within forty-eight hours after election, reported jumps in the sales of radio sets and replacement tubes

that averaged 50% and ranged all the way up to 100 per cent more than any comparable period.

Of course, a political campaign like that of 1936 cannot occur oftener than every four years but, fortunately, the radio industry does not need to look to political sources for programs it can publicise.

EVERY HOUR OF EVERY DAY, year in and year out, the air is supercharged with programs. During the first six months of 1936 the National, Columbia and Mutual networks alone collected over 28 million dollars from responsible advertisers for the privilege of using broadcasting facilities.

The programs thus regularly broadcast include concerts, operas, educational lectures, baseball, football, hockey games, races, prize fights, dance music and entertainment, all features that are known to enjoy a vast public following.

Those broadcasts are susceptible to regular promotional sales building effort and as such they deserve to attract the best merchandising effort of dealers, distributors and manufacturers throughout the year. And when forthcoming broadcasts involve famous talent or events of extraordinary interest correspondingly intensified effort should be expended to build up the public's desire to listen in.

Broadcasts are the very life blood of the radio industry. They are the most vital factor in giving it life and indispensable in keeping it alive. The industry cannot exist without them and it cannot grow unless broadcasts provide the motive power.

Broadcast news about broadcasts to your public, merchandise the programs like you merchandise goods. Then watch your sales grow.

LOOK AT THAT. . . .
**WOW! TONE PROJECTOR
and
TURRET SHIELDED CHASSIS**

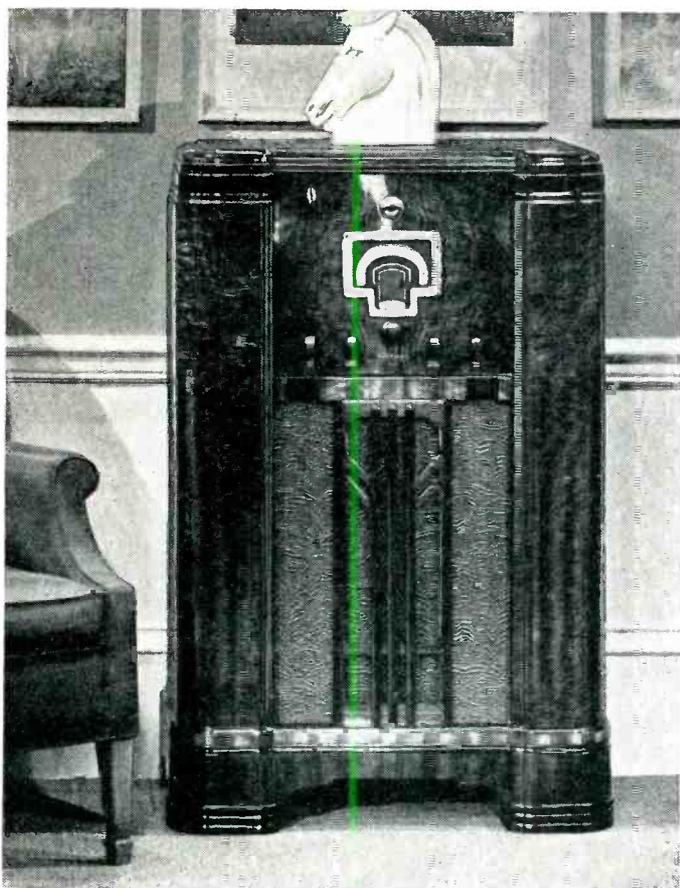


⊙ Fairbanks-Morse exclusive Tone Projector and Turret Shielding are only two of more than a score of new improved features found only in F-M radios. These new features are winning extra sales for Fairbanks-Morse radio dealers. The model illustrated, 72-C-2, retails for \$69.95 f.o.b. factory. Others, \$19.99 to \$149.95. If you are interested in extra profits, write us about the F-M radio franchise. Fairbanks, Morse & Co., Home Appliance Division, 2060 Northwestern Ave., Indianapolis, Indiana.

FAIRBANKS MORSE
Get the facts about Fairbanks-Morse
C. I. T. non-recourse finance plan
RADIO



RCA Victor celebrates NBC's 10th Anniversary *with the greatest radio values in its history!*



★ RCA Victor-NBC 10th Anniversary Model 10K . . . has famous Magic Voice, Magic Brain, Magic Eye, Metal Tubes, 150-410 to 530-60,000 kc. band coverage, phonograph connection, two-speed tuning, band spreader, selector dial, super-fidelity speaker and several other fine features. A great RCA Victor value at \$150.00.

Tie in with it by featuring magnificent RCA Victor-NBC Anniversary Models and gain the benefits of this great newspaper and broadcasting program!

Elaborate plans for the celebration have been made by both RCA Victor and NBC. "RCA Victor-NBC Tenth Anniversary Models" are going to attract nation-wide attention. NBC is putting on a gigantic nation-wide prize contest during which 5 of these models will be awarded to winners each day during the contest period!

The Magic Voice Contest created an unprecedented demand for Magic Voice models. A continued barrage of RCA Victor advertising—over the air, in the magazines, and in the newspapers—will still further increase the demand for RCA Victor—radio's greatest value. If you are not one of those already aboard the RCA Victor profit wagon—get aboard now.

Remember, in demonstrating the "RCA Victor-NBC Tenth Anniversary Models" to your customers, that these fine sets are designed and engineered by the same skilled craftsmen who supply broadcasters with most of their equipment!

Listen to "The Magic Key" every Sunday,
2 to 3 P. M., E. S. T., on the NBC Blue Network



RCA Victor

RCA Manufacturing Co., Inc., Camden, N. J. • A service of the Radio Corporation of America



**No Worry
over
Installation Problems**



P. R. MALLORY & CO., Inc.
MALLORY

**Replacement Condensers
are Universal in Application**

Mallory *HAS* solved the question of universal application—and now 69 Mallory Replacement Condensers service 100% of all sets using electrolytic condensers.

Mallory provides practical universal mounting features for both round can and carton type condensers. Mallory has eliminated completely the need for splicing leads. Mallory has produced universal application for a line of humidity-proof, surge-proof, temperature-proof condensers of greater efficiency and smaller size—a quality combination that simply cannot be duplicated. Only Mallory has all these points of superiority! And with it all, Mallory offers a free service to service men that is the finest help ever devised for practical field servicing—the Mallory Condenser Service and Replacement Manual.

**20 Minutes of Reading
will Yield Big Dividends
in Time Saving**

Give 20 minutes to the reading of 12 pages in the Mallory Condenser Replacement Manual and save yourself hours of servicing time. That means more profit and satisfied customers. That means quick solution of the knotty problems.

Thousands of service men have written us . . . "Sure do give satisfaction" . . . "Your parts are 'tops' with us" . . . "Best by far—no jobs bounce back" . . . "The Manual is a real guide" . . . These are only fragments of enthusiasm, but they tell a mighty story of Mallory quality.

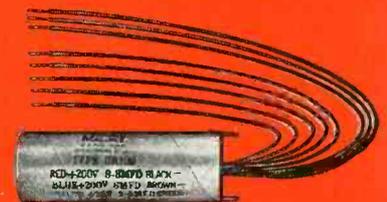
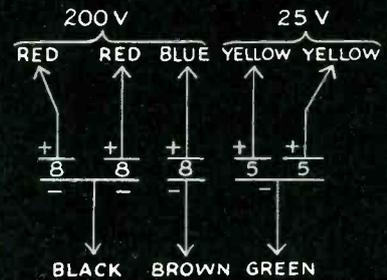
Ask your distributor about Mallory-Yaxley—today. And if you haven't received your Mallory Condenser Manual, write us—today! We'll send your copy free.

*Two examples of new Mallory
Universal Replacements*



U. R. 189

NOTE: UR 189 = UR 188
EXCEPT FOR CARTON



U. R. 188

P. R. MALLORY & CO., Inc.
MALLORY

P. R. MALLORY & CO., Inc.
INDIANAPOLIS INDIANA
Cable Address—PELMALLO

YAXLEY

November

1 9 3 6

THE RADIO MONTH

ELECTION BOOM

Everybody was interested in radio speeches. Sets were turned on from early morning until late into the night. Millions listened in and radio dealers cashed in millions (of dollars). Some retailers ran short of tubes, others were stripped of stock of certain model sets. We saw one dealer sell three sets—total \$192—in less than half an hour; another in a small mid-western city had the biggest weekly sales total in 15 years; October sales of a large Chicago store doubled the 1935 figure. Repairmen were kept busy—some had to press extra men into service. The radio business booms when all the newspapers are boasting interest in radio programs.

SOBS FOR SPIFFS

Get the crepe ready and make the coffin because before long the radio industry is going to witness the official and legal burial of prizes, "spiffs", bonuses, "push money" and elaborate cruises or joy rides. Those bad trade practices are going to be taboo under the merchandising reform plan that was recently adopted by the Set Division of the Radio Manufacturers Association—while in consultation with the Federal Trade Commission. More of that anon.

RURAL MARKETS

According to the Edison Electric Institute, during the first six months of this year 71,243 additional farms received electric service, bringing the total up to 860,000. In October nearly \$30,000,000 was loaned or earmarked for additional extensions. Funds have been allocated for projects in Georgia, Illinois, Indiana, Montana, Ohio, Okla-

homa, Virginia, Minnesota, that will add another 7,500 farms. By the time the 1937 crops are harvested there will be over 1,000,000 highline electrified farms in this country. What a whale of a new market this progress in rural electrification provides for radio sets and companion lines of appliances. See that you get your share of that new business.

NOT SO BAD

We visited a wide-awake radio, refrigerator and music dealer in an Indiana town last week. His store was no more than average in size, the store interior only mediocre, the show window displays positively punk, but—his October sales volume was *three times* that of October, 1935, and he ascribes this tremendous increase to three things, namely (1) more and better outside selling, (2) selling bigger sets, (3) concentrating on three lines instead of scattering sales effort over 6 different lines. We wondered what his sales might have been if he had been a more aggressive merchandiser.

WHOLESALEERS

Recently when the Radio and Tube Committee of the National Electrical Wholesalers Association met, it made two recommendations that deserve the support of the whole industry. The first of these urges that distributors should encourage dealers and service men to use standard parts. That's sound merchandising because in the long run no one ever made money on gyp parts. The second is a plea that manufacturers bring out fewer set models. The committee believes that 80 per cent of the total sales of sets represent only 25 percent of available models. The other

seventy-five per cent of models sell in dribbles and score only twenty per cent of the sales. What a pile of money manufacturers, distributors and dealers could save if sales effort could be concentrated on fewer models.

A GOOD SHOW

At Milwaukee they had a radio show—operated by local distributors and dealers. It was a wow—as a show and a money maker for the exhibitors. Sales at the show in most cases more than paid for all the expenses and the prospect list that was built up is going to keep the exhibitors' salesmen busy for weeks and months to come.

CHRISTMAS RUSH EXTRA

Big corporations are pouring hundreds of millions of dollars into the laps of stockholders and employees in the form of extra dividends and extra bonuses. That extra money should make extra set sales—thousands of them—if radio dealers will put extra steam behind their sales and advertising effort and—if they build up extra stocks to meet that extra demand.

You lose your whole profit every time you lose a sale. Order your extra supply of sets now.



EDITOR

MILWAUKEE FIGHTS

MAX MULLER
Purchasing Agent

Berger Brothers Brewery
MILWAUKEE, WISCONSIN

November 15, 1936

Radio Distributing Co.,
100 Main Street
Milwaukee, Wisconsin
Gentlemen:

Please deliver to the bearer, our employee, Herman
Schmidt, the radio he selects, at our usual company
discount.

Very truly yours,

Max Muller
Purchasing Agent

INDUSTRIAL DISCOUNTS

- Radio and appliance dealers warn presidents of big plants employee discount buying skims normal profit from 20 per cent of city's retail sales, strains distribution system
- Electrical contractors, fuel merchants, grocers, furniture dealers and hardware stores join drive

By Tom F. Blackburn

SCENE—Any old “Down East drama”: (“Woo-o-o-o”, goes the wind outside the little cottage.)

Old mother—“My, what a dreadful night it is to be out in. See how the snow dashes against the window pane.” (Sock a little more of that white confetti, boys.) “Why, oh why, did you ever drive our darter away with that purchasing agent? I am sure no good will come of it.”

Old father—“My daughter, humph. Don't mention her name to me! She's made her bed and now she can lie in it.”

(Stage directions—bang, bang, bang at the door.)

Old father—“Who in tarnation is that? Open the door.” (Waw, goes a voice outside.) “Look, maw, somebody has left a baby on our doorstep.”

Familiar to every gaslight theatergoer is the age-old scene of the father who feels his children's doings are none of his business. In Milwaukee the Wisconsin Radio Refrigeration and Appliance Association has borrowed this time-tested dramatic theme for the purpose of driving home to presidents of big corporations that sooner or later their indifference to industrial selling is indeed going to put a baby on their own doorstep—give their own dealer organizations something new and strange to worry about.

Milwaukee, a city of 578,249 population, has about 85 radio dealers in

its Association. Beginning with the depression, complaints started to come in on industrial discounts. Louder and louder grew the squawks until in October, 1935, there was one vast crescendo of belly-aching. At that time a polite little letter of protest was sent to the presidents of 200 leading institutions employing 75 people or more. It made about as much noise as beating on a fur cap with a lamb's tail.

“The thing grew until a fifth of the retail radio business was slipping away from legitimate dealers,” W. F. Seemuth, of Real Radio Company, explained.

“My guess would be that fully \$500,000 worth of radio a year was bought through industrial channels. If not, the customer used the fact that he could go to his purchasing agent as a club over the dealer. Plainly we were dealing with a condition and not a theory. Milwaukee has approximately 200 plants, each employing from 75 up to 5,000 people. There are 94,769 employees, according to Chamber of Commerce figures. Multiply this number by \$1,000, the average salary, and you find \$94,769,000 in the pay envelopes of workers in firms big enough to have purchasing agents.”

Whether through motives of keeping wages low or desire to do favors, it cannot be said, but with the last year the buying by purchasing agents for employees spread amazingly. Last summer when there came rumors of drought one firm bought carloads

of groceries for its people wholesale, thereby knocking any number of grocery stores out of legitimate profits. Another house bought thirty fans for employees. A corporation got seventeen refrigerators for people on its payroll. Furniture, automobiles, coal, in fact, any number of things totally unrelated to the factory's normal function, were ordered by purchasing agents. Jobbers dared not refuse to take these courtesy orders lest they be punished by discrimination on bigger sales. As a result the purchasing agent, running hog-wild, threatened to upset the entire retail distributing structure.

"Now it so happens that nearly all of these manufacturers have their own dealers selling their products," Howard L. Ashworth, executive secretary of the Association, explained. "They wouldn't like it a bit to have their particular dealer short-circuited out of normal profits. While perfectly willing to see the butcher, the baker, and the candlestickmaker out of luck, it never dawned on them that the other fellow might strike back by doing the very same thing to them."

Hurts All Business

So an executive committee headed by F. W. Greusel, president of the Association, decided the time had come to go over the heads of the purchasing agents and put the situation before the presidents of these large corporations. They decided to show the top men just what these shinnanigans were leading to. In short, they decided to put the baby on the president's doorstep and make him conscious of the sin his family was committing.

A series of letters is now being sent out by the Association telling this story. As *Radio Retailing* goes to press the Electric League, the Electrical Contractors Association, the Fuel Merchants Association, the Retail Grocers Association, the Retail Furniture Dealers Association, and the Retail Hardware Dealers Association of Milwaukee are steaming into action with a barrage of similar letters. If the presidents of the big organizations do not get the idea before long, it will be because they cannot read.

"About 25 responses were received during the first month of our mailing to 200 firms," Mr. Ashworth relates. "Of these 25 presidents or general sales managers, some 24 pronounced themselves in accord with us, and agreed to take action to stop their

purchasing agents. The 25th man said that he could not see where his firm was doing anything different than the department stores were doing by selling to their clerks. One hundred seventy-five company heads are still to be heard from, and so the campaign goes merrily on."

Toughest nuts to crack are the firms manufacturing for other manufacturers. They have no dealers and are not menaced by any threats to check through that sort of channel. However, the people they sell to do have dealers, and the Association proposes to carry on until they can finally be reached by the right parties.

That most top executives are reasonable once they are acquainted with the situation, is evidenced by the following letter received by the Association from the Lakeside Bridge & Steel Company. In it Paul Coddington, the president, says:

"It has never been the policy of this company to make wholesale purchases of merchandise for employees to the detriment of the local merchants.

"On special occasions we have bought some particular article for an employee but the sum total of these purchases seldom exceeded \$500 in any one year. As a rule we discourage this purchasing through the company because of the nuisance in handling and also for reasons set forth in your letter.

"You may be sure we are as much interested as you are in keeping legitimate persons in business."

Five Forceful Letters

Five letters have gone to presidents of large industrial concerns so far. Dated September 7, September 14, September 21, September 28 and October 5, these are herewith printed in their entirety:

* * *

1 . . . and so hundreds of merchants closed their doors because they "just couldn't keep on".

And the community as a whole suffered. Big factories and industries, because of the inevitable cycle of business, suffered along with the little fellow.

It all came about because of an earnest effort on the part of the industrialist to be a "good fellow". . . . and in due course of time it threatened to "kick back" . . . a sort of "bite the hand that's feeding you" proposition.

It grew to such proportions that

the leaders in the various industries, the civic minded folk, and the Chamber of Commerce organizations took notice and sat up nights figuring a possible solution.

YOU have that solution in the palm of your hand. We'll tell you more about it . . . later.

* * *

2 A few days ago we sent you a rather alarming letter.

We did that purposely to impress you with the seriousness of a situation that is slowly but surely "squeezing out" thousands of merchants throughout the land.

And right here in the Milwaukee area an increasing number of merchants are feeling the pinch of competition resulting from the fact that thousands of employees of great industrial plants are "buying at wholesale" thru their employer's purchasing department.

This organization appreciates the altruistic motive that prompts and permits such practices.

Yet, viewed in a broad, constructive, civic light, that same altruism, which sooner or later results in closing up these various merchants who cannot possibly compete on that basis, reverts back to unemployment, bankruptcy and the other attendant evils which add to your tax and relief problems.

Surely . . . that condition merits your attention and a closer study of the economic reactions of such a policy.

Won't you kindly give this some thought?

* * *

3 At a recent meeting of our organization . . .

several members (small as well as large merchants) got up to complain bitterly about a form of co-operative buying at "wholesale" that, if continued, will cause them to go out of business.

They mentioned names . . . big industries, whose employees were buying everything from foods to refrigerators at wholesale.

Not one . . . but dozens of plants throughout the city, were, in the most kindly spirit, helping their employees procure these vital necessities at a price that leaves the independent merchants "out in the cold".

Co-operative buying of this type

(Please turn to page 50)

FIGURES

RADIO RETAILING'S MONTHLY BUSINESS BAROMETER

SALES BY TYPES

Sampling a sufficient number of dealers from coast to coast to obtain a suitable average "Radio Retailing" finds that as it goes to press 42 per cent of the radio receivers being sold at this time are table models, 52 per cent are consoles and 6 per cent auto-radios.

It is further determined that 86 per cent tune in the shortwave bands while 14 per cent receive broadcast band stations only.

FACTORY FIGURES

Frank A. Hiter of *Stewart-Warner* advises that 209 per cent more radio receivers were sold by the company during the nine months ended September 30, 1936, than during a similar period of 1935. Unit refrigerator sales showed an 88 per cent increase. At the present time the radio division is working at capacity production, in two shifts, in anticipation of a continuance of the sharp upward trend.

Crosley reports that its radio assembly lines will continue at or near capacity through the current quarter up to mid-December in order to handle the high rate of distributor re-orders. An unusually large backlog of unfilled orders is on hand. Due to ready sale of several larger and more costly models in late September the margin of profit obtained by the factory is somewhat better than in 1935. Refrigerator sales are destined to reach a new high.

H. W. Burritt of *Kelvinator* says 316,629 refrigeration units were shipped during the fiscal year ending September 30 as compared with 240,340 units for the cor-

responding period last year, an increase of 31.7 per cent. E. V. Walsh informs us that the company's oil burner unit shipments during the same period showed a 202 per cent increase.

R. I. Petrie of *Leonard* reports an increase of 44 per cent in refrigerator unit shipments for the fiscal year ending September 30.

J. R. Bohnen of the *American Washing Machine Manufacturers' Association* tells us that shipment of household washers broke all industry records in August by totalling 173,678 units, topping the record of last March by 4,539 and exceeding August, 1935 by 20.5 per cent. The total for the eight months of 1936 is 1,204,227, which is 30.56 per cent above the same period of 1935. Ironers shipped in August totaled 16,440, compared with 14,018 in August, 1935, an increase of 17.2 per cent. The eight months' total was 119,428, 27.55 per cent above a similar period of 1935.

Says Walter M. Schwartz, Jr., vice-president and sales manager for *Proctor & Schwartz*: "Sales are 358 per cent ahead of 1935 and production is up 307 per cent. Our Roast-Or-Grille, introduced recently, is largely responsible for the increase but all appliance sales are ahead."

Earnings of \$332,046 against a net profit of \$47,481 for the fiscal year ending September 30 is reported for *Universal Cooler* by F. S. McNeal, president and general manager. Net sales for the year total \$5,248,813. The substantial net profit increase was the result of greater volume shipments by all divisions of the company.

David Sarnoff, president of the *Radio Corporation of America*, releases the following figures relative to income and surplus of the parent company and all its

42%	Flashier table-model cabinets
38%	More conservative table models
34%	Flashier console cabinets
66%	More conservative consoles
44%	Larger table model chassis
41%	Smaller table model chassis
62%	Larger console chassis
24%	Smaller console chassis
51%	More tubes in table models
43%	Present number of tubes
62%	More tubes in consoles
26%	Present number of tubes
60%	Large dials
28%	Flashy dials
51%	Colored dials
24%	Conservative dials

—Oct. Checkup

service divisions for the third quarter of 1936 and the first nine months of the year: The statement shows a net income of \$1,083,604 for the third quarter, ending September 30, representing an increase of \$571,617 over the corresponding period of last year. The net income of \$2,847,384 for the first nine months of 1936 is an increase of \$46,261 over the corresponding period of 1935.

SERVICE CENSUS

The Department of Commerce, Bureau of the Census, preliminary report on service establishments for the year 1935 includes data on 8,250 radio repair shops. Total receipts are given as \$14,360,000. Active proprietors and firm members are listed at 8,653 and full and part time employees as 2,252. Salaries and commissions paid employees (proprietors excluded) during the year totalled \$1,495,000. Of this, \$1,238,000 went to full-time employees and the remaining \$257,000 to part-time men.

Fifty per cent or more of the revenue of concerns covered by the Census was from service. If less than 50 per cent of a firm's volume was in merchandise it was included in the retail trade figures shown in the box on this page.

NBC REPORTS RECORD SALES

National Broadcasting Company's gross network time sales in September topped all previous records for this month, reaching \$2,886,637, 33.4 per cent over September, 1935.

The first six months of 1936 show an increase of 60 per cent in NBC national spot and local revenue, as compared with last year. The overall non-network revenue of all U. S. stations rose 19 per cent during this same period.

	NUMBER SURVEYED	SALES (1935)	PERSONNEL (full & part-time Inc. Proprietors)	PAYROLL (Excluding Proprietors)
RADIO and APPLIANCE STORES	14,026	\$371,603,000	71,356	\$73,063,000
RADIO STORES	4,309	\$ 57,406,000	10,321	\$ 7,484,000

SOURCE—Preliminary U. S. Summary, U. S. Department of Commerce, Bureau of the Census, Census of Business, 1935, released October, 1936.

O N E - S E T - P E R - H O M E

THAT trinity of fundamental factors which even the Phoenician traders of the pre-Christian era recognized as basic requirements in the proper consummation of any business transactions, namely quality—quantity—price, still is considered as the indispensable foundation upon which radio dealers and distributors must plan to build their business if they wish to be successful.

At least you may be sure, if you happen to talk with E. Alschuler, president of *Erla* and *Sentinel*, that sooner or later he will lead the conversation back to one or the other of that trio of fundamentals. Then he will proceed to parade his proofs to show that the radio industry is particularly in need of putting it and the two other props to better use if it wants to maintain a suitable foundation and grow as quickly and soundly as it deserves—and should.

Quality

Talking of the first factor—quality—Mr. Alschuler promptly goes to the core of the trouble. He says, "It is too easy for anyone to get started in building radio sets. All one needs to acquire is a screwdriver, a soldering iron and a small loft to work in."

He contends that radio sets which have such haphazard beginnings will but rarely give proper satisfaction even in the hands of the ones who built them. As far as pleasing the innocent and but little tinker-minded public is concerned, those loft-made sets just ruin many good sales prospects for dealers who sell sets that were scientifically designed, properly assembled, carefully inspected and then sold by and through legitimate channels.

And, in his opinion, this quality problem ties right in with the equally serious one of price. He says, "The natural sequence has been an unstable condition of prices, with the result that not only the buying public but also the manufacturers, jobbers and retailers generally try to see how low a price they can get rather than to keep the quality factor in mind first."

Price

"It is often said," continued Mr. Alschuler, "that Henry Ford was a benefactor of mankind because he suc-

WHEN E. ALSCHULER, president of the **Electrical Research Laboratories, Inc.** and **Sentinel Radio Corp.** discusses any topic related to the radio industry, he does so with a background of experience that started when radio was in its infancy. He has been in the business almost ever since the first sets were put on the market; he has seen the industry suffer its inevitable growing pains, and has helped it to clear some of the worst hurdles.

He has been on both sides of the fence, a maker of sets and a seller, so that the problems of getting sets produced and finally getting the public to buy them have been his to meet and to solve.

The suggestions Mr. Alschuler makes for sounder policies on price and quality, and particularly his bold proposal to aim at getting many instead of only one or two sets into a home, are well worth serious consideration

ceeded in making available satisfactory means of transportation at very low prices. If that same reasoning is followed through, it would be proper to assume that the supplier of radios at low prices is also a benefactor of mankind.

"This would be acceptable to me in every sense, if quality of the product were given at least equal consideration along with price, but from my own observation during more than ten years as a manufacturer of radio sets, there are too many makers and sellers of radio sets, who are actually seeking an absence of quality.

"They reason that by providing an only partially satisfactory set at a cheap price the purchaser will not keep it long and then bring it back so that then they can make the sale of a higher priced set, while incidentally allowing for the cheap set what was paid originally for it, or crediting that amount as the first down payment, if it's an installment sale—

"That kind of sales building has too many dangers and pitfalls for anyone who is interested in building up a lasting reputation for quality and honesty, because in offering and actually selling radio sets that do not give satisfactory performance there arises the possibility of creating costly

dissatisfaction and perhaps permanent dislike for radios."

Quantity

Then the interviewer asked, "What about that third factor, this question of quantity? What is the outlook for sales, how near are we to the mythical saturation point, how in your judgment, should the radio industry proceed to build either new or broader markets for sets?" That query released some observations which every maker, distributor and dealer might well pass on to his entire sales force.

"As far as old man 'Saturation Point' is concerned," said Mr. Alschuler, "I do not think that we have to fear him at all for the present. In fact, if we succeed in getting the industry more closely and cooperatively organized, we will not need to think about the saturation point for a long time to come.

"For instance, I think that we all are making a mistake when we think about just *one* radio set in a home, and we are still entirely too modest when we get behind the movement to get *two* radios into a home."

"Of course in extremely small homes, small apartments and under certain other conditions, *one* set may

IS NOT ENOUGH

By gearing itself to sell two or more
the industry can push its satu-
ration point far into the future

says

E. Alschuler

President, Electrical Research Laboratories,
Inc., and Sentinel Radio Corporation

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

be ample, but what about those large, two and three story homes in the suburbs, the large farm houses, the big apartments? What about the hundreds of thousands of homes where the installation of an oil or gas burner or an automatic coal stoker has released valuable space to make a recreation room for the home folks and visitors, which is just crying out for another radio set? What about the children's playroom, the various bedrooms, the kitchen, the laundry, the servants' quarters and—last but not least—what about the bathroom?

"In other words, we should urge three, four, even five, radio sets where the size of the home warrants it, and think no more about doing so than does the plumber who urges and sells several bath rooms, or the decorator who sells curtains for each room. It's just a case of gearing the whole industry and every salesman in it up to going out after more-sets-per-home business and I have no doubt whatsoever about getting it."

The interviewer asked Mr. Alschu-

ler whether he thought that the time is here when radio-set manufacturers should broaden their line to include models that are especially designed for particular locations, such as the bed room, the play room, the kitchen.

"That," he replied, "is something that will come in time. We have witnessed in recent years a tremendous upswing in the use of color in the home. The women, our home-makers, are today more color conscious than they were before and color harmony has been introduced into every room including the kitchen. I see no reason why in time we should not have radio sets in special cabinets that in shape and color fit into the decorative scheme of the bed room or kitchen just like we have furniture, rugs, draperies and in the case of the kitchen the refrigerator, gas and range, washing machine provided in finishes that harmonize with their surroundings."

"But," he concluded, "before we get to that, we must stop being too modest and sell the public on the idea that one set in the home just isn't enough."

If you were to ask Alschuler whether he has any hobbies, he would probably tell you that his hobby is RADIO—and mean it. But he is not adverse to using the airways whenever radio business can furnish the excuse for a flight.



10 YEARS OF CHAIN

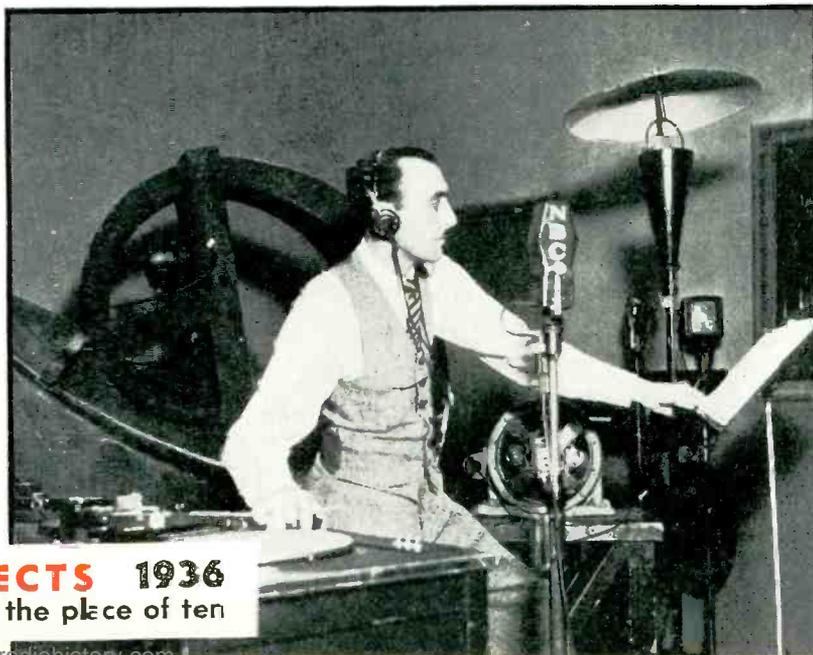
As the National
Has Ascended So



RADIO SET

N.B.C. CLIENT

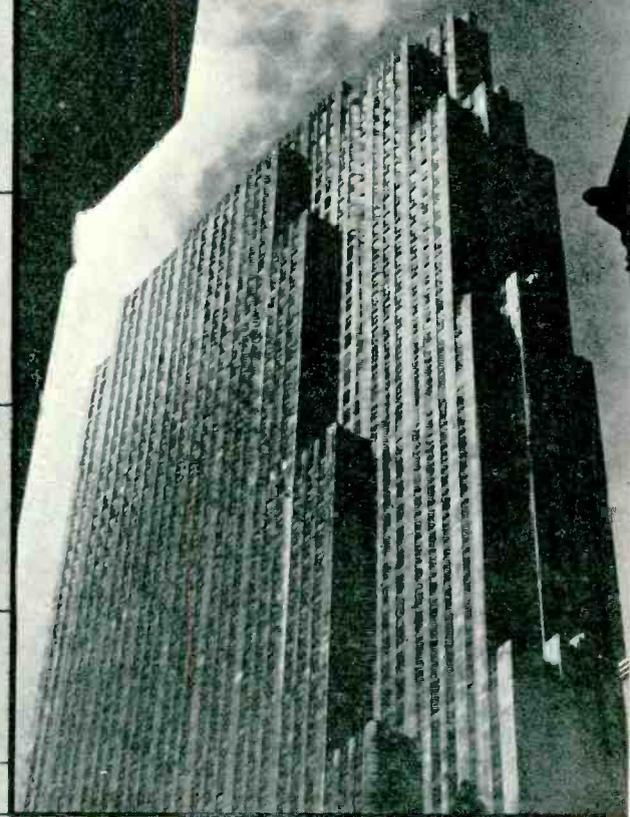
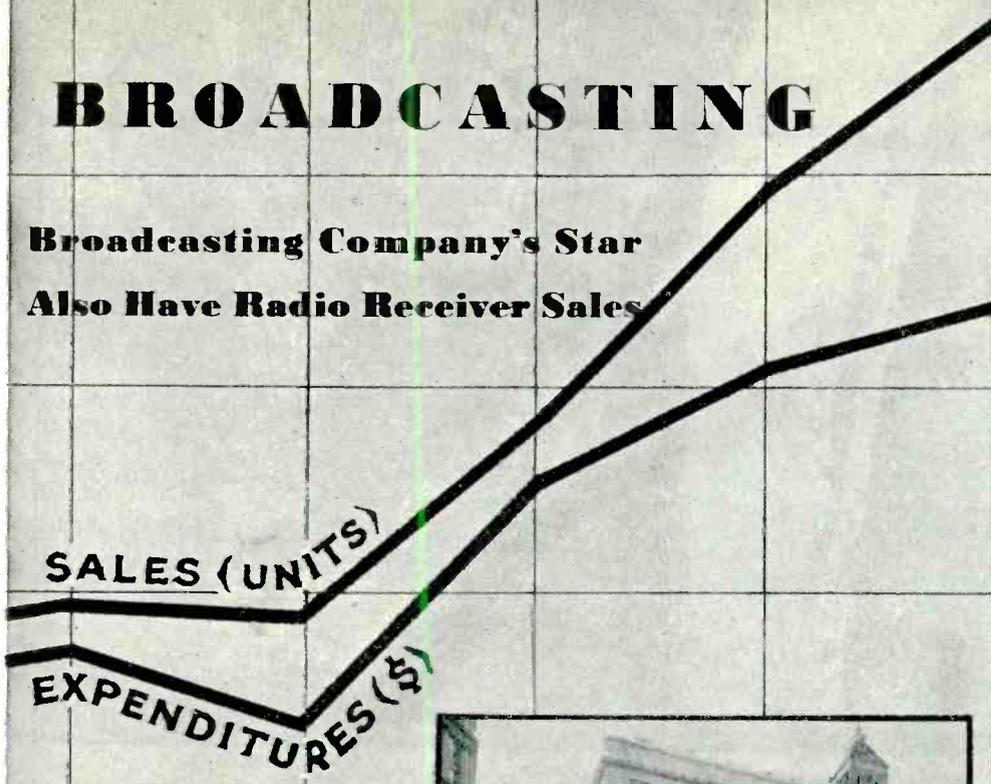
1926 **ARTIST** 1936
Styles, Helen Jepson's and microphones



1926 **SOUND EFFECTS** 1936
One man and a machine take the place of ten

BROADCASTING

Broadcasting Company's Star
Also Have Radio Receiver Sales



1926 **BUILDING** 1936
From a few rooms at 195 Broadway to Radio City

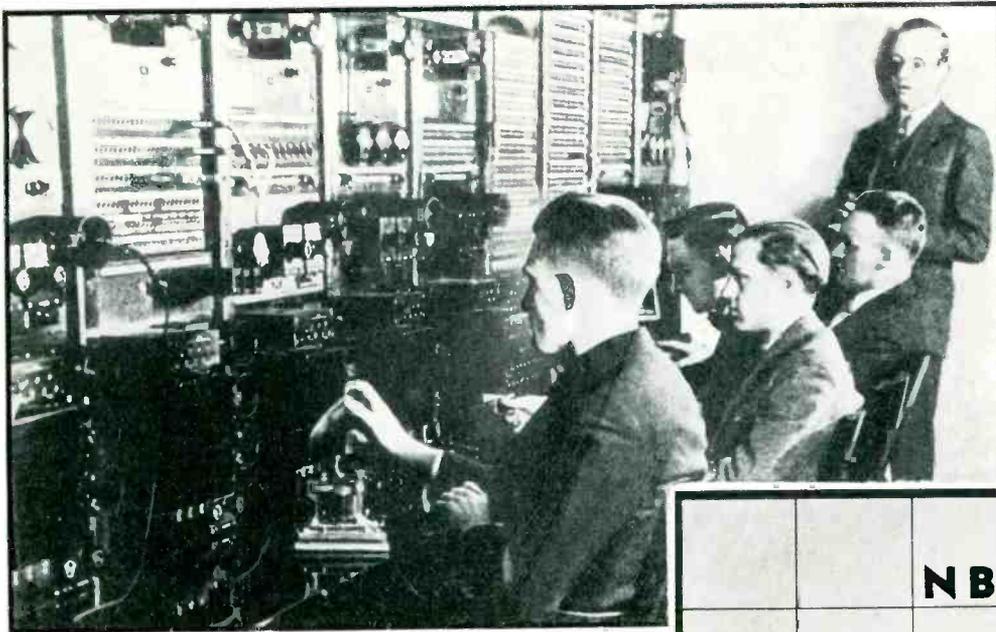


1926 **STUDIO** 1936
The largest, then and now



1926 CONTROL ROOM 1936

With more stations there is less confusion



**10 Years
of Chain
Broadcasting
(continued)**

NBC FACTS			
AT BIRTH		TODAY*	
19	STATIONS	104	
41,250 watts	TOTAL POWER watts	1,678,200	
13,745	SPONSORED STATION HOURS	95,000	
550,013	MAIL RESPONSE	6,000,000	
\$3,760,010	CLIENT EXPENDITURES	\$32,000,000	
*Estimated to Jan. 1, 1937			

**KADETTE
IS**

"CARRYING THE BALL"



WITH THE NEW
Stabilized
AC SUPER MODEL 36



Here's a compact that gets and holds foreign reception on a par with high-priced consoles yet you can feature it for only \$32.50!

Moreover, it sounds like a million dollars—its tone quality is beyond criticism. Here's how Kadette has accomplished this sales producing result.

\$ 32⁵⁰

COMPLETE WITH TUBES
AND ANTENNA

First by limiting operation to the narrower, but really worthwhile portion of the short wave band (16-36 meters) thereby stepping up foreign reception to a new high peak. Second, by providing a special short wave stabilizer that minimizes fading and holds the station! For domestic reception (540-1600 kilocycles) the performance is likewise unexcelled. Large, full dynamic speaker combined with continuous variable Tone Control and full Automatic Volume Control are some extra-quality features.

Beautiful new lay-down style cabinet in striking modern treatment of straight and heart grain walnut veneers inlaid with bands of light aspen and grille in figured butt walnut, base and edge finished in ebony. Large airplane dial, edge-lighted and crystal protected. Size 9³/₈" high, 17¹/₂" wide, 7³/₄" deep.

Get behind this fast-moving Kadette Stabilized AC Super and see the sales roll up.

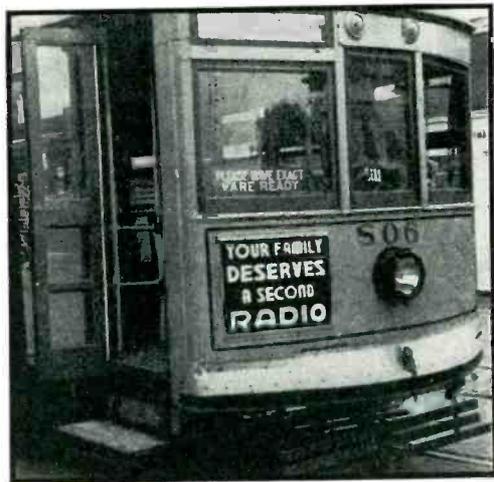
INTERNATIONAL RADIO CORPORATION
519 Williams Street
ANN ARBOR MICHIGAN



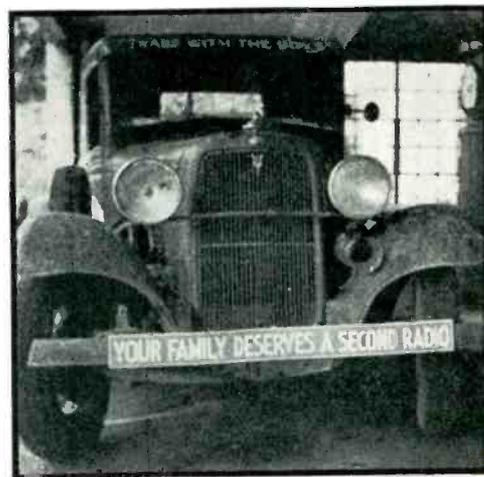
Creators of
Quality Compacts

KADETTE

DISPLAY MANAGEMENT



TROLLEYS



TRUCKS

Utility Sponsors Second-Set Drive



PASSENGER CARS



BILLBOARDS

NEWSPAPER ADS

All of these, seen every day by the public, are used to promote the second-set idea

BIRMINGHAM—Radiomen throughout the country are watching with considerable interest a campaign to sell second-sets to people already owning radios, started early this fall by the Birmingham Electric Company, cooperating with dealers and distributors handling American-Bosch, Crosley, Sears, RCA-Victor, Zenith, Stromberg-Carlson, Philco, General Electric and Grunow receivers.

Trolleys, busses, trucks, and passenger cars owned or operated by the Utility or the retailers concerned have been equipped with signs promoting the use of more than one set per home. Billboards throughout the entire Birmingham area repeat the theme and newspaper advertisements continue it. In

addition, the Utility, not selling sets itself, has instructed 50 of its outside men selling electrical appliances to turn in the names of good radio prospects. These names are distributed to cooperating dealers.

Retailers are further pushing the second-set idea by devoting window displays to the subject. In addition, the servicemen of the city are offering to check up receivers for a \$1.50 flat rate charge, during the campaign. Through the use of window cards and every other means at its disposal, the Utility is endeavoring to aid retailers in this effort, its sole interest being the additional power which will inevitably be used by the consumer as more radios are connected to its lines. Birmingham

Your Family
DESERVES A
SECOND RADIO
*Entertaining
AND Educational*

THERE'S no accounting for tastes. Some of us like classical music; some like jazz. Politics is interesting to some and drama thrills others.

With so many excellent entertaining and educational programs now on the air, why not stop family arguments by adding a second radio? It can be placed in the kitchen, in a bedroom, or in any nook away from the radio you now have. Then, when the family is split on the subject of station selection, the music lovers may gather in the living room and the politicians may retire with the second set to settle the affairs of the nation.

Your family deserves a second radio. Operated with Birmingham's cheap electricity, radios offer today's biggest bargain in entertainment and education.

Put Your Radio in Tip-Top Shape for Another Glorious Radio Season. Call Your Favorite Radio Repairman for a

10-POINT
RADIO CHECKUP

\$1.50

Buy a Second Radio From Your Favorite Store. We Do Not Sell or Repair Radios. We Sell . . .

CHEAP ELECTRICITY

Which Brings You THE GREATEST SHOW IN THE WORLD at Lowest Cost!

BIRMINGHAM ELECTRIC CO.

BIRMINGHAM — ENSLEY — BESSEMER

"Electricity Is Cheap in Birmingham—The More You Use, the Cheaper It Is!"

ADVERTISING SELLING

has a population of 350,000 and it is estimated that more than 70 per cent of its homes already have sets. The remaining 30 per cent offer considerable resistance to radio salesmen, or are not financially in a position to buy. For this reason it is felt that expansion of the set market can be obtained most readily by selling people who already have sets, newer, or more, merchandise.

Until the campaign is concluded definite figures regarding the increase in sales resulting cannot be obtained. It is known, however, that service sales have already increased considerably due to the combined effect of the second-set advertising and the check up plan. It is further known that set sales are increasing rapidly and that the unit price is steadily rising.

Birmingham's second-set drive, it is felt, hits the industry's most fertile promotional reserve squarely on the nose.



SERVICE FOR ALL TO SEE—This cutout in Harry Dodge's partition separating the store proper from the service shop serves two useful purposes. It is used as a counter across which machines brought in for repair may be passed and also "frames" the Dodge testing instruments so that they may impress the customer

DEMONSTRATION WHILE YOU WAIT—Erick Dumke shows his daughter Martha how he casually tunes in GSB while the bookkeeper, Mrs. H. E. Clark, takes her time recording the payment of a gas bill (Above)



BUSSES INSTALL SOUND—On the upper deck of Chicago's new busses a speaker is installed. The driver calls streets into a microphone. A concealed amplifier steps up volume between the two units

Two Ways To Build Traffic

CHICAGO—Harry Dodge, proprietor of Dodge's Radio Service, permits his store to be used two or three times a year as a polling place. Voters in his precinct thus pass in and out of the shop, look through a large "window" to see the imposing array of test equipment in the back. He also obtains a list of 600 registered voters in his district, uses this list for mail promotional effort.

Erick Dumke, on the north side, near Evanston, has arranged with the Utility companies for payment of gas and elec-

tric bills at his store. Next to the cashier's window he places his latest radio model. Tuning in a foreign station almost invariably prompts people paying bills to ask questions.

Dumke also offers radios, washing machines and refrigerators on a time-payment plan which permits monthly installments to be paid with gas and electricity bills. This simple neighborhood service brings over a thousand people a month into a radio store which might otherwise be just another little shop.



JOBBER WITH IDEAS—Carter Mullaly and George A. Hales

Suggests Independent Appraiser

OKLAHOMA CITY—It costs a radio dealer at least 25 per cent to do business. The trade-in can give away profit. For this reason the distributing house of Hales-Mullaly thinks it might be a smart idea for dealers in each town to appoint independent appraisers to pass on trades. This would pre-

vent a lot of jockeying by shoppers. "For example," relates George A. Hales, "there was a man who called on a Hobart dealer and was offered \$10 for his trade-in. 'Why, I can get \$12.50 at Cordell,' he said. 'I'll give you \$15', replied the Hobart dealer. As a result the final allowance was \$35, wiped out the profit entirely.

Pro-Rates Overhead to Each Service Job

ST. LOUIS—Overhead costs are computed semi-annually by the Buder Radio Company, pro-rated to each service job to make sure that all work handled results in a true net profit.

For illustration, say total expenses amount to \$100 for one month, and service work for the same period is 200 hours. The overhead of \$100 is divided by the number of hours in service work, or 200, which indicates an overhead cost of 50 cents an hour.

Take a service job that requires a part listing for \$1 and one hour's labor at \$1.50, and which totaled up is \$2.50. Then the overhead cost of 50 cents is added, making a total charge to radio set owner of \$3.

Actual current overhead cost is 28 per cent and this is charged against total cost of parts and labor. For example, if parts and labor on a job came to \$3 the customer would be billed 84 cents for overhead, making the total repair bill \$3.84 instead of an even three dollars.

General costs and number of service jobs fluctuate and the Buder Company finds it advisable to compute the percentage of overhead charges every six months. In the first half of 1936 the charge was 35 per cent. An increase in service jobs, or work hours, brought about a reduction in general costs per job.

Good records are essential to the billing plan. To eliminate the heavy detail of books, the Buder Company's sales manager, G. L. Weseman, devised three sales ticket forms which are numbered and dispensed by a record machine.

The face of the three forms, which are the customer's, office and shop copies, are similar. On the reverse side of the shop copy is a complete record of the work performed. Space is allotted for the set's serial number and the type of tubes as a protective measure. And also for the make of car the radio set is installed in, if it is an auto-radio.

The service man enumerates the parts used and the list price. The work order goes to the office. (Here also the net prices for a radio or automobile dealer are put down.) The office totals up the parts charge, to which is added the labor, overhead and sales tax charges.

The customer and office copies are designed to show the order number of a dealer and the signature of the radio owner or his agent below a line that states the set was "received in good condition."

The Buder Company employs eight service men and has arrangements with 47 radio, electric appliance and automobile dealers to handle their radio service work and to make standard car installations. No contract work is taken. The labor charge is the same for both the individual radio owner and the largest dealer. The latter is given a net price on parts.

Radio sets are always taken to the shop for a repair estimate at a flat charge of \$1, which is refunded if the work is ordered done.

Dealer Checks Handbill Results

DENVER—Bring your customers to the store through effective handbill advertising and then sell them an auto-radio by actually demonstrating the set in a moving car. That's what Claude Smith, manager of United Radio Service recommends.

Smith distributes handbills in parked autos throughout the downtown area. His latest effort was an 8½ by 11½ inch sheet bearing the following headlines: "An auto radio . . . more than doubles the joy of a ride. . . . Eliminates the monotony and reduces driving strain."

The circular then goes on to offer a free demonstration at 30, 50 or 75 miles per hour. Most prospects avail themselves of this offer but few, according to Smith, insist upon the high-speed test. But it clicks as an advertising message.

In order to make certain that handbills are properly distributed, men that are not too young are engaged for this work. It is pointed out to them that quality, rather than quantity, is desired. They are, furthermore, paid a commission of 50 cents on every auto-radio sold as a result of handbill advertising, in addition to a salary. Each distributor uses handbills of a different color, so results may be readily credited to the correct source. A free antenna installation is given to prospects who bring the handbills with them.



"You did us a real favor Mr. Martin when you sold us that new radio and Power-Charger"

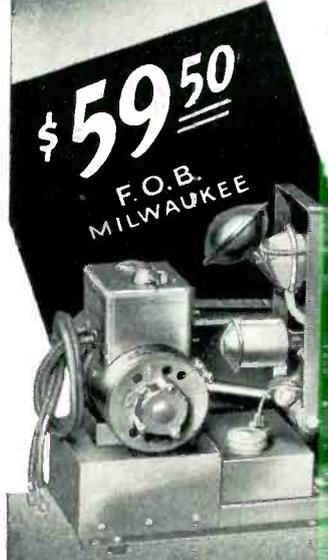
"Had a good radio a couple of years back. Ran fine and got everything on the air—as long as the batteries held up. Seemed, though, everytime I got mighty interested in a weather report or a good talk on crops, out came a squawk like a pig callin' contest n' then nothin' at all. Meanin' a signal for me to put my hat and coat on and start down to the village luggin' a battery. Didn't mind this in good weather but you ought to try it sometime when its rainin' or snowin' like blazes. To tell the truth, there aint no radio program worth all that trouble."

"Now, I'm no hand at testifyin' about something that tickles me, but both Molly and I want to thank you for tellin' us what this new radio would do tied up with a Power-Charger. We can play the radio from the time we get up until bedtime and forget about the batteries. Top of that, we've rigged up a set of electric lights in the house 'bout as good as the folks down in Pipestone have 'em. Molly can peel potatoes without cuttin' off a finger 'n I can smoke my pipe and read without gettin' crosseyed."

"You ought to come out to the farm and see how I've rigged up this combination. John — my oldest boy — showed me how to hook-up and run our grindstone from the charger motor. Used his head, I'd say, since its his job to sharpen the tools."

"And the whole outfit cost so little can't see why everybody don't get up to date. Thanks, Mr. Martin. You sure did us a favor."

BRIGGS & STRATTON CORP., Milwaukee, Wisconsin



BRIGGS & STRATTON CORP., Milwaukee, Wisconsin
 Send complete information at once on the 6-volt, 200 Watt Power-Charger.

Name of Radio handled.....
 Dealer..... Distributor.....
 Firm.....
 Street Address.....
 City..... State.....
 Signed..... RT-6

NEXT MONTH'S WINDOW



THE FINISHED DISPLAY . . . Santa seems to be starting down the chimney

VERY often a mechanism designed for one purpose is found to be even better for something unthought of by the developer. Such is the case with the little motor used in this display. Originally designed to give a lurching, life-like motion to a cardboard ship, it also sets up a motion that can be used to make a cardboard Santa Claus start down a cardboard chimney.

A discovery of the past few weeks this idea is presented in these pages for the first time in combination with other elements to make up a complete Christmas display, one which is not difficult to construct because it is so largely composed of stock items readily obtained.

First, secure one of those stock folding cardboard chimneys sold by many display supply houses, set it up and nail wooden cleats on the inner sides, with another across the bottom. When the baseboard of the motion section is nailed to the top of the cleats a firm, rigid structure is the result.

A head of Santa is also another stock item, although the head may have to be cut off from a complete cardboard figure. The motor has an eccentric arm with holes in each end. By means of bolts, washers and nuts—and the cardboard arrangement shown in the lower drawing—this arm is readily attached to the back of the head. A foot or more of drill rod or stout wire is then bent with three loops, as shown in the top drawing. Through these loops go screws to hold the moving section to the baseboard. The ends are looped, with the aid of round-nose pliers, through the holes in the motor. Put the ends through and then twist them around to the other side. This wire support can be bent into the correct position—it is adjustable.

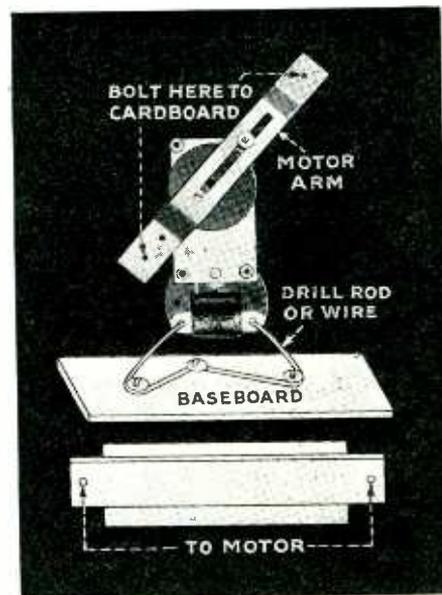
The wreath may be a stock holly wreath, and the background extension may be a piece of cut cardboard with gold paper mounted on it. Candles will look better if they are actual electric candles, although the candles may be painted, or cut-out lithos

If you plan to put in a holiday display to please sentimental shoppers include motion and make it sell

By I. L. Cochrane

mounted. The lettering is a suggestion—you will probably have other ideas. However, with a red brick background, a light green mat board with bright red and gold lettering will stand out and be Christmas-like.

The complete motor unit, ready for bolting to the back of Santa's head, is made by the Speedway Mfg. Co., 1834 South 52nd Avenue, Cicero, Illinois, and 5 Great Jones St., New York City, at a list price of \$4 each. This is an a.c. motor for 60-cycle, 110-120 volt current. It can be used for other "motion" displays.



MOTOR HOOKUP . . . Designed originally to make a cardboard ship rock realistically, the motor pictured is drafted for service in this unique Christmas display.

Our artist shows how three small loops are bent in a length of soft drill rod so that screws may be placed through these loops into a rigid wooden base. The upright ends of the rod are then bent through holes in the motor arm.

Below, a method of avoiding the placing of bolts through Santa's head is shown. Two pieces of cardboard are glued together and then to the back of the head.

FOR '37

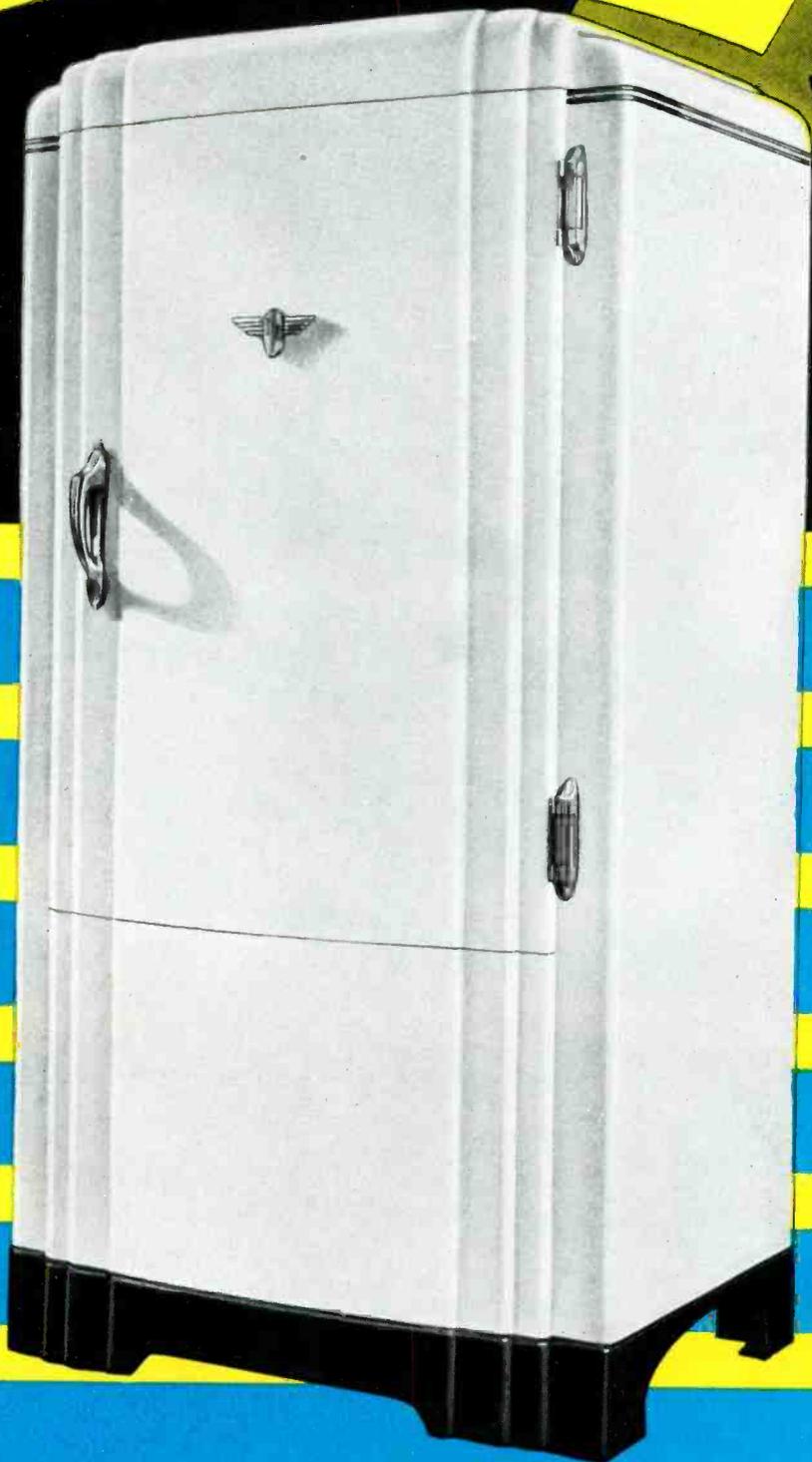
STEWART-WARNER

DOES IT AGAIN!

Here's the brand new Stewart-Warner line!
It starts where last year's "record-smasher"
left off! And here are . . .

**SIX BIG REASONS WHY YOU
CAN MAKE MORE MONEY WITH
STEWART-WARNER IN 1937!**

1. NEW 1937 MODELS READY NOW
Weeks Ahead of the Field
2. NEW FLOOR PLAN — Lets You Buy
Now — With No Finance Charge
3. NEW FINANCE PLANS — Including a
Real Christmas Sales-Maker
4. NEW NATIONAL ADVERTISING
Including Coast-to-Coast Broadcasts
5. FREEDOM FROM SERVICE LOSSES
Proved by Thousands of Dealers
6. MORE FEATURES FOR YOUR MONEY— with
32 Big Features—6 of them EXCLUSIVE



**STEWART-WARNER
LEADS AGAIN WITH**



**A NEW 1937
LINE THAT WILL
SMASH
1936 RECORDS**

HERE it is—the 1937 line you've been waiting for! Twice as hot as last year's record-smashing Stewart-Warners that boosted sales 127%.

The 1937 Stewart-Warners have brand new eye appeal—new beauty inside and out. They have utterly new time- and work-saving conveniences. They have dependability and current economy that's nationally famous. And above all, they have **MORE FEATURES FOR YOUR MONEY.**

Join the thousands of dealers who are already set on this great new line. You can start now and capture the holiday business with the new Stewart-Warners while competitors worry about cleaning out old stocks.

POWERFUL 1937 MERCHANDISING PLANS ALREADY UNDER WAY



You know that our last year's merchandising and advertising packed plenty of wallop. This year's are as much ahead of them as the new Stewart-Warners are ahead of the 1936 models!

The 1937 Stewart-Warner Refrigerator selling plan features **HORACE HEIDT** and his nationally famous Brigadiers in a series of **COAST-TO-COAST BROADCASTS** over the Columbia network. These popular radio stars will send prospects in your neighborhood to you—

already half sold! In addition, Stewart-Warner merchandising plans give you these important helps: . . . hard-hitting newspaper ads . . . a special series of holiday ads featuring a sensational Christmas Finance Plan that will scoop the field . . . powerful interior and window display material . . . plenty of attractive folders . . . and a floor plan actually offered without a **FINANCE CHARGE!** Get all the details of the Stewart-Warner 1937 Selling Plan from your nearest Distributor **TODAY!**

**A LINE YOU CAN PUT
ON YOUR FLOOR
RIGHT NOW WITHOUT
FINANCE CHARGES**

Plus

**AN EXCLUSIVE CHRISTMAS
FINANCE PLAN THAT MEANS
PLENTY OF SALES
RIGHT AWAY!**

**New
Floor Plan with
NO FINANCE CHARGES**

Stewart-Warner alone offers this brand new plan that makes it possible to install a floor showing of this marvelous new line **RIGHT NOW**—and pay nothing for finance charges! That means you can take full advantage of Stewart-Warner's sensational 1937 Christmas plan and capture the early season business, too! Get all the details of this new floor plan from your Stewart-Warner Distributor or from C. I. T.

**You Can
Buy Now!**

**New
Finance Plans Include
STARTLING CHRISTMAS
OFFER!**

The exclusive finance plans that put Stewart-Warner dealers out ahead last year have been made even better! We've added a special Christmas Plan that means you can **START SELLING NOW**—because you can offer your prospects "No Monthly Payments for Four Months!" And, throughout the year, you get all the advantages of the Stewart-Warner—C.I.T.—100% Advance and Non-Recourse Finance Plan. No repossession worries—every Stewart-Warner sale means a **CASH SALE** for you!

**YOU CAN START
SELLING NOW**

**And You Can
FORGET SERVICE LOSSES**

Thousands of dealers have said hundreds of times, "I'm sticking to Stewart-Warner because no line I've ever handled is so free from service!" The reason is the costlier way the famous Slo-Cycle mechanism is built—and the way it operates. It runs less—wears less—keeps peak efficiency and keeps owners happy. Thousands of letters from dealers all over the country prove it!



**STEWART
WARNER**

STEWART-WARNER LEADS AGAIN WITH

MORE FEATURES

For Your Money

INCLUDING

6 EXCLUSIVE FEATURES MONEY CAN'T BUY ELSEWHERE*



SAV-A-STEP, praised by thousands of owners, has been made even better! It swings out smoothly with foods used most — makes all shelf space "front" space.



The improved SAV-A-STEP snaps onto the refrigerator door if preferred — or lifts out to the kitchen table with food for a whole meal of one trip.



Touch a button and Presto! Out comes SLIDE-A-TRAY to serve as a convenient rearranging shelf — or to lift out for use as a handsome serving tray.



16-SPEED Lighted Airplane-Dial Cold Control and huge ice chamber assure abundant ice fast. REVERSIBLE DOOR on ice compartment swings either way.



Quiet Twin-Cylinder SLO-CYCLE UNIT is nationally famous for its enviable record of dependable low-cost operation and freedom from service.



Exclusive new VAPOR-SEALED CABINET keeps moisture out of insulation — assures peak efficiency and lowest operating costs — permanently.

*PLUS Sliding Shelf, Tilt-A-Shelves, Automatic Light, Jumbo Fruit and Vegetable Drawers, Seamless Porcelain Interior, Rubber Ice Tray, Ice Tray Release and all other worthwhile modern improvements.

See, phone or wire your nearest Stewart-Warner Distributor for complete details NOW!

STEWART-WARNER

CHICAGO, ILLINOIS

“STICK ‘em up!” When you hear this, if you’re a smart radio dealer, you’ll reach for the ceiling. You won’t argue. You won’t yell. For the man behind the gun is just as nervous as you are—but he has the gun and it might go off.

Erick Dumke, well known Chicago and Evanston radio dealer, recently had the unpleasant experience of looking into the business end of a 45 automatic and handing over the day’s cash receipts.

“That gun looked like Big Bertha,” remarked Dumke as he grimly recalled the holdup. “I was ready to sell the whole works for nothing down and no payments while that gun was pointed my way. Of course I have insurance and my loss was fully covered, but I didn’t know whether he knew how willing I was to comply with his demands.”

Radio Service Engineering, near the fashionable gold-coast district in Chicago was not so fortunate. Manager Don Kress tells the story. “I was out when three unwelcome ‘customers’ dropped in. They followed my assistant back to the service room, then tied him up with aerial wire and adhesive tape. Three customers who came in were likewise trussed up. The robbers got away with over \$80, a wrist watch and a gun we had in the

“ . . . all the money in your store is less important than a bullet in your belt-line.”

desk for just such an emergency. We didn’t have insurance but you can bet we won’t again be without full insurance protection.”

What Protection Costs

Insurance against holdup, either inside or outside the store, protects cash and property. Storekeepers also need burglary insurance which protects merchandise against theft by forcible entry after the store is closed. Dealers who keep their cash in a safe should also have insurance against loss occasioned by safe-crackers.

A special combination policy of particular value to small retail dealers is offered by some companies. Such a policy, available in \$250 or \$500 units, will reimburse for losses up to the face value of the policy resulting from any one of seven perils.

These are: 1, hold up during business hours; 2, burglary by forcible entry of the store; 3, safe-cracking, including damage to the safe; 4, property damage as a result of actual or attempted robbery; 5, stick-up on the street while carrying store funds; 6, robbery of store funds in the store-keeper’s home; 7, robbery after business hours by bandits who force the dealer or any of his employees to open the store or safe.

The dealer must keep accurate records of his stock, fixtures and cash, witnessed by at least one of the employees. This record is often necessary to prove the extent of loss.

The rates for insurance are governed by a schedule founded on actual experience in your particular community. If the rate is high, the risk is great and your need for insurance is likewise greater.

Crime Sometimes Pays

If you are robbed, make the most of the resulting publicity. After notifying the police and your insurance company, call your newspaper to send a photographer and a reporter.

Don’t disturb any trace of the thieves’ activity until it has been checked by the police and photo-

“ . . . Insurance is the best protection. Don’t think a gun is a cheap substitute. More likely it may be your death-warrant.”



SAFEGUARDING YOUR CASH

By Charles Phillips

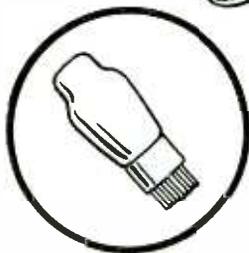
graphed. Give an accurate description of the robbery.

If you’ve seen the thieves, try to remember certain details of their hands or face which you could identify. A mole or a scar, a cauliflower ear or a gold tooth—these little details help police to round up the criminals. It also helps the newspaper reading public to spot and report men answering this description.

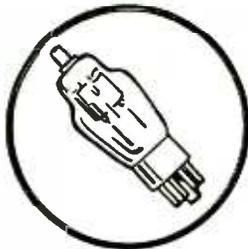
The business resulting from the publicity following a robbery may be worth more than your loss, but insurance actually pays your loss.

Don’t think a gun is a cheap substitute. More likely it may be your death warrant. Bandits rarely shoot unarmed men who offer no resistance. All the money in your store is less important than a bullet in your belt-line!

BUSINESS at your finger tips!



Millions of Arcturus GLASS TUBES, used initially in radio receivers, create a natural replacement market for Arcturus Dealers and Servicemen.



Millions of "G" TUBES of Arcturus manufacture are in use today. Here is a big replacement market for you.



The active demand among manufacturers and public for Arcturus CORONETS — "THE PERFECTED METAL TUBE" — is a further tribute to Arcturus quality.



And Arcturus CORONETS FOR REPLACING GLASS TUBES are new, exclusive, made-to-order, to boost your sales and profits.

if you sell the ARCTURUS 4-WAY line

Business is never turned away by the dealer who handles ARCTURUS. For here is the *one* line that enables you to meet the demands of *every* customer — the *only* line that gives you the 4 types of tubes set owners are asking for today!

ARCTURUS has pioneered 7 of the 8 fundamental developments in a.c. tubes. This company has won wide public recognition as a dominant factor in the quality field. And ARCTURUS alone provides a 4-way sales and profit set-up.

See your Arcturus Jobber or write today for full details.

ARCTURUS RADIO TUBE CO., NEWARK, N. J.



The PIONEERS of "G" TUBES
Arcturus, a year ahead of the industry (the above advertisement appeared in the August, 1935, issue of Radio Retailing) pioneered "G" Tubes. Another in the long list of Arcturus achievements.

ARCTURUS

GLASS—"G"
CORONET—The Perfected Metal
RADIO TUBES



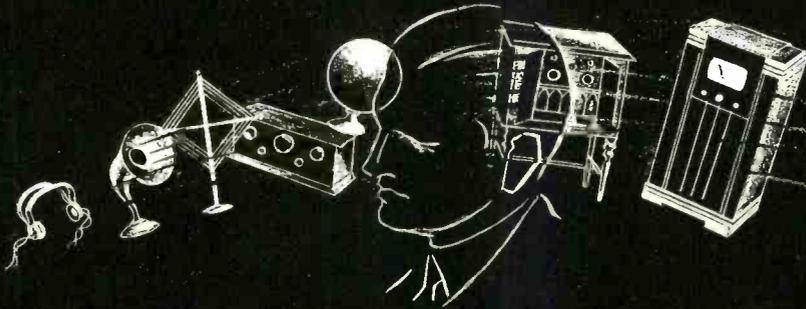
Why GOOD SERVICE CAN'T BE CHEAP

The Simplest Repair, On the Smallest Radio, Requires:



CONTINUAL STUDY

Good servicemen know the engineering principles of your set. They spend at least 1 hour a day reading technical magazines and books



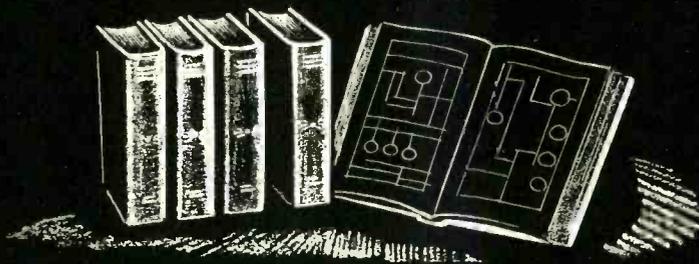
LONG EXPERIENCE

Good servicemen have a practical knowledge of other receivers like yours. The average has been in business 7 years



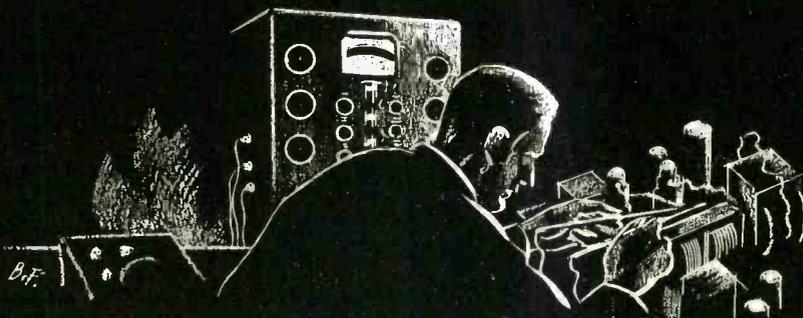
ADEQUATE STOCK

Good servicemen keep a costly supply of standard parts on their shelves. Thus they may render quick as well as reliable service



MANY DIAGRAMS

Good servicemen maintain manuals containing 8300 or more individual data-sheets so that they may know each intricate detail of every manufactured receiver



TEST EQUIPMENT

Good servicemen have \$200 or more invested in delicate measuring instruments necessary for accurate diagnosis of trouble. They improve and replace this equipment frequently

Well-Trained and Well-Equipped Servicemen Fix Radios So They Stay Fixed Saving You Time, Trouble and Money

**RADIO
RETAILING**



ASK THE "FIX-IT" MAN!

Service men prefer KEN-RAD Radio Tubes



Manufacturers of a complete line of Standard Glass Types, G Series, and Genuine All-Metal Radio Tubes.

Right before the big broadcast, when the service man is called in to fix the radio, he's just "got to get results." That's why so many servicemen use and recommend Ken-Rad glass or *genuine all-metal* radio tubes.

As makers of highest quality radio tubes and incandescent electric lamps Ken-Rad has merited the confidence of dealers and the public for years. Increase your business the Ken-Rad way. Write us for our complete sales plan.

KEN-RAD

★ *Radio Tubes* ★

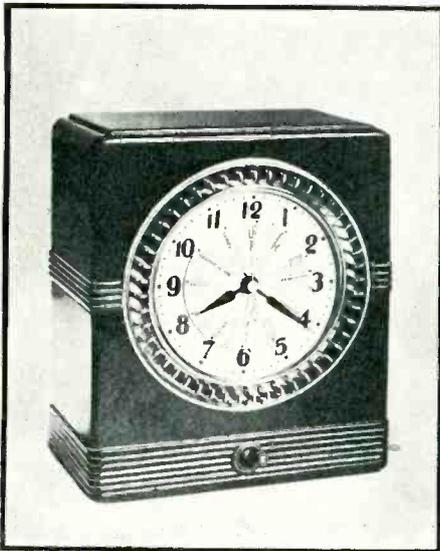
KEN-RAD TUBE & LAMP CORPORATION, Inc., Owensboro, Ky.

Also manufacturers of Ken-Rad Incandescent Electric Lamps.

MAGIC MEMORIES

AUTOMATIC TIME CLOCKS make it virtually impossible for the listener to miss a favorite program

By Thelma H. Purinton

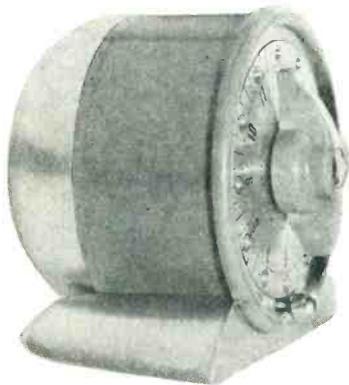
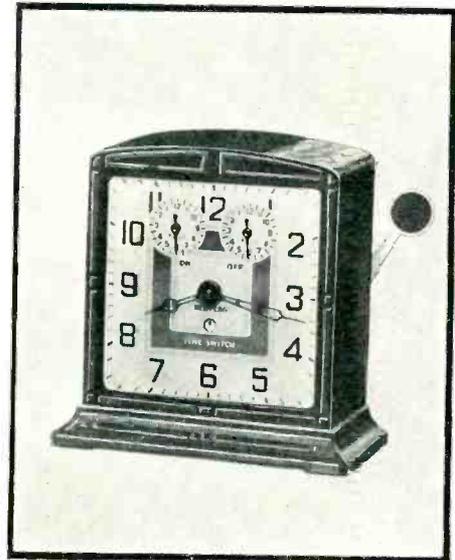


MATCHES THE FURNITURE. . . . The author selects her evening programs and a *Clok-Trola* does the rest (Above)

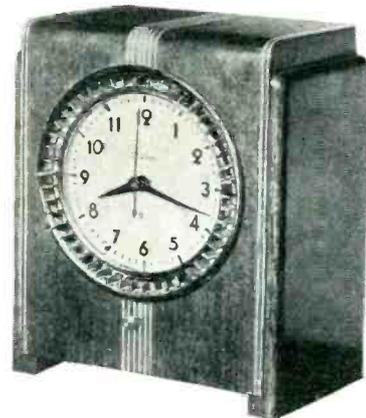
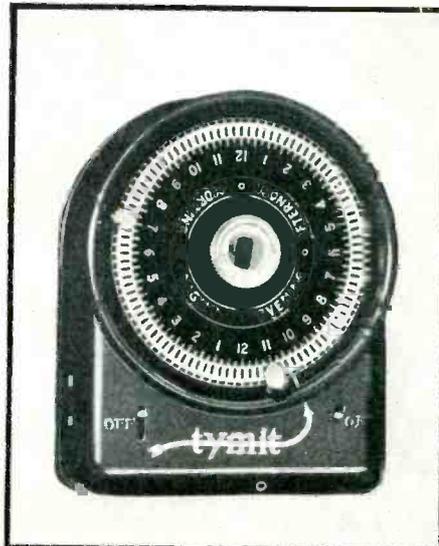
WORLD TIME TOO. . . . This new *General Electric* switch also tells time in distant countries (Left)

APPLIANCES AS WELL. . . . *New Haven's* offering, and the others illustrated, will control most electrical appliances, too (Right)

TWENTY-FOUR HOURS. . . . This *Tork* model performs at any hour, day or night (Below)



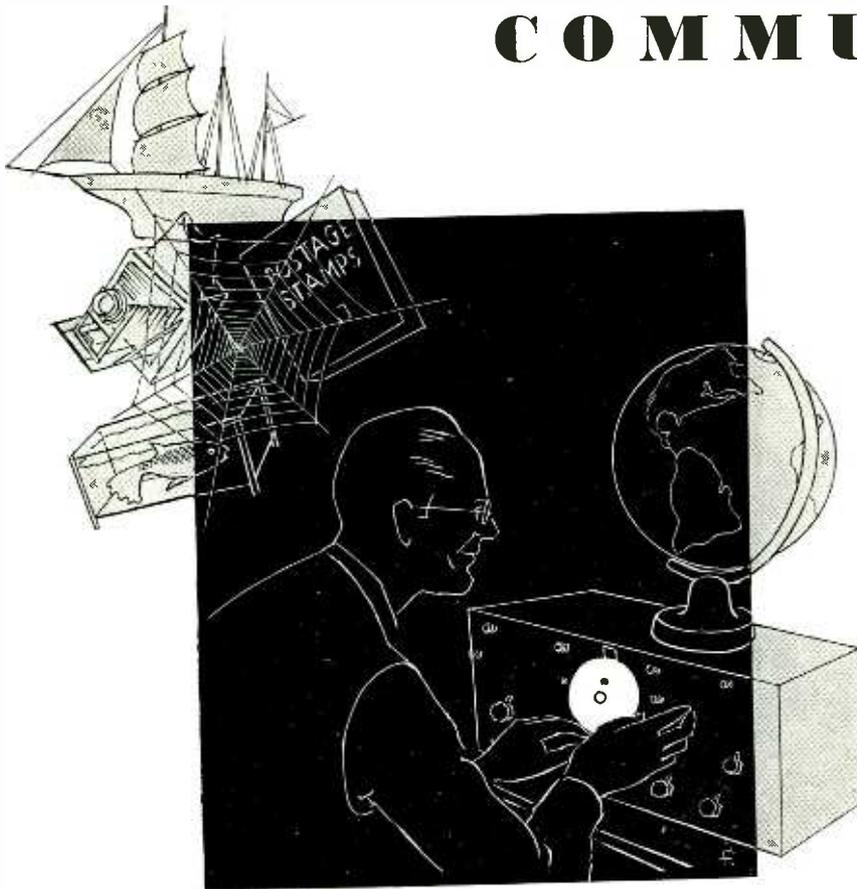
MODERNISTIC CASE. . . . Compact enough to be placed almost anywhere, yet attractive enough to appear right out in public, is the *Mark-Time*



EVERYBODY WANTS A CLOCK. . . . So this *Warren Telechron* device serves two useful purposes

COMMUNICATION

Last Word For



A MAN WITH A HOBBY can't rest until he owns the finest equipment within his means

By W. MacDonald

IS the neighborhood dealer passing up a good bet by not carrying at least one "communication" receiver in stock? We think he is.

At a recent local radio show a retailer planted such a set smack in the center of a display made up of the usual home-type consoles and table models. The sheer novelty of the receiver's appearance attracted many and it was quickly found that there were prospects for it among those who were becoming interested in shortwave dx reception as a hobby.

Another dealer of our acquaintance is an amateur and has his transmitter and a communication receiver in the store. He has found that the very prominence of this equipment helps establish him as an expert on shortwaves and aids the sale of regular broadcast and shortwave receivers.

It is our opinion that the average retailer could well afford to stock at

least one communication receiver if for nothing else but to use it in his window as a novel display. And we are convinced that every dealer has at least one prospect on his list for such a set. For every neighborhood contains transmitting amateurs who today realize that they can no longer expect to build at any appreciable saving, sets as good as those designed by trained engineers. And every neighborhood contains ordinary listeners who have become interested in the shortwave feature of their regular home receivers to the point where they can be induced to buy a commercial-appearing unit obviously designed to do a specialized job of dx-ing in order to gratify a hobbyist's desire for the best equipment the pocketbook will stand.

Investigation discloses that the average consumer does not know that there is such a thing as a communica-

tions receiver. Neighborhood dealers have donated this business to those few houses specializing in amateur supplies. Such houses are few and far between, concentrate on amateurs alone, with the result that the new crop of dx-listeners is almost wholly neglected.

Provide Many Refinements

Communication receivers, typical examples of which are pictured in these pages (most of the manufacturers making them have additional models), have many features which permit them to drain the last available drop of energy out of the shortwave bands. For example:

They "band-spread" shortwave stations over many degrees of the dial so that distant transmitters operating extremely close together with respect to frequency may be readily separated.

They employ circuits pepped up to secure the absolute maximum of sensitivity.

They include, either in stock models or as extra equipment, crystal-filters which provide the very last word in extreme selectivity.

They include beat-frequency oscillators which not only make it possible for the amateur to copy code but also facilitate tuning in of extremely weak signals which might otherwise be passed over.

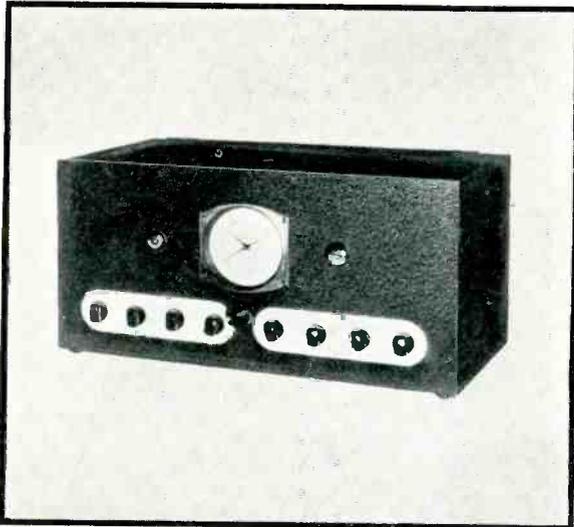
Few of these refinements are practical in combination broadcast and shortwave sets for they can be obtained only at the expense of simple, foolproof operation and appearance. The shortwave hobbyist cares little about these factors. He prefers a certain complication of controls which permits him to squeeze for the last ounce of performance.

Many communication receivers, incidentally, tune in the regular broadcast band as well as on shortwaves. Some can be equipped with the broadcast range at slight extra cost. So such sets may be used as a "second-set" for the home too.

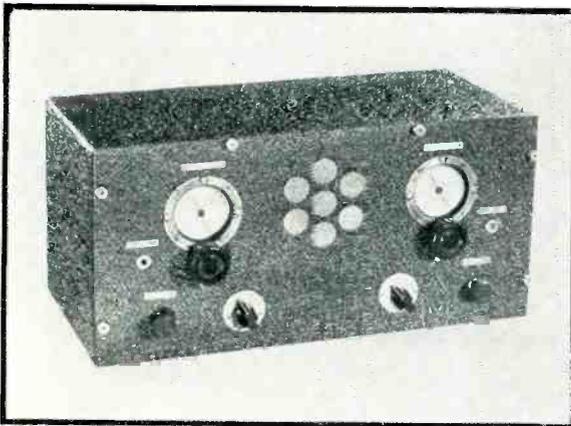
Here's a modest but profitable market that should have been called to the neighborhood radio dealer's attention long ago.

RECEIVERS

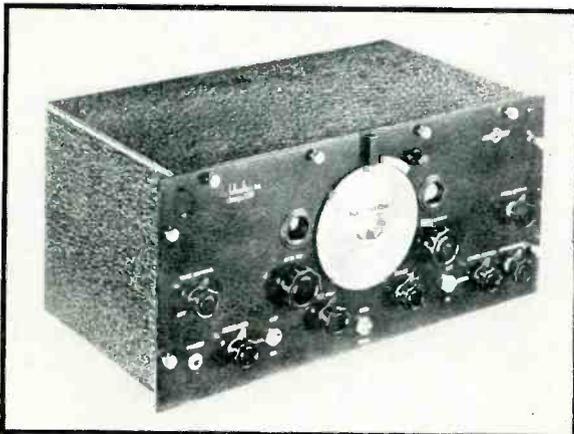
Shortwave Fans



RCA
(ACR-175)
Tunes from
500 kc. to
60 mc.



SARGENT
(11)
Tunes from
545 kc. to 34
mc.



HALLICRAFTERS
(Super Skyrider)
Tunes from 545 kc. to
38.1 mc.



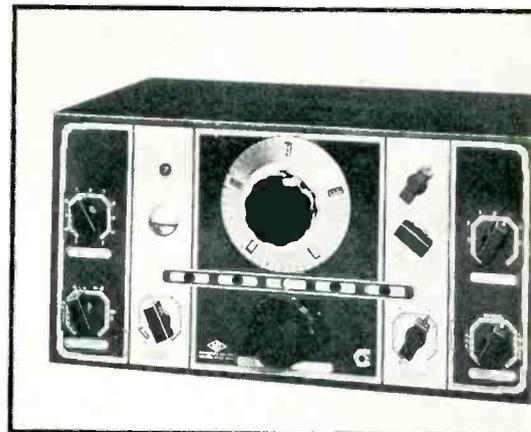
BREITING
(14)
Tunes from
550 kc. to
34 mc.

IS THE NEIGHBORHOOD
RADIO DEALER PASSING
UP A GOOD BET

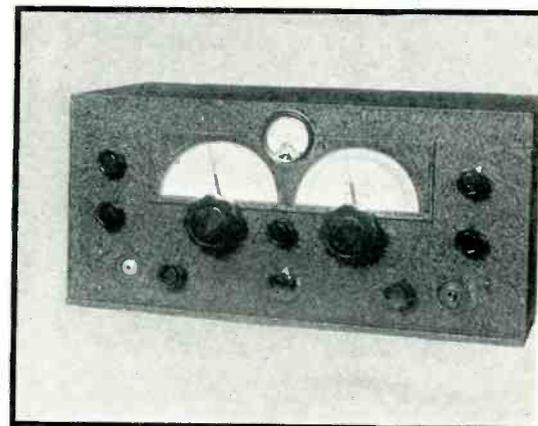
?

Sets like these, by their very complexity of appearance, attract attention and build prestige. And there is a growing market for them among upper-crust shortwave listeners as well as transmitting amateurs.

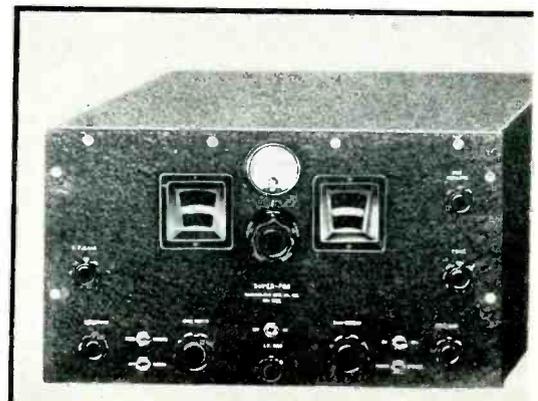
CIRCUIT DIAGRAMS appear in the Service Section



NATIONAL
(NC-100)
Tunes from 540
kc. to 30 mc.



RME
(69)
Tunes from
550 kc. to
32 mc.



HAMMARLUND
(Super Pro)
Tunes from 1160 kc. to
20 mc.

NEWS

PEOPLE • PRODUCTS • PLANS

SET MAKERS SUBMIT REFORM PLAN TO FTC

Program Bans "Spiffs," May Effect Cruises. Ties in With Robinson-Patman Act. Manufacturers Working Individually to Insure Distributor Cooperation, Reduce Advertising Allowance Abuses

WASHINGTON—A program for sweeping reforms in radio set merchandising has been adopted by the RMA in consultation with the Federal Trade Commission. Prizes, "spiffs," "push money," and bonuses frequently condemned by "Radio Retailing" are among the evils attacked in a program formally submitted to the Federal Trade Commission. The plan is supported in part by the new Robinson-Patman Act.

The initiative and leadership in the program was begun several months ago by Commander E. F. McDonald, Jr., of Chicago, chairman of the Fair Trade Practice Committee. The reform plan itself was adopted unanimously at a special meeting of the RMA Set Division held October 21, at the Commodore Hotel in New York. This followed a meeting on October 20 of the Fair Trade Practice Committee at the office of David Sarnoff.

A major feature of the new clean merchandising program for set manufacturers is a new rule of fair trade practice. This new rule, which is expected to be adopted by the Trade Commission, provides:

"Rule 3—The granting or giving or promising to grant or give by manufacturers in the industry, directly or indirectly, to employees of retail sales outlets selling competitive lines of radio merchandise, of commissions, bonuses, premiums, prizes, "spiffs," "push money," gratuities, privileges or anything of value in any form whatsoever in consideration of the said employee's influencing the retail purchase of industry products manufactured by the grantor or donor, whether or not the same shall expressly be granted or given for that purpose, to the extent that such practice has a tendency and effect of improperly influencing and deceiving the buying or consuming public by reason of the fact that the purchaser is not aware of such subsidy or consideration and expects the retail employee to be unbiased, impartial and free from any such influence as between different merchandise sold by him, is an unfair trade practice."

Cruises, although not specifically named, are construed to be included.

While the proposed new trade practice rule applies only to action of manufacturers and extends only to radio retail salesmen, wider effect, specifically on radio distributors, will be attained through supplementary action of the set manufacturers. At the RMA Set Division meeting

on October 21, the set manufacturers also approved unanimously a separate contract, which has already been signed by a number of leading companies, that they will "use all lawful means" under their control to prevent their distributors from violating, either in letter or in spirit, the proposed trade practice rule and prevent distributors from granting the prohibited premiums, prizes, "spiffs," etc., to retail salesmen handling competitive sets.

For enforcement of the provision of the agreement of manufacturers affecting their jobbers, action would be had under the jurisdiction of the Federal Trade Com-

Weinig Joins Zenith



Success and growth of Zenith's automotive radio business has prompted the creation of a separate department, which is to be greatly enlarged in anticipation of a banner 1937 season. R. F. Weinig, formerly with Atwater Kent, has been appointed manager

Consumer Crowds Jam Philly Show



Indicative of better business throughout the remainder of the season is the success of the Electrical Association of Philadelphia's Ninth Annual Electric and Radio Show, Convention Hall, October 5-10. Exhibits upped 10 per cent, attendance increased even more

RAYTHEON TUBES
 ARE NOT "CHINESE COPIES!"

RAYTHEON
 TRADE MARK

MAKERS OF THE FAMOUS 4-PILLAR TUBES

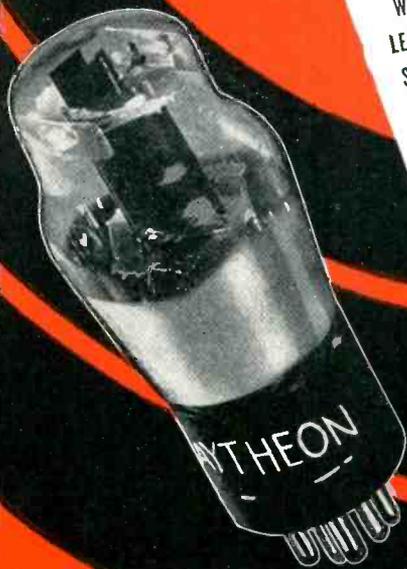
RAYTHEON HAS ONE OF THE LARGEST, MOST PROGRESSIVE TUBE LABORATORIES IN THE WORLD—OPERATED BY INTERNATIONALLY FAMOUS SCIENTISTS.

WITH THE DEVELOPMENT OF NEW TUBES AND CIRCUITS, ENGINEERS OF LEADING SET MANUFACTURERS LOOK TO RAYTHEON'S ENGINEERS TO SUPPLY THEM WITH TUBES OF UNIFORM EXCELLENCE TO MEET THEIR EXACTING REQUIREMENTS. THAT IS WHY USING RAYTHEONS AS REPLACEMENTS IS SO WISE—AND PROFITABLE. THEY ARE NOT "CHINESE COPIES"—THEY REPRESENT REAL CONTRIBUTION TO THE RADIO ART.

RAYTHEON'S ENGINEERING STAFF AND PRODUCTION FACILITIES GUARANTEE LESS REJECTS, LESS ADJUSTMENT TROUBLE, AND REAL UNIFORMITY. RAYTHEON'S CLOSE INSPECTION TOLERANCE LIMITS ARE YOUR INSURANCE OF GREATER TUBE PROFIT.

LICENSED SET MANUFACTURERS EQUIP THEIR SETS WITH RAYTHEON TUBES BECAUSE THE NAME RAYTHEON INSURES TRADE AND CONSUMER QUALITY APPEAL, AND HIGHER COMPARATIVE SET UNIT PRICES WITH LESS SALES RESISTANCE.

USED AND DEMANDED BY ALL LEADING RADIO PARTS DEALERS AND SERVICEMEN.



THE MOST COMPLETE LINE—ALL TYPES OF GLASS, OCTAL BASE, METAL AND AMATEUR TRANSMITTER TUBES

RAYTHEON PRODUCTION CORPORATION
 420 Lexington Ave., New York, N. Y. 55 Chapel Street, Newton, Mass.
 445 Lake Shore Drive, Chicago, Illinois 555 Howard Street, San Francisco, Calif.
 415 Peachtree Street, N.E., Atlanta, Ga.

mission upon complaint of alleged unfair competition.

With the merchandise reform plan thus effective on manufacturers, retail salesmen and also jobbers, the Robinson-Patman Act will re-enforce the merchandising program so far as dealers are concerned. The Robinson-Patman Act requires the manufacturer to make available to all competitive dealers any dealer allowance which he makes available at all. This will specially meet the situation regarding cruises as manufacturers would be required to extend the privilege of cruises to all dealers.

Also and most important, a number of leading manufacturers are instituting separate merchandising reforms relating to advertising allowances. The Fair Trade Practice Committee was advised that the anti trust and other laws would not permit definite, binding and concerted action among manufacturers regarding advertising allowances. Therefore, any such action must come separately by individual companies. It is understood that without any agreement or understanding whatever, several leading set companies are adopting advertising policies which will result in tremendous improvement in future radio merchandising practices. For instance, it is reported that several leading companies will require a minimum contribution of fifty per cent by dealers in co-operative advertising. It is also understood that some set companies will hold the advertising allowances to their distributors to between two and three per cent.

Joins Motorola



Carl McKelvey, formerly an RCA sales executive and at one time assistant sales manager for Zenith, has just been made general manager of the Galvin Manufacturing Corp's newly formed home radio division. Concurrently with McKelvey's appointment, president P. V. Galvin announces the acquisition of a 7 1/2 acre tract, including a railroad siding, on which construction of a one-story modern plant begins immediately, for occupancy May 1

RCA Man Analyzes N. Y. Market

City Dealers Sold 600,000 Sets In 1935, Replacing Only One-Third Of Those Over 4 Years Old, Says Radiotron Sales Manager

NEW YORK—Said E. N. Deacon, RCA Radiotron sales manager, on October 19, addressing radio and electrical appliance dealers approved by the New York Edison Company:

"On the lines of N. Y. Edison there are 3,000,000 people—800,000 families. These families have purchased over 3,000,000 radio sets in the last ten years. On January 1st, 1936, there were 4,500,000 radios in homes, places of business and recreation in New York State. The New York Trading Area represents 68 per cent of the state's total sales or 3,000,000 sets in active or semi-active use.

43%—1,290,000 sets are 5 or more years old
 15%—450,000 sets are 4 years old
 58%—1,740,000 sets are 4 or more years old

"The retail outlets in New York in 1935 sold about 600,000 radios. This is the equivalent of only about 1/3 of the number of sets over 4 years old being replaced with new sets in 1935. There was a market for the sale of new sets, on the most conservative estimate, for 200,000 more sets than were sold in 1935, at a retail value of \$12,000,000.

"If the retail outlets in New York had sold these additional 200,000 sets in 1935, there still would have been 900,000 radios in this market over 4 years old—a high percentage of which are in poor operating condition and in need of repairs and replacement parts.

"These sets represent an additional market to the retail outlets of New York for 5,580,000 renewal tubes at 90c. average retail price per unit, or \$5,022,000 retail value.

"Also a market for transformers, condensers, and other parts of about \$2,500,000.—Plus labor charges for replacing these tubes and parts which would run into 5 or 6 figures at least.

"It is estimated that less than 60 per cent of this dollar volume in tubes and replacement parts was sold by retail dealers and radio service men in 1935.

"There are other sales opportunities in your market—60% of your neighbors haven't a modern radio; 35% of your neighbors want a 2nd or 3rd radio; 66% of your neighbors have no electrical refrigerator; 51% of your neighbors have no washing machine; 58% of your neighbors have no electric clocks; 52% of your neighbors have no vacuum cleaners.

"What the electric appliance and radio dealer needs is more contacts. More contacts means more opportunities to make sales. We have a plan to help you build more contacts. This plan is the RCA Radio Check Up, a plan which will uncover prospects for radio—radio service—parts—tubes—accessories and other electrical appliances.

"The contacts and sales which this type of publicity and radio check-up merchan-

Urges More Contacts



E. N. Deacon proves effectiveness of Check-Up Plan with facts and figures

dising is building for thousands of dealers throughout the country is typified in this report. A large dealer in a nearby city started mailings to its customers and prospects May, 1936.

Cards mailed to date.....	20,000
Returns	2,000
Radios serviced	1,643
Daily mailings	300 to 350
Average daily return (mail 25, telephone 10)	35
Percentage of returns.....	10%
Average income per call.....	\$4.00
Gross profit	35%

"As a result of the activity from May to September, books were balanced, all service calls made for the store were charged off and \$1,000 was turned back to the store by the Service Department. As a result of these service contacts, this dealer also sold \$43,000 worth of electrical appliances and radio sets."

New C-D Packaging

NEW YORK—Cornell-Dubilier has just gone over to an entirely new and different package design for all of its products. The familiar blue and yellow colors distinguishing C-D products have been retained but packages have been "streamlined" to increase visibility and also to make stacking easier.



SOLID GOLDEN BRONZE and CORRUGATED BLACK FIBRE



No. 2093 Bond Fibre-Bronz 2-cell Baby Spotlight.

No. 2299 Bond Fibre-Bronz 2-cell Focusing Spotlight.

No. 2298 Bond Bronz-Lite 2-cell Focusing Spotlight.

SOLID GOLDEN BRONZE

New!

BRING THEM IN WITH THESE BIG

Buy-me-quick Values!

FIBRE-BRONZ and BRONZ-LITE

THE gleaming beauty of genuine golden bronze—the snappy combination of golden bronze with rich black—in three smart new numbers, rich in eye-appeal, priced for quick action.

No. 990 BOND FIBRE-BRONZ DEAL

No. 990 BOND FIBRE-BRONZ DEAL
 No. 990 Deal consists of 6 No. 2299 Bond corrugated black and golden-bronze Fibre-Bronz 2-cell Focusing Spotlights packed in a colorful FREE DISPLAY and 48 No. 102 Bond Super-Service Mono-cells. No. 2299 Spotlight priced to retail complete for only 99c.
 Retail value—\$9.54 Cost to you—\$6.36 **Your Profit—\$3.18**



No. 198 BOND FIBRE-BRONZ BABY SPOTLIGHT DEAL
 No. 198 Deal consists of 4 No. 2093 Bond corrugated black and golden-bronze Fibre-Bronz Baby 2-cell Focusing Spotlights packed in a FREE DISPLAY and 12 No. 101 Bond Super-Service Mono-cells. No. 2093 Baby Spotlight priced to retail complete for only 98c.
 Retail value—\$4.32 Cost to you—\$2.88 **Your Profit—\$1.44**

No. 980 BOND BRONZ-LITE DEAL
 No. 980 Deal consists of 6 No. 2298 Bond 2-cell Focusing BRONZ-LITES (solid bronze) packed in a FREE DISPLAY and 48 No. 102 Bond Super-Service Mono-cells. No. 2298 Bronz-Lite priced to retail complete for only 99c.
 Retail value—\$9.54 Cost to you—\$6.36 **Your Profit—\$3.18**

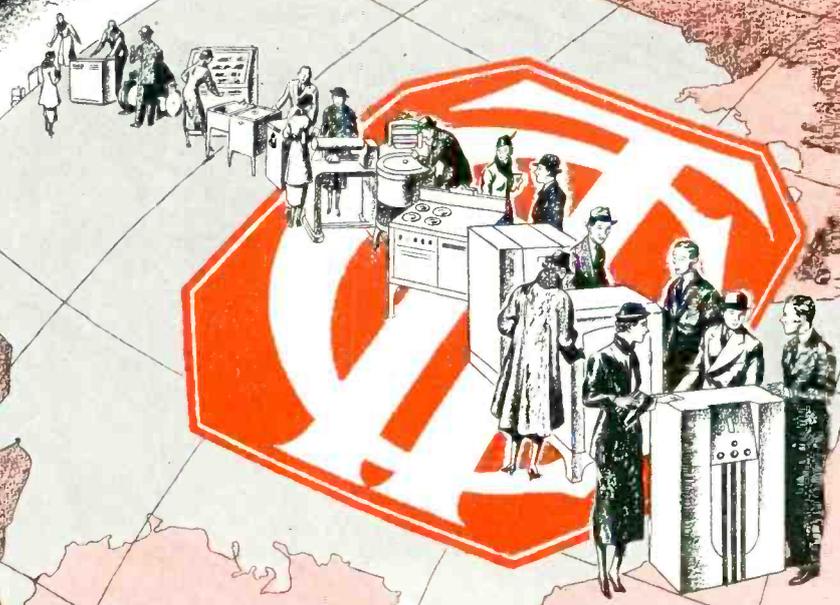
Ask your Jobber's Salesman for full details

BOND ELECTRIC CORPORATION
 New Haven, Conn. • Chicago, Ill. • San Francisco, Calif.

Feature the C.I.T. BUDGET PLAN for

Radios and your ENTIRE LINE

- RADIOS
- REFRIGERATORS
- AUTOMATIC HEATING
- RANGES
- ELECTRIC WASHERS
- IRONING MACHINES
- WATER HEATERS
- DISH WASHERS
- COMMERCIAL REFRIGERATION
- AIR CONDITIONING
- ROOM COOLERS
- VACUUM CLEANERS
- AND OTHERS



For the biggest news in Radio Financing phone (or write) today the C.I.T. Office nearest you

EASTERN DIVISION

- | Office | Address |
|-------------------------------|--------------------------------|
| ALABAMA, Birmingham | 2009 Third Avenue South |
| Mobile | 900 First National Bank Bldg. |
| Montgomery | 122 Church Street |
| CONNECTICUT, Bridgeport | 945 Main Street |
| Hartford | 410 Asylum Street |
| New Haven | 70 College Street |
| DIST. of COL' BIA, Washington | 17th and H Streets, N. W. |
| FLORIDA, Jacksonville | 118 West Adams Street |
| Miami | 600 Biscayne Boulevard |
| Orlando | 102 South Orange Avenue |
| Tampa | 502 Stovall Professional Bldg. |
| West Palm Beach | 317 Clematis Street |
| GEORGIA, Atlanta | 223 Peachtree Street |
| Augusta | 805 Broad Street |
| Rome | 6 West Fifth Avenue |
| Savannah | 35 Bull Street |
| KENTUCKY, Lexington | 709-710 City Bank Building |
| Louisville | 305 W. Broadway |
| (see Central Division) | |
| MAINE, Bangor | 84 Harlow Street |
| Portland | 47 Congress Street |
| MARYLAND, Baltimore | Charles & Preston Streets |
| Cumberland | 7 Centre Street |
| Hagerstown | 307 Arcade Bldg. |
| MASSACHUSETTS, Boston | 664 Commonwealth Avenue |
| Springfield | 146 Chestnut Street |
| Worcester | 390 Main Street |
| NEW HAMPSHIRE, Manchester | Kennard Bldg., 1008 Elm St. |
| Portsmouth | 3 Pleasant St. |
| NEW JERSEY, Camden | 300 Broadway |
| Jersey City | 880 Bergen Avenue |
| Newark | 11 Hill Street |
| Paterson | 249 Market Street |
| NEW YORK, Albany | Perth Amboy Nat'l Bank Bldg. |
| Bay Shore, L. I. | 75 State Street |
| Binghamton | First Nat'l Bank Bldg. |
| Bronx | 86 Court Street |
| Brooklyn | 2488 Grand Concourse |
| Buffalo | 1 Hanson Place |
| Glens Falls | 1600 Kings Highway |
| Hempstead, L. I. | 220 Delaware Avenue |
| Jamaica, L. I. | 190 Glen Street |
| Jamestown | 250 Fulton Avenue |
| Mt. Vernon | 90-04 161st Street |
| Newburgh | 3rd & Cherry Sts. |
| New York | 140 East Third Street |
| Poughkeepsie | 77-79 Broadway |
| Rochester | 250 West 57th Street |
| Syracuse | 11 Market Street |
| Utica | 154 East Avenue |
| Watertown | 224 Harrison Street |
| White Plains | 187 Genesee Street |
| | 200 Washington Street |
| | 31 Mamaroneck Avenue |

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|---------------------------|---------------------------------|
| NORTH CAROLINA, Asheville | 406 New Medical Bldg. |
| Charlotte | 212 So. Tryon Street |
| Greensboro | 114 North Elm Street |
| Hickory | 1036-13th Street |
| Raleigh | 239 Fayetteville Street |
| Salisbury | 132 N. Main Street |
| Wilson | 113 East Nash Street |
| OHIO, Akron | 9 South Main Street |
| Canton | 120 Tuscarawas St., West |
| Cincinnati | 107 East Fourth Street |
| Cleveland | 1621 Euclid Avenue |
| Columbus | 50 West Broad Street |
| Dayton | 25 South Main Street |
| Springfield | 8 West Main Street |
| Toledo | 410 Huron Street |
| Youngstown | 26 Market Street |
| Zanesville | Fourth & Market Sts. |
| PENNSYLVANIA, Altoona | 1214 Eleventh Avenue |
| Erie | 619 Erie Trust Building |
| Harrisburg | 216 Locust Street |
| Philadelphia | 121 North Broad Street |
| Pittsburgh | 5648 Friendship Avenue |
| Reading | 607 Washington Street |
| Scranton | Chamber of Commerce Bldg. |
| Wilkes-Barre | 66 West Market Street |
| RHODE ISLAND, Providence | 15 Westminster Street |
| SOUTH CAROLINA, Columbia | 1400 Main Street |
| Florence | 200 West Evans Street |
| Zanesville | 201 Peoples Nat'l Bank Bldg. |
| Spartanburg | 509 Andrews Bldg. |
| TENNESSEE, Chattanooga | 412 Hamilton Nat'l Bank Bldg. |
| Johnson City | 126 W. Market Street |
| Knoxville | 612 South Gay Street |
| Nashville | 119-7th Avenue, North |
| (see Central Division) | |
| VERMONT, Montpelier | 52 State Street |
| VIRGINIA, Norfolk | 229 West Bute Street |
| Richmond | 201 North Fourth Street |
| Roanoke | 1115 Col.-Amer. Nat. Bank Bldg. |
| WEST VIRGINIA, Beckley | Raleigh County Bank Bldg. |
| Charleston | 100 Capitol Street |
| Clarksburg | Main & South Third Streets |
| Huntington | Fourth Ave. at 11th St. |
| Wheeling | 12th and Chapline Streets |
| CENTRAL DIVISION | |
| ARKANSAS, Little Rock | 508 Wallace Building |
| COLORADO, Denver | 13th & Broadway |
| ILLINOIS, Carbondale | 206 W. Main Street |
| Chicago | 333 North Michigan Avenue |
| Peoria | 301 South Adams St. |
| Rockford | 315 West State Street |
| INDIANA, Evansville | 416 Main Street |
| Fort Wayne | 116 E. Berry Street |
| Indianapolis | 320 No. Meridian Street |
| Richmond | 10 North Seventh Street |

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|--------------------------|------------------------------|
| IOWA, Cedar Rapids | 209 Higley Building |
| Des Moines | 712 Hubbell Building |
| KANSAS, Wichita | 307 Fourth Nat'l Bank Bldg. |
| KENTUCKY, Paducah | 416 City Nat'l Bank Bldg. |
| (see Eastern Division) | |
| LOUISIANA, New Orleans | 226 Carondelet Street |
| MICHIGAN, Detroit | 7310 Woodward Avenue |
| MINNESOTA, Minneapolis | 1645 Hennepin Avenue |
| MISSOURI, Cape Girardeau | 215 H & H Building |
| Kansas City | 10 East 17th Street |
| St. Louis | 3713 Washington Blvd. |
| NEBRASKA, Lincoln | 206 S. 13th Street |
| Omaha | 510 Keeline Bldg. |
| OKLAHOMA, Oklahoma City | Third & Harvey |
| Tulsa | 714 Commercial Building |
| Seminole | 315 E. Broadway |
| TENNESSEE, Memphis | 46 N. Third Street |
| (see Eastern Division) | |
| TEXAS, Abilene | 1049 N. Third Street |
| Amarillo | 107 Third Street |
| Beaumont | 805 Amer. Nat'l Bank Bldg. |
| Dallas | 1700 Patterson Avenue |
| El Paso | 520 El Paso Nat'l Bank Bldg. |
| Fort Worth | 616 W. T. Waggoner Bldg. |
| Houston | Main at McKinney St. |
| Longview | Green & Methvin Streets |
| McAllen | 1301 Beaumont Avenue |
| San Antonio | 115 W. Travis Street |
| Texarkana | 209 Pine Street |
| WISCONSIN, Milwaukee | 744 North Fourth Street |

WESTERN DIVISION

- | | |
|-------------------------|-----------------------------|
| ARIZONA, Phoenix | 602 Title and Trust Bldg. |
| Tucson | 323 E. Congress Street |
| CALIFORNIA, Bakersfield | 2007 H Street |
| Fresno | 1060 Fulton Street |
| Los Angeles | 1151 So. Broadway |
| Sacramento | 1508 K Street |
| San Diego | 625 Broadway |
| San Francisco | 525 Market Street |
| San Jose | 28 North First Street |
| Stockton | 408 E. Miner Avenue |
| IDAHO, Boise | 516 First Nat'l Bank Bldg. |
| MONTANA, Billings | 314 Fratt Bldg. |
| Butte | 409 Metals Bank Bldg. |
| NEVADA, Reno | 13 West Second St. |
| ORGEON, Portland | 921 S. W. Washington Street |
| UTAH, Salt Lake City | 1301 Continental Bank Bldg. |
| WASHINGTON, Seattle | 1326 Fifth Avenue |
| Spokane | West 926 Sprague Avenue |
| Yakima | Corner 3rd and A Streets |

C.I.T.

C. I. T. CORPORATION • NEW YORK • CHICAGO • SAN FRANCISCO
 A UNIT OF COMMERCIAL INVESTMENT TRUST CORPORATION
 CAPITAL AND SURPLUS MORE THAN \$100,000,000



HELPING DEALERS TO WIDEN THE SCOPE OF THEIR BUSINESS

www.americanradiohistory.com

SOBOL STATIONS SELL HOME SETS

NEW YORK—George Solomon, who for the last few months has concentrated on the business of writing a series of sales training and management articles for "Radio Retailing," advises that he has joined Sobol Bros. Service Stations, Inc., as manager of its radio division, with headquarters at Fifth Avenue and 110th Street.

Sobol operates a chain of more than 100 gasoline filling stations in greater New York and has sold automobile radios for some time. Now the firm adds midget and table models for home use, in line with its plans to expand into other fields of selling.

Solomon, who has passed along to independent dealers reading "Radio Retailing" many valuable merchandising ideas, has had wide experience in the radio field. He was at one time an official of the old Perfection chain operating in this city, later joined Vim and then went to Washington, D. C., to direct sales for the George Radio Co.

Rhine Wins Clarostat Contest

NEW YORK—With a remarkably close estimate of 490,848 ohms, or 4 per cent decrease, as against an actual reading of 490,600 ohms, or 4.05 per cent off, Arthur E. Rhine, Bronx serviceman, won the Clarostat volume control contest conducted at the recent IRSM Convention, held here.

Visiting servicemen were asked to estimate the resistance change in a standard

500,000 ohm stock Clarostat composition-element control in constant operation for three days, totalling 17,071 swings of the contact arm. Large users of carbon element controls allow for from 10 to 15 per cent change in value when designing receivers, says George J. Mucher, chief engineer, who further points out that the RMA Standards accept 10,000 rotation cycles as the equivalent of three years of average set use.

Electric Amp. Corp. Organized

NEW YORK—L. A. Meyerson, former president of the Morlen Electric Company, has organized the Electric Amplifier Corporation at 135 West 25th Street and is issuing catalogs to dealers requesting these on their business letterheads.

STROMBERG OFFICIALS TRAVEL

ROCHESTER—Lee McCanne, secretary and radio sales manager of the Stromberg-Carlson Telephone Manufacturing Co., has just returned from an automobile trip through the eastern section of the country, combining business with a much needed vacation. He stopped at Boston, Philadelphia, Baltimore, Washington and Richmond. McCanne reports a healthy increase in receiver sales in the middle price group.

George A. Scoville, vice president and general manager for Stromberg, has just left for Winnipeg, Canada, and will go from there to Cincinnati, Chicago and other key points, calling on radio distributors and dealers.

Returns to Triad



Harry H. Steinle, who assisted George Coby in the formation of the Triad Mfg. Co., served as its vice president in charge of sales, then left to join Arthus H. Lynch, Inc., is back with Triad as vice president and director of sales

PARTS REPS ELECT OFFICERS

NEW YORK—At a meeting here October 6, "The Representatives," an organization of men representing radio parts manufacturers, elected Earl D. Dietrich president, Perry Saftler vice-president and David Sonkin secretary-treasurer. Election was by unanimous vote in each case.

The outgoing president, Jack Price, thanked members for their cooperation. Talks were also delivered by Earl Dietrich and Ken Hathaway, executive secretary of the IRSM.

Lang Heads GE Advertising

SCHENECTADY—With the consolidation of the advertising sections of the Appliance and Merchandising department of the General Electric Company's plants located at Bridgeport and Cleveland, vice presidents C. E. Wilson and E. O. Shreve announce that Chester H. Lang, manager of the publicity department, will be in charge of this division, as well as of apparatus and general advertising.

Frankelite Opens Akron Office

CLEVELAND—The Frankelite Co., Crosley distributor for the past six years, has just opened a branch at Akron, according to sales manager E. J. Rueth. The new office will be directed by Carl Kromer, who has sold Crosley products in this territory for a number of years.

The new office will include a centrally located warehouse and service department.



On the Trail of Business

Trailers are everywhere proving their effectiveness as a means of bringing a complete line of demonstrators right to the dealer's door. Here's one just put into service by The Home Modernizing Company, Emerson's South Bend distributor



"EVEREADY LAYERBILT"

Presents two

RECORD - SMASHING VALUES



The Famous 486
"LAYERBILT"

at a new low price **\$1⁹⁸**



The New
"SUPER LAYERBILT"

The Longest Lasting **\$2²⁵**
"B" Battery ever offered at only

Genuine "Eveready Layerbilt" "B" batteries, famous for years for *extra long service*, now cost but a few cents more than ordinary, wasteful, short-lived, old-fashioned round-cell "B" batteries. You can now buy genuine, exclusive "Layerbilt" "B" Batteries for *less* than many makes of round-cell battery. And "Layerbilt" now gives you the new, crack-proof cushion top in addition to the advantages of patented "Layerbilt" construction.

"Layerbilt" gives you longer service because there's no waste space, and because "Layerbilt" construction permits the power-making materials to be more completely used up. For example, the active material in a round-cell battery is contained in 30 zinc cans. The zinc is eaten away to make electricity, and usually tiny holes appear in the zinc long before the battery should be used up. Air gets in, the chemicals dry out, the battery goes dead quickly, before it is used.

In "Layerbilt" batteries, the zinc plates perforate also, but no gas is admitted and no harm is done. That's why long after a round-cell battery has quit, the Layerbilt goes on pouring out power.

Take advantage of this extra long service price.

*Here's the way we're telling your customers about these two new Evereadys—
Are you stocked?*

Standard "Eveready" Round Cell "B" Batteries

NATIONAL CARBON

General Offices: New York, N. Y.

Unit of Union Carbide

The words "Eveready" and "Layerbilt" are trade-marks of the National Carbon Co., Inc.

Prices slightly higher in Far Western States

WIXAL Broadcasts Radio Course

Station Operates On 6040 Kc., Weekly, Using 10 Kilowatts

BOSTON—The World Wide Broadcasting Foundation has completed plans for a series of air lectures on modern radio for broadcast listeners, servicemen, amateur operators and others. These will be given by C. Davis Belcher, former radio inspector for the FCC and now instructor of commercial radio operating for the Massachusetts University Extension.

Transmissions take the air Monday evenings at 7 p.m., E.S.T. over WIXAL, using 10 kilowatts on 6040 kc. A bulletin containing further details will be mailed to interested listeners on request. Blueprints are also available to students. The schedule is as follows:

November 2—History of radio. November 9—Theory of Radio Communication. November 16—Summary of Electron Theory of Electricity. November 23—A.C. Electricity. November 30—Vacuum Tubes. December 7—Vacuum Tube Characteristics. December 14—Amplifiers and Their Classification. December 21—Audio Amplifiers. Other topics will be announced at a later date as the Foundation plans 32 lectures in all.

Immediately following the technical lecture series instruction in code will be transmitted.

Wright Leaves May Company

COLUMBUS, OHIO — Nelson P. Wright, for 10 years merchandise manager and buyer of the Major Appliances Department for The May Company, Cleveland, has resigned to become general manager of the Appliance Distributing Company, succeeding B. A. Morgan. Mr. Morgan returns to the Tracy-Wells Company to do promotional work for the parent company and its subsidiary, the Arnold Wholesale Corporation.

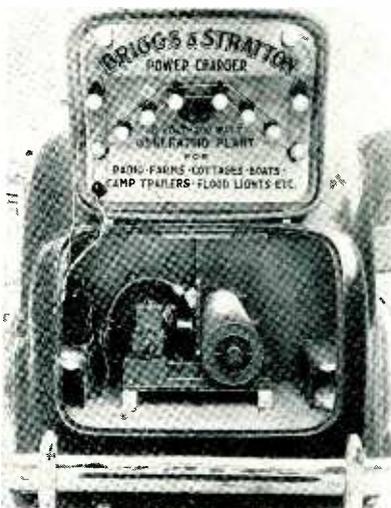
Harmon Becomes Mission Bell C.E.

LOS ANGELES—P. L. Fleming, president of the Mission Bell Radio Mfg. Co. of 833 Venice Blvd., announces the appointment of W. S. Harmon as chief engineer. Harmon was at one time chief engineer for the Emerson Radio and Phonograph Corp. and also served General Household Utilities.

Tobe Man Speaks On Noise

FRAMINGHAM, MASS.—At a meeting of the Kiwanis Club, held here late in October, Clarence Metcalf, of the Tobe Deutschmann Corp., told more than 40 local business men what caused serious radio interference within the town limits, demonstrating methods of correcting such disturbance at its source.

Power-Plant Demonstrator



Mounting equipment in a compartment at the rear of salesmen's automobiles, Briggs & Stratton is sending out a fleet of special demonstrator cars on a tour of the country to familiarize dealers and farmers with the advantages of 6-volt, 200-watt "Power-Chargers"

Electrad Releases V. C. Guide

NEW YORK—Electrad, Inc., of 175 Varick Street, has just received from its printer copies of the new 143-page volume control guide. It includes an extremely comprehensive list of manufactured receivers, showing their control requirements, and is to be mailed free to servicemen who accompany their request with the flap of an Electrad carton, showing the specification number.

Gray, New Webster S.M.



R. M. ("Rocky") Gray, who has just been appointed sales manager for Webster-Chicago.

CBS BUILDS HOLLYWOOD CENTER

NEW YORK—Announcement is made of the purchase of a site in the center of Hollywood, California, to be used by the Columbia Broadcast System for the erection of a modern broadcasting center, at an estimated cost of \$1,000,000. According to Donald W. Thornburgh, vice-president in charge of Pacific Coast operations, plans for the various units of the new structure are rapidly nearing completion and the actual work of construction should begin early in January. Present schedules set October, 1937, as the date for occupancy.

The new center, to front on Sunset Boulevard for the full block between Gower and El Centro Streets, will house the studios and offices of KNX, recently acquired CBS outlet. Plans also provide additional studios, offices and large auditoriums for Columbia's nation-wide and Pacific Coast network activities. A yet undetermined portion will be given over to experimental television studios.

Continental Appoints Kopple

DETROIT—The Continental Motors Corp. announces the appointment of John J. Kopple, 60 East 42nd St., New York City, as eastern district sales representative for its line of Tiny Tim portable battery chargers and light plants, Perm-O-Flux permanent magnet dynamic speakers and Kleen-Aire portable air-conditioners.

CLEAR I.F. FREQUENCY SUGGESTED

WASHINGTON—L. C. F. Horle of the RMA's engineering committee, speaking before the FCC early last month, recommended consideration of a protected intermediate frequency. It was pointed out that most present-day receivers utilize the superheterodyne principle and that clearing of transmitters from one or more frequencies in the spectrum suitable for use in i.f. amplifiers would reduce the cost of receiver manufacture, render better public service by eliminating interference now riding straight through such amplifiers, especially in coast areas.

Rocke Forms Subsidiary

NEW YORK—The Rocke International Electric Corp., of 100 Varick St., has just formed the U. S. Transmitter Corp., a new organization manufacturing communication apparatus, including transmitters, receivers and amplifiers, for the government and the export market. Plant is located at 75 Crosby St.

A. Pleasanton, formerly with Marine Radio, is plant manager. Frank Edmonds, formerly with Meissner and United Trans-former, is chief engineer.

FCC Hears RMA Allocation Plea

Manufacturers Defend Clear Channels and High Power, Urge Sale Of Time By Shortwave Stations, Favor High-Frequency Re-Broadcast Links

WASHINGTON—Among important broadcasting recommendations made at the allocations hearing of the Federal Communications Commission here beginning October 5, were those of the Radio Manufacturers Association, presented by Bond Geddes, executive vice-president and general manager.

Mr. Geddes' presentation included three resolutions adopted by the RMA's Board of Directors at a September 24 meeting in New York. These recommended:

1. That the FCC retain the present setup of clear channels as it now is, remove restrictions with respect to increased power on such channels and, in fact, establish minimum power requirements.
2. That the FCC remove restrictions now preventing the sale of time by shortwave stations, and
3. That the FCC remove restrictions prohibiting the pickup and re-broadcast of shortwave programs by broadcast stations, even where the originator gives consent.

New Home for Omaha Appliance

OMAHA—The Omaha Appliance Company is now located in a new brick structure just completed here, affording greatly enlarged display and service facilities.

CONTINENTAL RADIO EXPANDS

CHICAGO—A rumor to the effect that the Continental Radio & Television Corp.

planned to acquire a new factory with over two and one-half its present floor space is confirmed by the management. Until negotiations are concluded, however, its location is not to be divulged.

Increase in business on the Admiral line, according to the concern's executives, requires expansion.

Leonard Merch Man



E. R. Berkeley, who has just been appointed manager of the Leonard merchandising division

Basler With Gibson



F. E. Basler, former general sales manager for Atwater Kent, has been appointed sales manager of the Gibson Electric Refrigerator Corp., with offices at Greenville, Mich. L. E. Taufenbach rejoins his family in California, continues with Gibson as West Coast Manager

Bendix Gives A-R Service Facts

SOUTH BEND—O. C. Holaday, service sales manager, the Bendix Products Corp., estimates that by the end of the year more than 5,000,000 cars will be equipped with radio, states that surveys in behalf of Bendix-Dayrad radio service instruments indicate that service sales ranging from \$3 to 10 per car result after the inspection of car radios.

According to Holaday, inspection of car sets frequently leads to work on the ignition system of the car itself, bringing in more repair business for dealers equipped to handle such work.

May Springs Bermuda Cruise

NEW YORK—D. W. May, district radio sales manager of the General Electric Company, announces a six-day winter vacation cruise aboard the trans-Atlantic S.S. Volendam, for four hundred dealers and their wives sailing February 27, returning March 5.

The ship leaves Hoboken, N. J., arrives at Bermuda on Monday morning, March 1st, sails again for New York on Wednesday night, March 3. Dealers will use the ship as their hotel while in Bermuda.

Turner Company Moves

CEDAR RAPIDS IOWA—The Turner Company, manufacturer of sound equipment and crystal microphones, has just moved to a new factory building at 909 17th Street.

Frigidaire Execs Pow Wow on the Coast



In an atmosphere of semi-tropical architecture and foliage West Coast sales and operating executives of Frigidaire met for the first conference of its kind late last month. Scenery: Courtesy Castlewood Country Club of Oakland

★



Toward a new and better way of living

Soon Kelvinator will make an announcement—

An announcement of vital interest to you.

For it will affect millions of people. People in large cities—in small towns—in rural communities.

It will cause them to stop, to think about the way they live—and the way they might live.

It will start conversation and discussion.

It will be the beginning of change, the discarding of old standards, the adoption of new ones.

And it will create an opportunity for salesmen, for specialty dealers, for department stores, for utility companies—such as we have never known before.

The facts about Kelvinator plans for 1937 are known only to a few men.

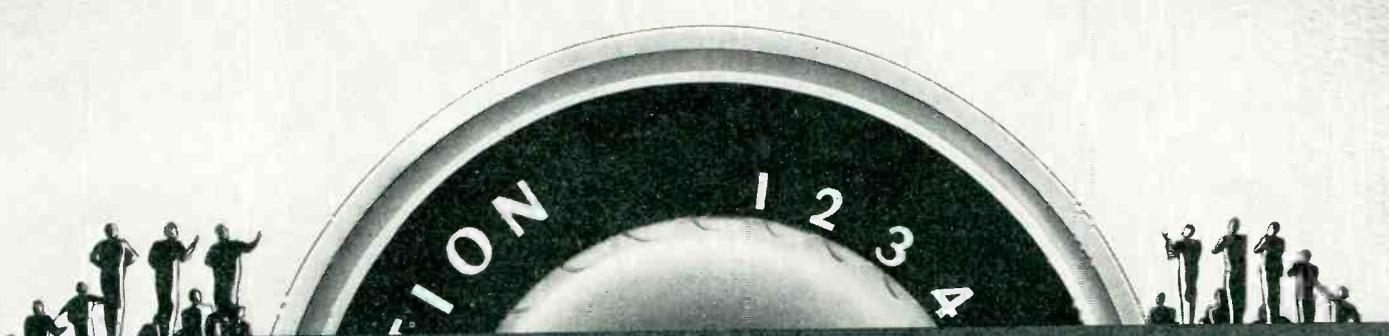
Don't depend on rumors.

KELVINATOR CORPORATION

Detroit • Michigan

★

In 1937



IT WILL BE THE MOST *talked About*
development in electric refrigeration and
only *Leonard Electric* WILL HAVE IT

They Helped Put Over Milwaukee's Radio and Food Show



FRANK W. GREUSEL, president of Maurer-Greusel and head of the Milwaukee Electric Appliance and Radio Dealers Ass'n



ALVIN VanANTWERPEN of the Radio Specialty Company, served as treasurer of the show



GORDON FAIRFIELD, of the Morley-Murphy Co., was on the executive committee



BERT JOHNSON, of Westinghouse Electric Supply Co. also served on the committee

**ZENITH PROMISES
NO MODEL CHANGES**

CHICAGO—E. F. McDonald, Jr., president of the Zenith Radio Corporation, in a letter mailed to distributors October 23, promises no radio model changes until the new 1938 line is introduced in April or May of next year. He urges, further, that distributors follow suit by issuing guarantees to dealers that there will be no additional models, no changes in existing models and no changes in list price during the present season.

Central Ill. Wholesalers Moves

SPRINGFIELD, ILL.—The Central Illinois Wholesalers, Inc., Crosley distributor, has just moved into a new building, recently purchased and thoroughly modernized.

Continental Manner



RR's candid camera catches suave Bob Serge, engineer behind Perm-O-Flux speakers made by Continental Motors

JOBBER APPOINTMENTS

Horton—For southern Illinois, northern Kentucky and most of Missouri: *The Witte Hardware Co.*, St. Louis.

Stromberg-Carlson—For Oregon and the river towns in the state of Washington: *Radio Specialty Co.*, Portland.

Utah—Radio Servicemen's Supply Co., Cleveland; Rinehart Radio Sales, Richmond, Ind.; Northwest Radio and Central Electric Supply Co., Duluth; Shuler Supply Co., New Orleans; Cosmopolitan Radio Co., Gary, Ind.; Electrical Specialties Co. and Radio Specialties Co., Detroit; Southern Sales Co., Oklahoma City; R & R Parts Co., Lubbock, Texas; Radio Service and Supply Co., Colorado Springs; Ferguson Radio Supply Co., Detroit.

Stage Successful Crosley Show



Ontario Electric of Buffalo staged an extremely successful showing of new Crosley radios and refrigerators last month. J. L. Block (extreme left, back row) says the entire organization was responsible so we shot this photo of his personnel

CORONA HIRES MURRAY

CHICAGO—W. W. Murray, recently appointed general sales manager for the Corona Radio & Television Corp., announces that the company now has a complete line of sets, including battery models and automobile radios, for distribution through established dealers.

He is at present enlarging and organizing his sales staff, preparing extensive advertising and promotion plans.

Motorola Distributor Campaigns

DENVER—A. H. Vogler, manager of the Central Supply Company, Motorola distributor, is starting a campaign among dealers. He plans three large promotions between now and the first of the year.



TEN



SOUND ENGINEERING

A decade of progress by NBC: The small picture shows a broadcast from the main studio in 1926. The large picture was taken in 1936, in the immense main studio at Radio City. Three stories high, acoustically perfect, and seating 1318, this is the world's finest, largest Radio Theatre—the result of the same sound engineering that distinguishes all RCA Radio Products.

RADIO CORPORATION OF AM

EVERYTHING IN RADIO FOR SERVICE IN COMM

YEARS—

that changed your life!

National Broadcasting Company, a service of RCA celebrates 10th Anniversary, marking a decade of unceasing progress in public service over the air

WHEN, on Nov. 15, 1926, the National Broadcasting Company presented its first network program few realized what a vast change it was destined to make in their lives—and in the lives of millions throughout the world.

For ten years ago broadcasting was in its infancy. Few were the believers who thought it would take its present place as the nation's most popular form of entertainment. It was held lightly, considered far too complex for general usefulness.

But today, the broadcasting of radio programs means the expenditure of fabulous sums of money . . . for air time and talent. Radio, through broadcasting, has become a mighty industry. Millions who once spent their leisure at other diversions now "listen in." Thousands now devote themselves to radio work. Artists, many then unknown, others famous only in large cities, now are the favorites of "fans" in every corner of the land. And in all these life changes, NBC has played a prominent part.

Thus, again RCA has served—and served well. RCA sound engineering stands behind the achievements of NBC—just as it has always been the guiding light of radio's greatest advances—just as some day it will give the world radio *sight!*

As the nation celebrates NBC's Tenth Anniversary, we reiterate: Public confidence in radio starts from the RCA trademark. This, the symbol of sound engineering, is the mark that makes sales. Dealers identifying themselves with it know this to be true. For they make more money.

RCA MANUFACTURING CO., Inc. • RCA COMMUNICATIONS, Inc.
NATIONAL BROADCASTING CO., Inc. • RCA INSTITUTES, Inc.
RADIOMARINE CORPORATION OF AMERICA

*Listen to "The Magic Key of RCA" on NBC Blue Network every Sunday,
2:00 to 3:00 P. M., E. S. T.*

MILESTONES OF NBC PROGRESS

1926



1936

In January, 1927, NBC made the first successful transcontinental pickup by broadcasting the Rose Bowl game from Pasadena, California.

In June, 1927, NBC made radio's first multiple pickup by broadcasting Lindbergh's arrival in Washington.

In January, 1928, NBC broadcast the first program from the West Indies as President Coolidge opened the PanAmerican conference in Havana.

In February, 1929, NBC broadcast the first international program from Europe (England).

In May, 1929, NBC first broadcast the Kentucky Derby.

In December, 1929, Christmas Day, the first international exchange program was broadcast to and from England, Holland, Germany and the United States.

In December, 1930, the first broadcast from a submarine was made.

In December, 1931, a tribute to Marconi was broadcast from 19 different points in the world. This was the first time so many widely separated places were united in one broadcast.

In December, 1931, the first broadcast of the Metropolitan Opera Company from the stage was made on Christmas Day.

AMERICA • Radio City • NEW YORK
COMMUNICATIONS . . . BROADCASTING . . . RECEPTION

INDUSTRIAL DISCOUNTS

(Continued from page 12)

tends to impoverish the merchant who is a vital part of the civic whole, it tends to disrupt an economic structure that will eventually make definite inroads into your own profits by way of tax and relief burdens.

* * *

4 "I never thought of it in that light."

This series of letters on the evils of "wholesale buying" brought the above response from a big industrialist in this city.

Perhaps you too have never given it more than a passing thought.

Perhaps you too were under the impression that you were merely doing your employees a good turn. But it is a proven fact that this form of co-operative buying, if followed to its ultimate conclusion, will surely play havoc with our whole commercial system.

And . . . as we have mentioned in our previous letters . . . it will eventually react unfavorably on your own books.

As an organization we cannot legally ask you to do anything about it . . .

But un-officially we do want to call this grave condition to your attention in the hope that you will see the wisdom of giving the retailer in this community a chance to make a legitimate livelihood . . . a privilege that must be everyone's right in this land.

* * *

5 You were among some two hundred executives of leading Milwaukee business and industrial institutions to whom our Association recently addressed a series of letters aimed at soliciting your personal interest in a trade evil which we believe has become a really serious menace to the retail business structure of the community—the promiscuous wholesale buying of merchandise appliances and supplies of all kinds for employees through purchasing departments.

A great many local institutions had not realized the extent of this practice, and while we are not able to give any definite figures as to

the retail business thus diverted from legitimate retail outlets, a study of the situation leads us to estimate that at least 20% of the buying needs of the employees of Milwaukee business and industrial institutions is now going through these channels. In other words, our retail business structure in Milwaukee is receiving only 80% of what should be legitimate retail buying. The thing we are particularly worried about is the continued growth of the evil. Prior to the depression, we estimate, considerably less than 10% of purchases were made in this manner. Our study of the subject convinces us that the only practical way of checking the thing is for the responsible executive heads of our leading business and industrial institutions to put restrictions upon their purchasing departments. We do not make accusations against any particular company and merely want those we are contacting to check up on conditions in their respective institutions. With the welfare of our community in mind, I urge your active interest in this proposition.

TO DEALERS AND SERVICEMEN

TRIAD RADIO TUBE FREE!

UP TO \$1.25 LIST

A DARING NEW PLAN

To convince you of the superior quality of Triad Radio Tubes—we are offering absolutely free any Triad Tube up to \$1.25 list with your purchase of Triad Radio Tubes; up to \$1.25 list with your purchase of Triad Radio Tubes; also free Engineering Data Chart. Mail coupon below—back will come your Free Tube Certificate. Present it to your jobber when you purchase Triad Tubes and get your Free Tube—save \$1.25.

MAIL TODAY!

TRIAD MANUFACTURING CO., Inc. THIS COUPON WORTH \$1.25
Dept. L-10 Pawtucket, R. I.

Sure I'll try Triads. Send me Free Tube Certificate . . . good for \$1.25. Also FREE Engineering Data Chart.

Name _____
 Address _____
 Town _____ State _____
 Jobber's Name _____

"THE QUALITY NAME IN RADIO TUBES"

RADIO . . . and "MAN-MADE" STATIC



"NOISE-MASTER" No. 14

Brings in overseas signals stronger, and eliminates "man-made" static on broadcast as well as shortwave band.

List price . . . \$6.75



"NOISE-MASTER" No. 18

First time at this popular price; licensed Amy, Aceves & King antenna of simple doublet type SELF-SELECTING, recommended for clarifying shortwave reception.

List price . . . \$3.40

"NOISE-MASTER" No. 19

SELF-SELECTING doublet type, with junction-box in the antenna line Assures excellent all-wave reception.

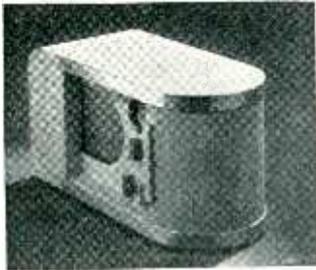
List price . . . \$4.30

•The "man-made" nuisance noises caused by household appliances can be completely divorced from radio by installing "NOISE-MASTER," the modern Amy, Aceves & King licensed antenna. Broadcast as well as shortwave reception improved tremendously. Service men, try this great product on your next installation . . . there's a model for every location!

CORNISH WIRE CO., Inc.
30 Church Street, New York, N. Y.

PREVIEW of NEW PRODUCTS

USE POST CARD ON PAGE 66 TO OBTAIN FURTHER DETAILS



Open View

DICTOGRAPH

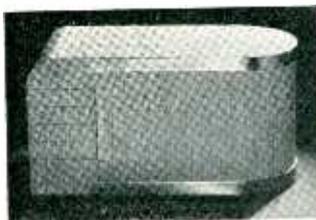
1 Progress Corp.

Model: "Silent" radio.

Description: May be used (1) as a radio for a group of auditors; (2) or the sound may be directed to a single individual in a room, chair or bed with no other person in the room, even as close as 3 ft. away, hearing; (3) or the sound may be heard by one person, through the Magic Ear, and by others in the room through the radio speaker. In the home where illness makes silence a consideration, other members of the family may enjoy a broadcast without disturbing the patient. The Magic Ear, a tiny speaker the size of the palm of one's hand, tucked away in a pillow or the back of an armchair is the answer.

The set is streamlined in design and ultra modern in that no dial of the beautifully finished instrument is visible while the radio is playing silently. An ingenious flexible sliding cover completely conceals the dial, speaker and other radio characteristics. Sides are of white oak, trimmed with metal ribbon. Top is of cork. The set may be heard by the hard of hearing as clearly as by those with normal hearing.

Price: \$65.—*Radio Retailing*, November, 1936.



Closed View

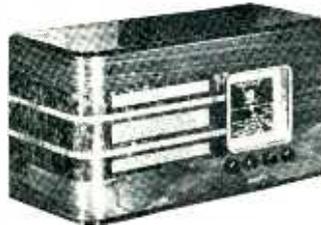
KADETTE

2 International Radio Corp.

Model: 36.

Description: 6 tube, super-het, 540-1,600 kc. and 16-36 meters, a.v.c. Short wave station stabilizer minimizes station fading, 6 1/2 in. full dynamic speaker; oversize vernier driven airplane dial, edge-lighted. Foreign stations are designated by call letters. 9 1/2 x 17 1/2 x 7 1/4. Tubes: 76, 2-6D6, 75, 41, 80.

Price: \$32.50.—*Radio Retailing*, November, 1936.



RCA VICTOR

3 RCA Manufacturing Co.

Model: 5-BT table model farm set.

Description: Five tubes, 530-1800 kc., 8 in. speaker, full-vision dial, a.v.c., provision for phonograph connection, cables for plug-in type of batteries, and the new Magnetite core i.-f. transformers for permanent alignment under all conditions of temperature and humidity.

Operates from a 2-volt storage or air cell battery,



three 45 volt B-batteries, and a 7.5 volt C-battery. Also has two built-in bias cells and a built-in weather-proof container for a C-battery.

Price: \$32.95.—*Radio Retailing*, November, 1936.



SPARTON

4 Sparks Withington Co.

Models: 1567, 667.

Description: Model 1567, 15 tubes, all-wave with weather band, Viso-Glo tuning, tone expansion, alto-basso control, mahogany finish. Encased in a modernistic console with recessed panel.

Model 667, 6 tubes, all-wave, Photochromatic dial, walnut console.—*Radio Retailing*, November, 1936.



MAGIC BAR

5 Ray-De-Ette Products Co.

Device: Aerial for turret top cars.

Description: Made of pure copper stock and chromium plated; attached with special adhesive rubber pads (not suction cups) which are guaranteed to hold regardless of weather conditions; adaptable to either sedan or coupe; lead-in is fed into car through a small hole in the soft rubber holding the windshield in place; runs the length of the car top, adding to the streamlined effect.

Price: \$3.50.—*Radio Retailing*, November, 1936.

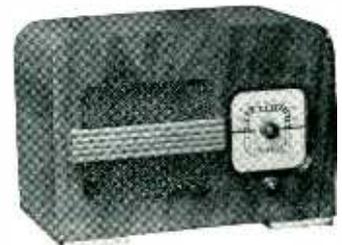
HAYNES

6 Haynes' Radio Log

Model: Radio Log.

Description: Special Christmas issue. Handy leaflet size. Gives radio spectrum, International Morse code, complete list of stations, police broadcasts, network programs, etc. Space for dealer's ad, featuring a particular line or lines of radios, if desired. All year 'round editions also available. Large users may obtain special issues in quantities as low as 1,000 made to their own specifications.

Price: 2¢, each. Any quantity imprinted for \$1.50.—*Radio Retailing*, November, 1936.



MISSION BELL

7 Mission Bell Radio Mfg. Co., Inc.

Models: 375, 376.

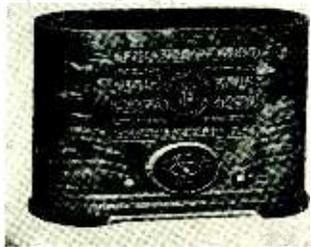
Description: Model 375; 5-tubes, all wave, a.c., super-het, 3 wave bands, 540 to 18, large airplane type dial.

Model 376 "Travel-Lite," five tubes, a.c.-d.c., t.r.f. 540-1730 kc. Large full vision dial with new and novel feature for selecting stations. A traveling dot of light moves around the dial to indicate the stations as they are selected.

This company also makes nine other home sets and three auto radios.

Price: 375, \$32; 376, \$17.05.—*Radio Retailing*, November, 1936.





EMERSON

8 Emerson Radio & Phono.

Models: J-106 and S-147.

Description: J-106, "duo-tone" model (same design and finish front and back), 6 tubes, a.c.-d.c., superhet, standard broadcast and state police calls.

S-147, 6 tubes, a.c., superhet, all metal tubes, 16-555 meters, console cabinet with Gemloid dial.

Prices: J-106, \$24.95; S-147, \$64.95.—*Radio Retailing*, November, 1936.

FREED EISEMANN

9 Freed Mfg. Co. Inc.

Model: FE-33.

Description: 3 tubes, portable, t.r.f., dynamic speaker, 7½x5x6½ in., a.c.-d.c., 200-500 meters. Tubes: 6CC, 6D6, 25A7. Cabinet covered with basket weave grain Fabrikoid in tan, blue, red, brown, green.

Price: \$9.95.—*Radio Retailing*, November, 1936.



WARD

10 Ward Products Co.

Model: "Topper" auto radio aerial.

Description: Constructed of chrome and bakelite, fits all makes and types of cars. Easily installed; no drilling on top.—*Radio Retailing*, November, 1936.

PIERCE AIRO

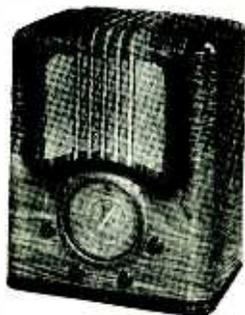
11 Pierce Airo, Inc.

Models: 901B, 902B, 1102B, 1103B.

Description: 901B, 3 bands, 16.7-550 meters, Synchro-Beam tuning and large, attractive gold dial. The bands are set off in colors and tuning is accomplished with a split-second and master indicator.

Model 902B, the same specifications, covers 16.7-2140 meters.

Models 1102B and 1103B, 11 tubes, a.c.-d.c., Synchro-Beam tuning, stage of r.f. on all bands, 6 metal tubes, split-second 7½ in. dial, 10-in. high fidelity speaker, built-in phonograph jack.—*Radio Retailing*, November, 1936.



LIFETIME

12 Lifetime Corporation

Models: 6 and K6 micro-phones.

Description: Model 6: gold sputtered diaphragm, stretched by Lifetime's exclusive method; correctly damped for the best frequency response; double button unit, 3½ in. in diameter; flat frequency response from 40 to 3,500 cycles; furnished in standard resistance of 200 ohms per button.

Model K6: Crystal microphone for p.a. and broadcasting work; durably constructed with strong chromium plated case and provided with a swivel mounting.—*Radio Retailing*, November, 1936.



PORTOPHONES

13 Harris Mfg. Co.

Models: Portable phonographs.

Description: Six models. Model 30, illustrated, has side plates to further amplify tone from horn; equipped with a permanently installed winding crank which folds into the cabinet when not in use; sturdy built-in sectional record storage compartment for both 10-in. and 12-in. records; piano hinged lid; orthophonic type diaphragm; plays four selections with one winding; has non-set automatic stop.

Prices: \$14.95 to \$50. Model 30, \$50.—*Radio Retailing*, November, 1936.



WEBSTER

14 The Webster Co.

Device: Sound system.

Description: Complete in two carrying cases the PA-417C delivers 17 watts output to two 12 in. permanent magnetic speakers. Complete with crystal microphone, floor stand and 25 ft. of shielded cable, weight 62½ lb.—*Radio Retailing*, November, 1936.

PIONEER

15 Pioneer Gen-E-Motor Corp.

Device: Air Flo charger.

Description: Suitable for charging batteries or operating lights and radio.

Charges 8 amps. in an 8 m.p.h. wind, 15 amps. in 15 m.p.h. wind; super de luxe charges up to 25 amp. in 15 m.p.h. wind. Propeller of patented air foil design and equipped with speed governor.

Price: 15 amp. model, \$47.50; 25 amp., \$54.95.—*Radio Retailing*, November, 1936.



PREMIER

16 Electric Vacuum Cleaner Co., Inc., Premier Division

Model: Radio blower.

Description: Quickly blows accumulated dust and dirt from the most inaccessible interior corners of the radio set, thus eliminating static, cutouts and all other radio disturbances caused by the destructive action of dust and dirt in intricate parts.

Gives servicemen an opportunity to clean sets at a nominal charge, with the resultant opportunity to inspect sets after cleaning and sell parts.—*Radio Retailing*, November, 1936.

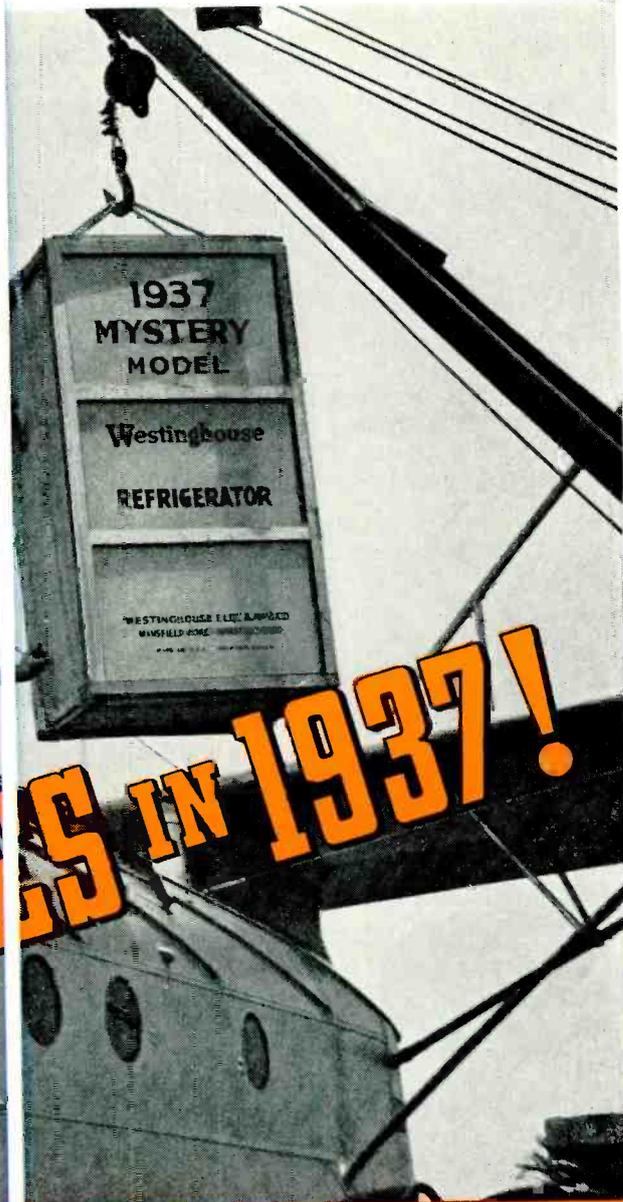
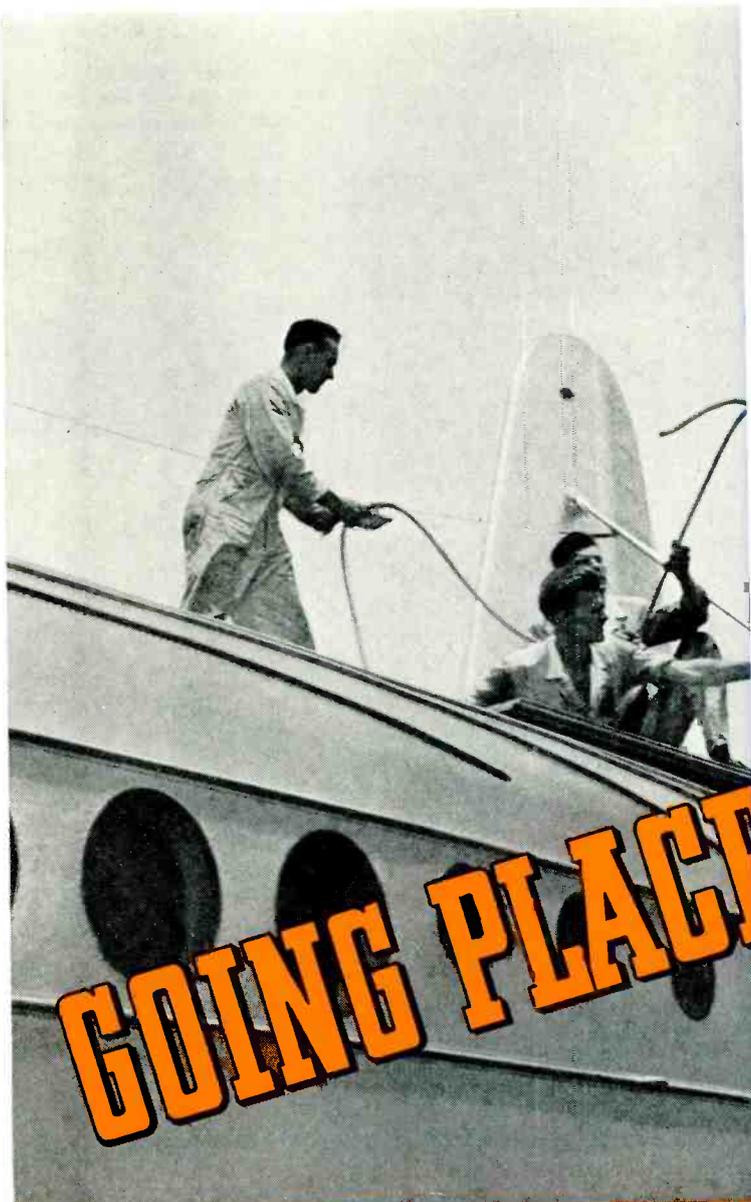
CANNON

17 C. F. Cannon Company

Model: Headphone kit.

Description: Especially useful where receiver has no jack connection. Easily installed in any radio. Requires no capacitor as headphones are of low resistance and balance the voice coil of the dynamic speaker. Set consists of connecting cable, 3-way switch and terminal jack, in which the pin terminals for the phone cord are plugged, and a Cannon-Ball headseat with 6-ft. cord.

Prices: Kit only (cable, switch, terminal) \$2; complete with Empire phones, \$4.25; with Master phones, \$5.25; with President phones, \$6.—*Radio Retailing*, November, 1936.



GOING PLACES IN 1937!

**Westinghouse
REFRIGERATORS**



WATCH FOR ANNOUNCEMENT!



Radio set and motor car electrical troubleshooting is enormously simplified and speeded by this Bendix-DayRad Series "200" Tester. It swiftly checks any radio or automotive circuit—spots bad tubes, connections, resistance and capacity units, switches

—any portion of the electrical continuity which may be at fault. It has an exclusive Safety Tube-Index Dial which eliminates the danger of blowing out tubes.

What's it worth? It's worth *everything* to the radio service man! Yet its price is extremely moderate, and Bendix sells it to responsible Radio Service Shops on very easy terms. Send the coupon for details.



EXCLUSIVE SAFETY TUBE-INDEX DIAL

Eliminates Blown-out Tubes!

Simply turn dial to the tube you're testing, set the test circuits to proper current-potential readings, and don't worry! Spaces have been provided for entering new tube-values as they come on the market.

* A turn of the switch transforms the "200" into a sensitive volt-ohmmeter.
 Reads AC voltages from 0 to 1250
 Reads DC voltages from 0 to 1250
 Reads Milliamperes from 0 to 1250
 Reads Ohms from 0 to 30,000
 Reads Ohms from 0 to 300,000
 Reads Ohms from 0 to 3,000,000
 Reads Amperes from 0 to 25
 (All ranges to an accuracy of 2% plus or minus)

BENDIX DAYRAD

COMBINATION TESTING UNIT

BENDIX PRODUCTS CORPORATION

401 Bendix Drive, Dept. 31 South Bend, Ind.

Send me your new catalog of Bendix DayRad Radio Service Instruments.

Name _____

Street _____

City _____

State _____

My Jobber's Name _____



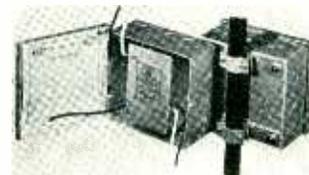
SKY PILOT

18 Sky Pilot Organization

Model: World wide clock.

Description: For overseas listening, has a.m. and p.m. designation as well as 24-hr. figures for countries employing 24 hour time. Gives corresponding time throughout the world. Spring wound in a bright brass case of modernistic design. Illustration shows clock on a table model.

Price: \$4.95.—*Radio Retailing*, November, 1936.



TOBE

21 Tobe Deutschmann Corp.

Models: Filterette OB-110.

Description: Eliminates radio interference during ignition period of an electrically ignited oil burner. Installed between the primary of the ignition transformer and the remainder of oil burner wiring. Does not affect operation of the burner. Contained in standard cut-out cabinet 6x6x6 in. Detachable mounting brackets facilitate installation. — *Radio Retailing*, November, 1936.



EPCO

19 Electrical Products Co.

Model: Storage battery eliminator.

Description: Designed for auto radios, farm radios and electrical accessory demonstrations. Provides a 6-volt 10-amp. filtered d.c. from 110 volts a.c. Instantly adjustable to meet the demands of demonstration performance.

A 6-volt 5-amp. model is also available.—*Radio Retailing*, November, 1936.

BRUSH

22 Brush Development Co.

Device: Model B-1 Crystal Microphone.

Description: Internal spring mounting, non-directional pickup, output minus 72 D.B. Special construction permits close talking without undue bass response.

Weight complete with lock type plug and socket 11 ounces. Measures 3½ inches high, 1¼ inches wide, ¾ inches thick.—*Radio Retailing*, November, 1936.

WARD

20 Ward Products Corp.

Models: "Fish-Pole" antenna rod.

Description: Easily installed on the bumper bracket without drilling. Mounted on Ward's molded power-





MULTIPLEX

23 Multiple Radio Service

Devices: Replacement speaker cones and fields.

Description: All sizes cones and fields for any replacement work. Cones have specially reinforced voice coil to prevent warping.—*Radio Retailing*, November, 1936.

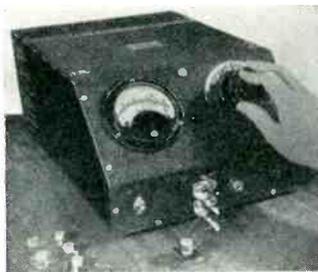
BOONTON

24 Boonton Radio Corp.

Device: "Q" checker.

Description: A precision instrument for testing, grouping and adjusting coils and condensers at radio frequencies. Reads the "Q" of a circuit directly in per cent. Completely contained, with power supply, rf oscillator, covering from 100 k.c. to 25 m.c.; tuning circuit and specially designed vacuum tube voltmeter.

Price: \$275.—*Radio Retailing*, November, 1936.

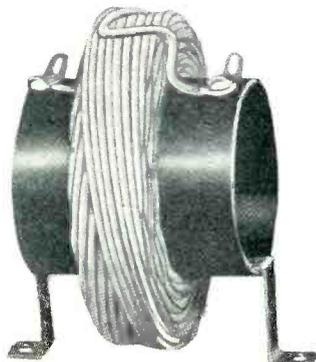


HAMMARLUND

25 Hammarlund Mfg. Co.

Device: Ultra-high frequency variable condenser.

Description: Isolantite insulation, cadmium plated soldered brass plates, universal mounting, noiseless wiping contacts. Available in single and dual units in capacity ranges from 15 to 140 mmf. A double spaced model of 30 mmf. is suitable for high voltage.—*Radio Retailing*, November, 1936.



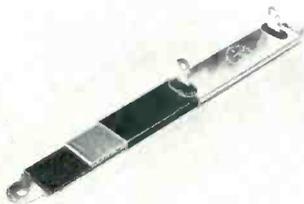
CLAROSTAT

26 Clarostat Mfg. Co., Inc.

Device: Molded-seal armored resistors.

Description: Combine advantages of Bakelite molded insulation with those of the usual metal jacket, presenting a departure from any previous technique. Known as the series MR wire-wound metal-clad resistors.

Units rated at 5 watts per winding inch when mounted flush on metal radiating surface; in free air, wattage per winding inch is 2½ watts; available in wide range of resistance values, any number of taps, and lengths up to 10x1½x1 in.—*Radio Retailing*, November, 1936.



MILLER

27 J. W. Miller Co.

Devices: Line chokes, band-switch coils, line filter.

Description: Duo-lateral wound chokes for power line filtering, in sizes from 200 to 550 microhenries and 2 to 20 ampere capacity.

Bandswitch coils, complete set of coils, padders and switches for any desired range of frequencies. In kit form. Also all type replacement coils for any standard receivers.

Line filter, incorporates both inductive and capacitive filtering, plugs in standard outlet.

Price: Line chokes, \$1.00 to \$4.00 list. Line filter \$4.00 list.—*Radio Retailing*, November, 1936.

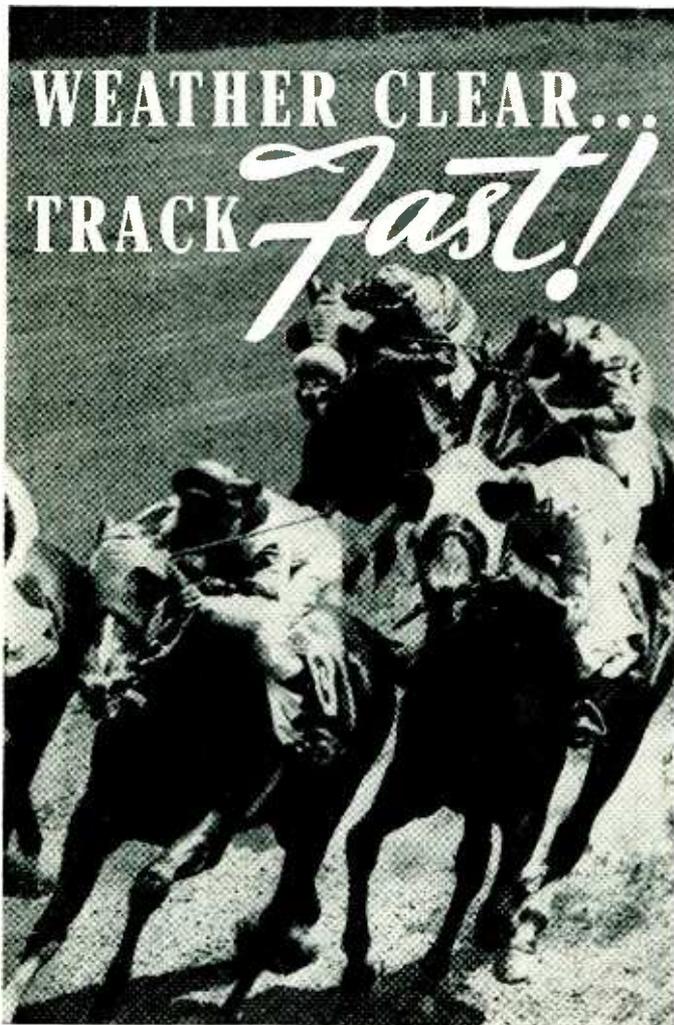
Don't BUY tubes...
Sell them!
...and be sure their quality is right

Tung-Sol radio tubes are the only high-quality tubes now being sold nationally under a consignment plan which permits you to carry an adequate stock without tying up a cent of capital.

There are still desirable locations where independent service organizations who can meet requirements may be appointed as Tung-Sol agents. Ask for the name of your nearest Tung-Sol tube wholesaler.

TUNG-SOL
Tune-flow radio Tubes
TUNG-SOL LAMP WORKS, INC.
Radio Tube Division

SALES OFFICES: Atlanta, Boston, Charlotte, Chicago, Dallas, Detroit, Kansas City, Los Angeles, New York, General Offices: Newark, N. J.



**SYLVANIA DEALERS ARE ALWAYS
"IN THE MONEY!"**

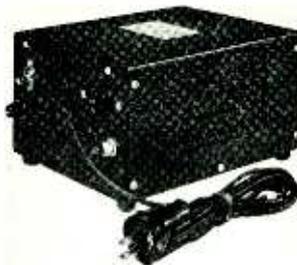
● Whether it's radio tubes or race horses...it's the thoroughbred who pays off! Successful service men and dealers all over the country are selling Sylvania...and playing them across the board!

Here's why: Sylvania tubes are guaranteed for your protection...they've gone through *eighty separate tests* before leaving the factory. That means satisfied customers and *no kick-backs!* Sylvania also protects you with fair list prices...rigidly maintained. And the Sylvania promotional and technical departments are always on their toes ready to help you. It pays to do business with a company like Sylvania!

Get acquainted with Sylvania now! You can get FREE...complete sales and technical information by writing to the Hygrade Sylvania Corporation, Emporium, Pa.

SYLVANIA

THE SET-TESTED RADIO TUBE



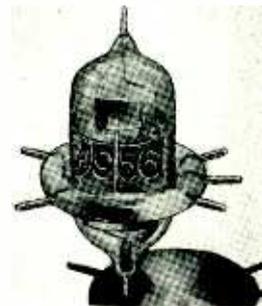
ELECTRONIC

28 *Electronic Labs., Inc.*

Device: Converters.

Description: Vibrator type converter. For converting 6, 12, 32 or 110 v. d.c. to 110 v. a.c. Improved efficiency and reliability, noiseless type vibrator prevents mechanical hum, radio frequency interference, filter hum and audio hum according to the manufacturers.—*Radio Retailing*, November, 1936.

955. Effective in reducing cross-modulation and modulation distortion over the usual range of signal voltages without the use of antenna potentiometers or auxiliary volume-control switches. This super-control characteristic makes the 956 especially adaptable to the r.f. and i.f. stages of receivers employing a.v.c.—*Radio Retailing*, November, 1936.



MILLION

31 *Million Radio and Television Labs.*

Devices: Analyzers, tube checkers.

Description: Model TA analyzer, 1000 ohms per volt, ranges 0-10-50-500 volts, 0-10 100 milliamperes, 0-10 amperes, 0-5000—3 megohms, capacity .01 to 3 mfd. Built in supply. Test all type tubes, neon tube leakage indicator, line adjustment. Measures 3 by 7 x 10 inches, weight 7 lbs.

Model EE tube checker. For metal, glass and "G" series. Checks shorts with tubes hot. Range switch for filament voltage selection and element testing. Neon control calibrated in ohms. In black crackle case, 110 v.a.c. operation.

Price: Model TA, \$26.95; Model EE, 18.95 net—*Radio Retailing*, November, 1936.



UTC

29 *United Transf. Corp.*

Device: Silchrome audio, filament transformers and chokes.

Description: A vacuum impregnated machine wound coil, silicon steel core annealed for maximum permeability. Housed in chromium plated channel frame.

Available in all impedances in both standard and Pee-Wee models.

Price: From 95c. to \$5.50 list.—*Radio Retailing*, November, 1936.

RCA RADIOTRON

30 *RCA Mfg. Co., Inc.*

Model: Type RCA - 956 Acorn-type super-control r.f. amplifier pentode.

Description: Companion tube to the acorn types 954 and



RADIO RETAILING, NOVEMBER, 1936



TOBE

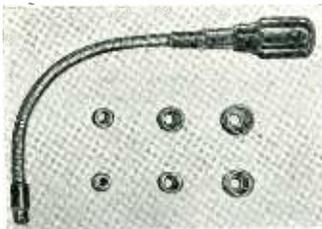
32 Tobe Deutschmann Corp.

Device: Shielded test room.
Description: For engineer, serviceman and experimenter. Fully shields test equipment or receiver circuits from outside interference. Approximately six feet square, completely screened, filtered power connection, lighting is from above screen to reduce line noise. — *Radio Retailing*, November, 1936.

MILLER

33 Leon B. Miller

Model: Flexible drive socket set.
Description: Shaft of laminated steel wires, not a coiled spring. For use in awkward places where a screw cannot be reached by a straight or offset driver.
Price: 10-in. flexible drive, six sockets, hex openings, \$3. 8-in. screw driver, alone, 75 cents. — *Radio Retailing*, November, 1936.



AMPLIFIER CO.

34 Amplifier Co. of Amer.

Device: 60 watt 6L6 amplifier.
Description: New development, howl suppression, automatic constant output for reproduction of speech, volume level expansion for reproduction programs, cathode ray level indicator

tone compensated volume control. Available for operating one or two crystal, ribbon dynamic or electrostatic microphones. When used with 4 12 in. speakers it is sufficient to cover an audience of 48,000 people.— *Radio Retailing*, November, 1936.

I. C. A.

35 Insulin Corp. of Amer.

Device: Self aligning metal punches.
Description: No center guide hole necessary. Impossible to shear die or punch. Made of high quality tool steel tempered and hardened. Available in five sizes from 3/4 in. to 1 1/4 in.
Price: \$3.50 to \$4.50 list.— *Radio Retailing*, November, 1936.



PHILCO

36 Philco Radio & Television Corp.

Model: Rotary clock-globe.
Description: Tells time without hand or dials. A time band, on which all hours of the day are recorded, tells the hour by revolving horizontally. A stationary indicator points to the correct hour in other parts of the world.— *Radio Retailing*, November, 1936.



Big Capacity
FOR RADIO BATTERY CHARGING AND

LOTS OF LIGHT!

\$65⁰⁰
 LIST PRICE—F. O. B. FACTORY

300 WATTS
12 VOLTS

HERE is the generator that not only charges radio, car and truck batteries, but also provides the capacity necessary for lots of lights! And that's what your generator customers want!

The new Johnson Iron Horse Generator is the leader in the field—designed to give full service; built to give it DEPENDABLE. 300 watts instead of 150 or 200! 12 volts instead of 6! Operates twelve 25-watt lights at once. Extra capacity permits low cost installation—longer lines—insures greater life. Positive push-button starting and 21 advanced features make it the most complete, thoroughly serviceable, low priced power plant on the market.

Backed by the great Johnson organization and its world wide reputation for building DEPENDABLE products. Powered by the famous 4-cycle Iron Horse gasoline engine—used on leading makes of farm washers, power-mowers, pumps, etc. Advertised to over 7,000,000 farmers!

Going like wildfire, in a great new market. Write or wire at once for full details and discounts!

JOHNSON MOTOR CO., 1930 Pershing Rd., Waukegan, Ill.
 Canadian Johnson Motor Co., Ltd., Peterboro, Canada

Builders of the famous Sea-Horse Outboard Motors

IRON HORSE
GENERATOR



Now!
**A Special
 RADIO STORAGE BATTERY**

**... for better performance
 of farm radios and farm light plants!**

FOR the 3,000,000 old farm radios that will need new batteries in the next twelve months . . . for the 2,000,000 new farm radios that will be sold in the same period . . . for new and old farm lighting plants . . . we offer the new Monark Special Radio Battery. Not an auto battery. But a radio battery especially built for radios and light plants!

Because it gives a *slow, steady discharge* and takes a *quick charge*, in contrast with the *quick discharge* and *slow charging* of the auto battery, the Monark Special Radio Battery gives *better* radio and light plant performance . . . smoother, steadier power flow. No wonder it is the only ideal battery for radios and light plants!

Sell Monark Special Radio Batteries with new radios . . . and for old radios. They'll give you satisfied customers—and increased profits. Mail coupon for full details now!

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Special Radio
BATTERIES

NATIONALLY ADVERTISED TO 2,000,000 HOMES!

MAIL COUPON NOW!

MONARK BATTERY COMPANY
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Please *rush* full details and prices on your Monark Special Radio Battery.

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**WHY Better
 PERFORMANCE FROM
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 RADIO BATTERIES?**

Here's Why!

- ✓ —Wing-nut terminals for easy connection eliminates use of battery clips.
- ✓ —Extra-thick "super-process" pickled plates for longer battery life and greater power.
- ✓ —Special built-in hydrometer immediately tells condition of battery.
- ✓ —Genuine Port - Orford Cedar separators—strong, durable, will stand up under any condition.
- ✓ —One-piece hard rubber case—three times the tensile strength of ordinary composition case.
- ✓ —Pre-Cycled—Every battery "broken in" at factory before shipping.
- ✓ —Unconditional guarantee.



OPERADIO

37 Operadio Mfg. Co.

Models: 660 a.c. operated microphone pre-amplifier.

Description: Made to mix two microphones of either the velocity or grille type of crystal. Has an overall gain of 65 db, incorporates electronic mixer and also tone control for "shading." Hum level is said to be exceptionally low.

Two of these may be used together to form a four-position electronic mixer and pre-amplifier. This is a two-stage amplifier with first stage tubes mounted on cushioned mountings to decrease microphonics. A steel carrying case with provision for plug-in connections at input and output is provided.—*Radio Retailing*, November, 1936.



AEROELECTRICS

38 Universal Battery Co.

Models: 6 volt wind charger.

Description: Propellers are of the air foil design and mounted on a new type electrical speed control which regulates the generator output. Mounting is simple and adapted to a wide variety of installations with positive rigidity assured. Furnished complete with switchboard, ammeter and cut-out relay.

Model 615 Standard has a capacity of 15 amp. at 6-8 volts. Recommended for charging radio and auto

batteries, and where average wind conditions prevail.

Model 625 Master has a capacity of 25 amp. at 6-8 volts. Recommended for charging batteries where current is used in large quantities. Especially designed to operate at very low wind velocities.

Prices: Standard, \$34.95; Master \$44.95.—*Radio Retailing*, November, 1936.



MAJOR BOWES

39 Pilgrim Electric Corp.

Model: Home broadcasting mike.

Description: Easily connected to any radio in a few moments without re-wiring. Can be left permanently connected. Has convenient switch to cut radio programs on and off. A real single button microphone—not a toy, finished in black and gold lacquer with 20 ft. rubber covered connecting cord.

Price: \$2.75.—*Radio Retailing*, November, 1936.

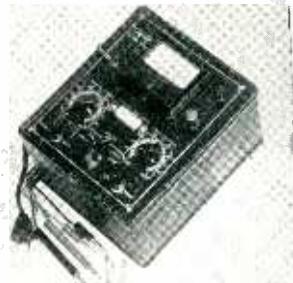
DAYRAD

40 Radio Products Co.

Device: Model 200 auto radio and ignition analyzer.

Description: Complete self contained unit for testing any auto radio or ignition system. Checks tubes under actual operation conditions, measured voltage current and resistance. Operates from 110 v. a.c., finished in blue crackle and aluminum. Measures 15 inches by 14 inches by 4 inches, weight 15 lbs. May be mounted on portable pedestal for easy auto servicing.

Price: \$69.50; portable service stand, \$35.—*Radio Retailing*, November, 1936.



TRIPLETT

41 *Triplet Elec. Inst. Co.*

Device: Model 1240 Condenser tester.

Description: Tests all size condensers from .0001 to 10 mfd. for breakdown, open, shorts, leakage and capacity. Results of all tests indicated directly on dial. A.c. and d.c. voltages are available for breakdown tests up to 1,000 volts in steps of 2, 20, 60, 200, 600, 1,000.

Cased in black wrinkle finished metal case 7 1/2 x 6 3/4 x 4 1/2 in., panel in silver and black.

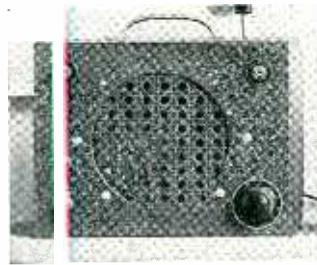
Price: \$24.83 net.—*Radio Retailing*, November, 1936.

SPRAGUE

42 *Sprague Products Co.*

Device: "Pinhead" Tiny Mike condensers.

Description: Midget dry electrolytic condensers available in 4, 8 and 8-8 mfd. at voltage ratings up to 580 volts. Measure 2 1/2 x 1 1/4 x 1 1/8 in. in cardboard containers. Humidity proof sealing windings. Low leakage cost.—*Radio Retailing*, November, 1936.



MILES

44 *Miles Reproducer Co.*

Device: Public address adapters for home radio.

Description: Five different models, each representing a different use. Adapted to home, counter or office and available with either of two types of microphone. Model 45 is a Public Address converter which is attached to a radio by only one wire. Model 456 is an inter-office Communicating system for two-way operation without the use of inter-connecting wires. Plugs in any light socket, a.c. or d.c.—*Radio Retailing*, November, 1936.

BUD

45 *Bud Radio, Inc.*

Device: Midget variable condensers.

Description: Soldered brass plates, isolantite insulation, improved rear bearing contact spring insures good electrical contact with minimum noise.

Available in single and double bearing styles and single or double section types. Also in double and triple spaced models from 10 to 350 mfd.—*Radio Retailing*, November, 1936.

HY-DUTY

43 *Hy-Duty Products Co.*

Device: Wedglock electric plug.

Description: A specially designed socket plug that is wedged in an outlet socket by a novel rubber ram, yet can be removed at will. Designed primarily for radio connections where the plug is constantly being kicked loose or hit by furniture.—*Radio Retailing*, November, 1936.

TURNER

46 *Turner Company*

Device: Crystal microphone.

Description: Model VT-73, output level higher than any previous crystal type. Intended primarily for voice transmission. Thoroughly sealed against adverse climatic conditions.—*Radio Retailing*, November, 1936.

A NEW POLICY *Factory Prices*

Direct from factory saves you up to 35%.

Avoid big interest rates.

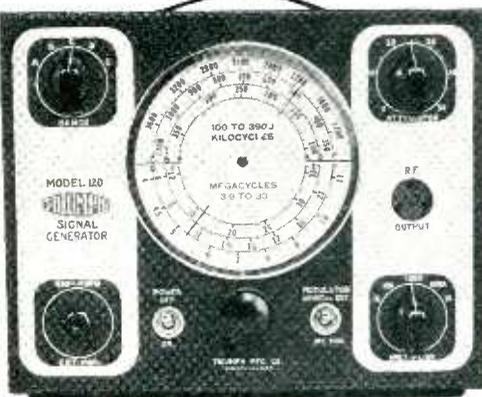
Eliminate obsolete take stock.

Complete Dealer Cooperation.

30 FEATURE A. C. SIGNAL GENERATOR

- Hairline Accuracy with Spotted Test Frequencies.
- Individually Calibrated—Direct Reading 100 K. C. to 75 M. C.
- Micro-Vernier zero to maximum attenuator.
- 30% 400 Cycle Sine Wave Modulation.
- Selective Modulation Internal or External.
- Look at the price, compare the value. Send at once for further details.
- F. O. B. factory.

Model 120 Signal Generator . . . \$23.95



TRIUMPH MANUFACTURING CO.
4017 W. Lake St. Chicago, Ill.



Model 310 Volt-Ohmmeter
\$7.85

F. O. B. factory.

Money Back Guarantee

We stand back of every piece of testing equipment we sell direct. Your money cheerfully refunded on merchandise returned within 10 days in original condition.

A Pocket Volt-Ohmmeter

- Weighs only 200 gms.
- High sensitivity.
- Selective Range Switch.
- Measures D. C. Volts.
- Ohms to 500,000.
- Meter at easy reading angle.

Your service kit isn't complete without this new marvel of modern test equipment.

Triumph Manufacturing Company
Dept. R.R. 611 4017 Lake St., Chicago, Ill.
Check coupon and mail today

Dear Sirs: At no obligation to me please send FREE brochure on the Triumph line of testing equipment.

Dear Sirs: On the basis of your money-back guarantee please find enclosed 25% deposit (\$)

Balance to be C.O.D. for model

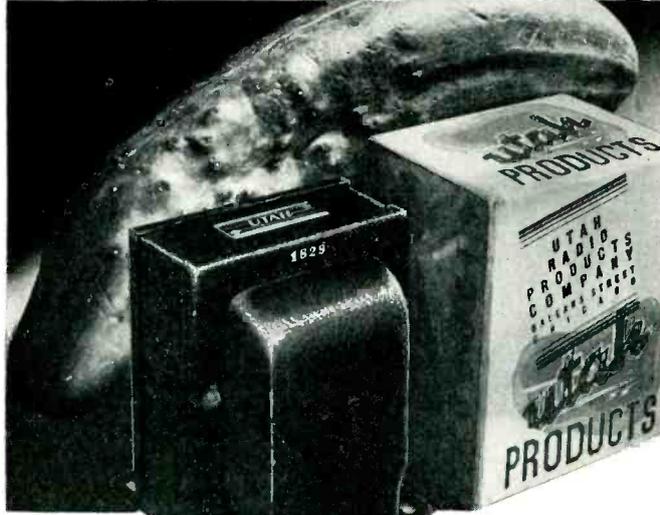
Name

Street

City

State

AS COOL



as a CUCUMBER

Utah TRANSFORMERS DO NOT OVERHEAT

There's real design in Utah Transformers, the result of fifteen years of experience in the design of radio parts. They are built with thin laminations to provide lower eddy current loss and less consequent heating. Transformer Cores, of Highest Grade Electrical sheet Steel, are properly sized and shaped to provide the most efficient magnetic field. All Utah Transformers are completely impregnated against moisture and atmospheric conditions. Utah Transformers, like all other Utah parts are built to the highest standards of quality — the reason for their selection for over 3,000,000 Radio Receivers.

SPECIFY **Utah** PARTS

- Vibrators
 - Transformers
 - Chokes
 - Volume Controls
 - Tone Controls
 - Speakers
- Resistors
 - Plugs
 - Jacks
 - Jack Switches
 - Push Button Switches

UTAH RADIO PRODUCTS COMPANY

ORLEANS ST., CHICAGO, U. S. A.

Toronto Ontario Canada Buenos Aires South America UCOA Radio Products Co.

15 YEARS OF LEADERSHIP

FOX

49 Fox Sound Equip. Corp.



MAJESTIC

47 Majestic Radio & Tel. Co.

Models: 50 and 60.

Description: Model 50, 5 tubes, ac-dc., 540-1550, 1650-4500 kc., full electro dynamic speaker, edge ray lighted dial, walnut oriental inlay, table type. Tube line-up: 6D6, 6C5, 43, 25Z5, LB55.

Model 60, 6 G type octal base tubes, ac-dc., avc., illuminated band switch and tone control indicators, 540-7000 kc., edge raylighted dial. Tube equipment: 6A8G, 6K7G, 6Q7G, 25B6G, 25Z6G, BL54C.

Prices: 50, \$19.95; 60, \$29.95. —Radio Retailing, November, 1936.



UNIVERSAL

48 Universal Microphone Co.

Device: Channel selector.

Description: A recording channel control selector contained in a black leatherette finish within resilient mountings, compact, durable and weighs but one pound.

The selector allows the choice of any circuit combination necessary in recording from a radio for air checks, microphone, studio recording or from a phone pick-up and dubbing sound effects.

It also allows the recording technician to listen in on such channels as may be predetermined for volume level and tone quality. It is a multi-tap selector switch arrangement wherein all circuit changes are accomplished by a single movement of the control elements. — Radio Retailing, November, 1936.



MUTER

51 Muter Co.

Device: Zipohm replacement resistor.

Description: Wire wound replacement resistor; available in 5 and 10 watt sizes; noiseless, compact, accurate and impregnated with waterproof cement. A serviceman's kit contains 57 units in 27 different values which will cover 80 per cent of average requirements. — Radio Retailing, November, 1936.



HORTON PRECISION BUILT

Quiet, smooth-running, dependable Horton Washers eliminate service "grief" and build good will for Horton dealers. The famous "jeweled mechanism" is one of many reasons why sales of Horton washers are zooming to the highest point in 65 years of history. To increase your sales write to Horton now!

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LIFETIME

*America's Outstanding Values in
Microphones and Sound Eqpt.*

Manufacturer's

- CARBON Four-Five-Six and Seven
- CONDENSER Foot Trumpets—
- CRYSTAL Projection Baffles—
- VELOCITY Dynamic Speakers
- DYNAMIC Field Exciters

Microphones Portable Turntables

Complete equipment for P.A. and Sound Men. Write for catalog of America's Outstanding Values.

LIFETIME CORP. 1006 Madison Ave., Toledo, Ohio



UNIVERSAL Portable Recording Machine

A precision machined, compact outfit that positively eliminates all waver — Records in either direction at 33-1/3 or 78 R P M 90, 110 or 130 lines per inch — 110 volt AC 100% synchronous motor — solid 16 in. turntable — Constant speed rim drive — Complete switching arrangement for head set monitoring from playback or cutting head — Reinforced black leatherette carrying cases — Unequaled value — Superlative performance.

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

WHY FEED

A "POWER-HUNGRY" STORAGE BATTERY THAT LOSES SALES WITH UNRELIABLE OUTPUT?



The EPCO STORAGE BATTERY ELIMINATOR

FOR AUTO RADIO AND ELECTRICAL ACCESSORY DEMONSTRATION

Provides 6 volt-10 amps filtered D.C. from 110 volt A.C. Instant, adjustable current to assure perfect and convincing demonstrations of 6 volt auto radios and electrical accessories. Economize by avoiding the battery-charging nuisance. Increased sales will pay for the cost within a few days. Order today for immediate delivery, or write for further particulars.

\$19.75
List Price

Usual
Jobber Discount
\$15.75
6 volt-5 amps.

ELECTRICAL PRODUCTS CO. 6537 RUSSELL ST. DETROIT, MICH.

The Most Perfect Log at Any Price



100 \$2.25
•
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IMPRINTED with name, address, phone, slogan, etc., \$1.50 extra for any quantity. Special issues in quantities as low as 1000. Order from your Grunow, Philco, Stromberg-Carlson, Sylvania, or Zenith Distributor or from

HAYNES' RADIO LOG

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Special issues prepared for Dealers ordering 1000 or more

MAGNAVOX Phonette

RECORD PLAYER FOR
RADIO ATTACHMENT
HELPS SELL

Radio Consoles

- With the Phonette any radio set becomes a radio-phonograph combination . . . at a surprising-moderate price. Easy to attach.
- It is easier to sell consoles or other models because you can make a quality demonstration using the finest selections of recorded music—without static interference. Write for folder.

- Beautiful walnut cabinet — can be closed while playing 10-inch or 12-inch records. Self-starting constant speed motor, high fidelity crystal pickup, AC or AC-DC models.

WATCH FOR
DECEMBER
ANNOUNCEMENT
1937 PUBLIC
ADDRESS
EQUIPMENT.



-- ELECTRO-ACOUSTIC PRODUCTS COMPANY --
Subsidiary of The Magnavox Co. Fort Wayne, Indiana

AN IDEAL CHRISTMAS GIFT

Sensational demand for The **PORTOMATIC**



PORTABLE
AUTOMATIC
PHONOGRAPH
and RADIO

Dealers report
swift turn-over

Patented construction will play and change 8 records of any standard make automatically. Felt-lined receiving tray stores records and protects them. Remarkable clarity, volume, faithfulness and beautiful tone.

Built-in Aerial. AC-DC; foreign current. Short wave reception. Luxurious cowhide leather case. Good territories available. Write or wire for details now. List Prices \$99.50 to \$149.50

LEHMAN RADIO SALON, Inc.
1013 MADISON AVENUE NEW YORK

AC CURRENT ANYWHERE! In CARS.. On FARMS.. In DC DISTRICTS With **ATR** DC AC **INVERTERS**

FOR OPERATING
Standard 110-Volt or 220-Volt A.C. Radios, Public Address Systems, Electrical Testing Equipment, etc.



LIST PRICE **\$18.50***

*Without Radio Filter
\$22.50 with Built-in Filter
(Standard Discounts Apply)

PROVEN-DEPENDABLE-GUARANTEED

OUTSTANDING FEATURES • Interference-Free All Wave Radio Operation
• Improved Long Life ATR Vibrators • Four-Point Voltage Regulators
• 16 Different Types for DC Input Voltages ranging from 6 to 220 volts, and having AC output voltages of both 110 and 220 volts.

OTHER ATR PROFIT MAKERS



ATR AUTO RADIO "A" BATTERY ELIMINATOR

DEALERS' NET PRICE
\$12.95

Specially Designed for Demonstrating and Testing Auto Radio Sets on Regular AC Lines, 105-125 Volts, 50-60 Cycles. Has many other uses. Comes completely equipped with On-Off Switch, Pilot Light Indicator, 10 ampere Fuse, Rubber Mounting Feet, 6 ft. Rubber Cord, Heavy Gauge Metal Cabinet.

TRA Automatic Tapering Battery Chargers

Keeps Auto Battery fully charged right in the car! Operates from any 110 volt AC 50-60 cycle line. Equipped with a full wave dry disc type rectifier unit. Current tapers off as battery becomes charged. Comes completely equipped with Polarized Dash Receptacle and Plug, Fuses, 9 feet DC Cord, 12 feet AC Cord, On-Off Toggle Switch, and Complete Instructions.

LIST PRICES (Standard Discounts Apply)
Model 450. Max. charging rate 4½ amp. \$9.67.
Model 600. Max. charging rate, 8 amp. \$11.45.
Model 1000. Max. charging rate, 10 amp. \$14.25.

• Write or Wire for Additional Information •
• Sold by Leading Jobbers Everywhere •

AMERICAN TELEVISION & RADIO CO.

St. Paul, Minnesota, U. S. A. Cable Address: "Likex" New York



AERIALS FOR 1937

What Will WARD PRODUCTS Show for 1937?

TOP AERIALS • WHIPS • POLES
RUNNING BOARD AERIALS

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Cleveland, O.

USE THIS COUPON

WARD PRODUCTS CORP.
Ward Bldg. - Cleveland, O.

Send information of Ward's 1937 Auto Aerials.

Name

Address

Check Dealer Jobber Service Man

BUY GENUINE

Mueller Universal Clips

and make sure you get your money's worth

Made in Eight Different Sizes

THE ONLY COMPLETE LINE

Steel, copper, insulated and alligator clips—from 5 to 200 ampere capacities

SEND FOR CATALOG 679 and FREE SAMPLES

Mueller Electric Co.
1583 East 31st Street, Cleveland, Ohio

Filternoys

Rejectors, Suppressors, Diverters

F505DH

Filternoys—the new name for CONTINENTAL Carbon line noise interference filters!

Sell a Filternoys rejector for every radio receiver. Sell Filternoys suppressors for domestic electrical appliances. Sell Filternoys diverters for industrial electric devices that cause interference.

F01D

CONTINENTAL Carbon offers a complete assortment of supply line noise filters, prices right for quick sales over the counter or on the job.

F1005DH

Stock up for Christmas business. F505DH is recommended to suppress interference from flashing free lights, toy trains, sweepers, and heater pads; F01D to divert the interference from electric cash registers, scales, soft drink mixers, etc., to ground; F1005DH to block interference from entering on a main house line; R01H to reject line noise at the radio.

R01H

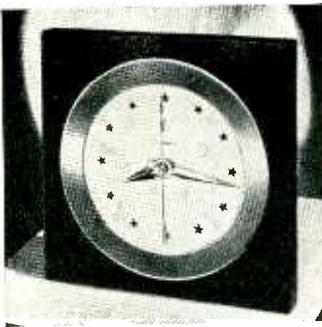
Write for full details or ask your jobber.

CONTINENTAL CARBON Inc.

13902 Lorain Ave., Cleveland, Ohio Toronto, Canada

NEW APPLIANCES

USE THE CARD C PAGE 66 TO OBTAIN MORE INFORMATION



TELECHRON

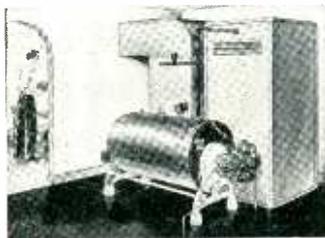
52 *Warren Telechron Co.*

Models: Electric clocks.

Description: Complete new line just announced. 15 models. Wood, molded, glass and onyx cases are available in natural and colored finishes. Many models have radium-treated numerals and hands. Three cyclometer models also available.

For turning the radio on and off, Telechron offers the Controlla and the Organizer.

Prices: Begin at \$3.50.—*Radio Retailing*, November, 1936.



WILLIAMS

53 *Williams Oil-O-Matic Heating Corp.*

Model: Oil-O-Matic oil burner, Ice-O-Matic electric refrigerators, Air-O-Matic air conditioning systems.

Description: Oil burners: 5 models; conversion type for installation in present heating plant whether steam, hot water, or warm air; capacitor - inductance type motor.

Electric refrigerators: 9 models, all-steel cabinet frames, Dulux finish, "Food Systemizers" to make everything easy to find, capacitor motor.

Air conditioner: A combination heating and cooling system provided by low pressure steam which automatically maintains controlled weather the year 'round.—*Radio Retailing*, November, 1936.

L&H

54 *A. J. Lindemann & Hoverson Co.*

Model: Electric ranges.

Description: Equipped with Hi-Speed L&H Calrod. The resistance wire is hermetically sealed and insulated in a metal sheath, and cook-



ing utensils rest directly on the spiral coil with no heat absorbing space or material between. The model illustrated, in addition to the new Calrod, has two appliance outlets, one time controlled, one regular; warming drawer unit controlled by a toggle switch; adjustable shelf in cabinet. "Time-a-ture" back splasher includes synchronous self-starting clock, automatic time control, temperature control; time selector switch, two appliance outlets, lamp receptacle and pilot light.—*Radio Retailing*, November, 1936.

SPARTON

55 *Sparks, Withington Co.*

Models: Electric refrigerators.

Description: Six models ranging in size from 4.6 cu.ft. to 9 cu.ft. All standard and de luxe models incorporate the following features: durable Spar-lac exterior finish, positive ice tray release, one-piece porcelain interior, electric lighted interior.

De luxe models have in addition the anti-frost electric clock which automatically defrosts the cooling unit daily, Baskador, Vegabin and Baskadrawer.—*Radio Retailing*, November, 1936.



THOR

56 *Hurley Machine Co.*

Models: Washers and ironers.

Description: "Gentle Hand" multi-action reversing unit as circular wave-like movement. This motion is continuous in one direction or eleven complete times and then reversed eleven times. There are no blades, paddles or veins revolving. See illustration. Several styles and sizes are available.

Thor "Fold-A-Way" ironer is equipped with a 6-in. steel chromium plated hoe. Folds into a cabinet not much larger than a kitchen chair.—*Radio Retailing*, November, 1936.



GENERAL ELECTRIC

57 *General Electric Co.*

Model: Cleaners.

Description: Models AV-5 and AV-7, universal type motor; Spotlite, mechanism concealed; motor driven brush; dust-proof bags, steel chromium plated handle; buffed and polished aluminum body; steel fan.—*Radio Retailing*, November, 1936.

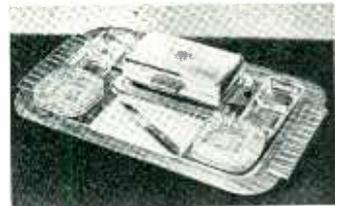
WESTINGHOUSE

58 *Westinghouse Elec. & Mfg. Co.*

Model: Sandwich grill set.

Description: A twelve-piece sandwich grill set, consisting of de luxe sandwich grill, warp-proof walnut tray, six sandwich plates and two relish dishes of crystal glass, natural finish maple wood cutting board and a stainless steel knife. A double grease drain on the top and bottom grids prevent any grease spillage.

Price: \$17.95 complete.—*Radio Retailing*, November, 1936.



BOND

59 *Bond Electric Corp.*

Model: "Fibre-Bronz" and "Bronz-Lite" flashlights.

Description: Three new styles—2299, two cell; 2093, baby two cell in combination of solid bronze fittings and black corrugated fibre case; 2298, two-cell in solid bronze fittings and case. 2299 has built-in shock absorber, candle light feature, folding end-cap hanger, original three-way lock switch, silvered mirror reflector and beveled plate glass lens.

2093 is a baby spotlight made with same advanced construction as the 2299.

2298 Bronz-Lite has a case like the 2299 except that it is solid bronze throughout.

Prices: 2299, 99c; 2093, 98c; 2298, 99c.—*Radio Retailing*, November, 1936.





EASY

60 Easy Washing Machine Corp.

Model: "White" line of washers.

Description: White finish in response to shifting trend toward white appliances. Two deluxe two-tube models, equipped with damp dryers and exclusive Easy safety and efficiency features. One of these, illustrated, has spiralator action, the other, vacuum cup.

A single tub, spiralator-action model has super-control safety wringer attachment. The other single-tub washer has vacuum cup type action.

Four white ironers are also ready. The cabinet types are built with a swinging cover which forms a 16x35½ in. porcelain top table when not in use. A thermostat adapts temperature to the fabric being ironed. — *Radio Retailing*, November, 1936.



FAIRBANK MORSE

61 Fairbanks, Morse & Co.

Models: Washers; ironers.

Description: Washers: aluminum Hydrotor, rubber-cushioned tub, long sweeping motion and heavy duty wringers, auto-type control. Five models.

Ironers: Three models, iron all types of clothes, steel chrome-plated ironing shoe, dual control, open-end 26 in. roll, sealed mechanism, quiet operation. — *Radio Retailing*, November, 1936.

HOOVER

62 Hoover Company

Model: No. 150 ensemble cleaner.

Description: Touch toe adjusts cleaner to any thickness of rug; spring cushion chassis takes it noiselessly over door-sills and rug edge; Hoover two-speed motor; quick-acting bag clamp levers; positive agitation.

Magnesium, an airplane material type, is used for the first time in household product construction. Bakelite foot and duralumin tools combine to make a lightweight, swift-cleaning device. Plug-in tool connector, attached like light socket, facilitates use of attachments. Specially designed kit equipped with all tools. — *Radio Retailing*, November, 1936.



LINK-BELT

63 Link-Belt Co.

Model: Heating system.

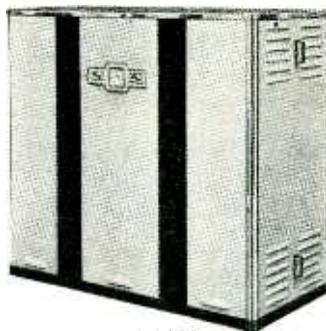
Description: Automatic coal firing plus Radiostat control. Consists of an under-feed stoker in combination with the Radiostat (electronic) control. Eliminates overheating above the basement in addition to cutting the cost of steam generation in the boiler room. After installation and adjustment it needs no further attention regardless of weather conditions. — *Radio Retailing*, November, 1936.

GENERAL ELECTRIC

64 General Electric Co.

Model: Christmas tree bulbs and lamps.

Description: Three types: Luminous candle, pine cone shape and standard. White, red, blue, green and orange. Common series or multiple strings. — *Radio Retailing*, November, 1936.



MAY

65 May Oil Burner Corp.

Models: Oil furnaces, oil burners, air conditioners.

Description: Oil furnaces: for steam or hot water heating; a dual-purpose unit supplying heat and tankless domestic hot water throughout the year. One unit comprising an oil fired boiler functioning without transfer heater, hot water storage tank, motorized valves, or circulators.

Automatic oil burner: wearproof due to Gerotor pump and sapphire jeweled atomizer.

Heat-an-Aire conditioner brings warmth by humidified and filtered air, warmed and circulated to meet the maximum comfort requirements. Year-round hot water from same unit. — *Radio Retailing*, November, 1936.



QUALITY

66 Roberts & Mander Stove Co.

Models: Electric ranges.

Description: Designed to fit flush to the wall, and equipped with the following features: newly designed oven with new unit assembly, refrigerator type door and oven racks, one piece lining, automatic control, acid resisting porcelain top. Also have triple-timer clock control, fully equipped automatic cooker and chromalox superspeed units. A lamp and "Minute Minder" may be had as extra equipment; condiment set is standard equipment on nearly all models. Extra large storage space for utensils. May be had with cast iron, column or tubular legs. — *Radio Retailing*, November, 1936.

ABC

67 Altorfer Bros. Co.

Model: 156 washer.

Description: Newly designed, large capacity washing compartment and new French type agitator; finger-tip control, instantaneous touch release, tumbler type motor switch, finger type clothes feeder, streamlined, all-aluminum eight-position wringer, all steel, one piece girder type chassis. — *Radio Retailing*, November, 1936.



HAMMOND

68 Hammond Clock Co.

Models: Electric clocks.

Description: A most comprehensive line of electric clocks for living room, bedroom and kitchen. Modernistic cabinets and faces are featured. Color will be found in several styles. Walnut, onyx, brass, maple, etc., are used in the cabinets. — *Radio Retailing*, November, 1936.



UNIVERSAL

69 Landers, Frary & Clark

Model: Electric iron.

Description: Finger-tip automatic control, wrinkle-proof round heel, beveled edges and tapered-to-fit point, air cooled Bakelite handle, non-skid heel rest, chromium finish, streamline designed. 3½ or 6 lb. sizes. **Price:** \$6.95. — *Radio Retailing*, November, 1936.

Send for these

FREE HELPS

70 FLASHER WINDOW TRIM, 24 in. x 50 in., in eight colors is ready for shipment at the *Sparton* plant. Attention compelling with the photochromatic dial in actual colors flashing on and off. Circle number on post card for further information as to how to get this display for which there is a slight charge.

71 A NEW SPRAGUE CATALOGUE, listing among other things, the new "pin-head" Tiny-Mike dry electrolytics, midget type PLS aluminum can type dry electrolytics, type UC "cased" uncased paper sections will be sent upon request.

72 A GUIDE TO MODERN ANTENNA installations and service is the name of the pocket manual *Belden* has made up. Done in the "question and answer" style.

73 TO HELP YOU QUICKLY find what you need, *Tobe Deutschmann* has incorporated many radical ideas in catalog construction in its new edition. Condensers, Filterettes, aerial Filterizer kits and service instruments are covered.

74 SETS PICTURED in *Sentinel's* handy size folder illustrate the complete 1937 line. Full technical description below each photograph.

75 AN ARMCHAIR RADIO of new and unusual design is pictured on the cover of the *Corona* booklet on its new line. Inside the full series of modernistic table sets and consoles is shown. Done in blue, black and white.

76 VOLUME CONTROL REPLACEMENT list, a supplement to its 80 page Guide issued several months ago, is now available from *Clarostat*. A handy reference list arranged by type numbers. Units are listed numerically, together with the sets they service.

77 REVISED TE-LEKTOR BOOKLET re-issued by *Stromberg-Carlson*, stresses the convenience and adaptability of this remotely controlled radio-record system for built-in installations. Printed in two colors with a gold and black cover, it presents the equipment in an attractive and interesting manner.

KNOW NEW MERCHANDISE . . . It's your most valuable asset. "Radio Retailing" makes it easy for you to keep up to date by forwarding without charge selling and servicing charts, booklets and circulars supplied by manufacturers

78 CUSTOMER TUBE CARRYING CASE for the consumer to use in bringing complete sets of tubes into the store for testing may be obtained from *Arcturus* at a slight charge. Circle number for further information.

79 UNDER-CAR ANTENNAS are covered in *Inland's* leaflet for counter and mailing use.

80 A PERMANENT WALL DISPLAY, one of *Cornell-Dubilier's* "point of sale" dealer helps, measuring 35 in. by 45 in. and executed in blue, yellow and silver, is now ready. Mounted in a distinctive silver color frame. May also be used as a background for a window display.

81 A DECALCOMANIA in red, black and gold prominently playing up sales, rentals, installations and service on sound equipment may be obtained from *Amperite*. 5½ in. x 9½ in.

82 TILT-TUNING, an exclusive Admiral feature, is described in *Continental's* sepia leaflet on its new line.

83 TUBE AND BASE DIAGRAMS, bulb illustrations and dimensions, average characteristics, technical data on new tubes—these are a few of the many invaluable aids included in *Hygrade-Sylvania's* new characteristic sheet. A mighty handy folder for the serviceman.

84 ANTENNAS and associated equipment, cables, auto-radio essentials and wire are described and pictured in *Birnbach's* new Catalogue No. 25.

85 A STORY OF INTEREST to those who must supply their own electricity is told in *Onan's* folder on its line of a.c. electric plants. Mechanical and electrical specifications are given in detail and the various types and models illustrated.

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NEW YORK, N. Y.

Circle on reverse side numbers of the items you want and complete information will be sent.

Electrical Appliance Aids

86 ULTRA HIGH FREQUENCY equipment of all types — midget condensers, tube sockets, coils, antennas— as well as broadcast antennas and accessories, is covered in the new *American Radio Hardware Co.'s* catalogue.

87 AMATEUR EQUIPMENT takes up the greater part of *Mid-West's* new catalogue. Sound and service equipment is also included.

88 VISUAL HIGH-FIDELITY demonstrator housed in a walnut cabinet to harmonize when used beside the 116X set is offered by *Philco*. Circle number for full details.

89 EXACT DUPLICATE and replacement parts, p.a. equipment, amateur gear, service instruments are among the many products listed in *Allied's* 152-page catalogue.

90 DC-AC INVERTERS in all sizes are covered in *American Television & Radio's* catalogue sheet. Also available, catalogue sheets on Auto-radio A-battery eliminators and automatic tapering battery chargers.

91 PUBLIC ADDRESS PRODUCTS made by *United Sound Engineering* are fully described and illustrated in a new catalogue.

92 RADIO PROFIT GUIDE is the title of *Radolek's* catalogue of receivers, p.a. equipment, parts, testers, etc.

93 RADIO SET CATALOGUE in loose-leaf form and bound in heavy blue cardboard gives the dealer a complete picture of the 1937 *Emerson* line.

94 ENSEMBLE IDEAS FOR ROOMS are emphasized in the lamp booklet *Lightolier* has brought out. Home decoration experts contributed several floor plans with suggested locations of lamps and furniture. Over 130 of newest lamps are also illustrated.

95 DESIGN FEATURES of the *Horton* line of ironers are illustrated in a four fold mailing piece. Colorfully done in red and violet. Washers are also shown.

96 TWO CLOCKS IN ONE is the theme of *Hammond's* new circular. Plays up alarm feature which is part of each of the eleven models pictured.

97 ENJOY SPRING THIS SUMMER is the theme of *Westinghouse's* mailing piece on its air conditioners. Shows home and office installations as well as a skeleton view explaining what makes the "wheels go 'round."

98 PHANTOM VIEWS of oil burners and air conditioners make the new catalogue on *May's* QM line of real value. Of particular interest to dealers planning to enter the oil heating field because under one cover it places before them a summary of the various types commonly used.

99 ICE FROM OIL HEAT is the intriguing title of *Perfection* Stove's pamphlet on its oil burning refrigerators.

100 REFRIGERATOR RECIPES to be handed out at Anniversary Weeks, Cooking Schools, etc. may be obtained from *Universal Cooler*, makers of electric refrigerators. Cut to 3x5 in. size so they may be readily filed in a recipe box. Title of every receipt is in plain view at all times.

101 GENTLENESS OF HAND WASHING with machine speed, an appeal of especial interest to women, is played up in *Thor's* leaflet on its line of washers, which feature "Gentle Hand" washing action.

102 SPE-DRY METHOD, which does all the washing and pre-ironing automatically, is fully explained and illustrated in *Crosley's* folder on its washers and ironers. Place for the dealer's business card on the back.

103 WASHERS FOR FARM HOMES as well as homes on a.c. lines are described and illustrated in *Gets Power Washer's* broadside.

104 AIR CONDITIONING equipment made by *Hexcel* is shown in its four page folder.

105 A SERIES OF SIX window streamers and four display cards feature *Haag's* Vortex washers. The cards tie in with the streamers, completing an impressive display and presenting a forceful sales message.

106 IRONING DAINTY THINGS is the theme of *Ironrite's* leaflet. Graphically illustrates type of work which can be easily and quickly done with an electric ironer.

107 A POCKET for the single sheets, each describing and illustrating a different model, is provided in *Holland-Rieger's* folder on its line of Faultless washers.

108 HOOVER'S 150 CLEANING ENSEMBLE is attractively presented in a small booklet this company has made up. Counter or mailing piece.

109 REFRIGERATION SALES MANUAL on the *Sparton* line is spiral bound and done in colors. Illustrates each model.

110 CONSUMER BOOKLET on *Fairbanks-Morse's* Conservador refrigerators is available. Illustrates line and features of each model.

111 HOW TO ADD A ROOM to your home is the interesting title of *William's* booklet on its oil heaters. Beautifully done in henna and white. A splendid selling tool to show consumer how he can convert his basement into a recreation room if oil heat is installed. Several layouts are shown in color.

112 YOU'LL SING AT YOUR WORK says *Westinghouse's* brochure on all-electric kitchens. Presents several modern "planned kitchens" and shows how old kitchens may be reasonably converted into "workless" kitchens.

113 SPIRAL BOUND, the three-color booklet on *A-B* electric ranges pictures the complete line and describes each model.

114 TURKEY DISPLAY for Thanksgiving and Christmas season use, is being made available by *Swartzbaugh* to call attention to its Everhot roaster. The wax turkey gives the display realism. Slight charge. Circle the number for further details.

115 PREMIER'S DEALER PROFIT SHARING PLAN is fully explained in a new folder. To go with this Premier supplies a copy of its Old Age Contest book and "teaser" mailing pieces.

◀ **More FREE HELPS on other side**

CIRCLE NUMBERS-SIGN-AND MAIL

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



Gentlemen: . . . We are interested in knowing more about the literature and products identified by the numbers circled below:

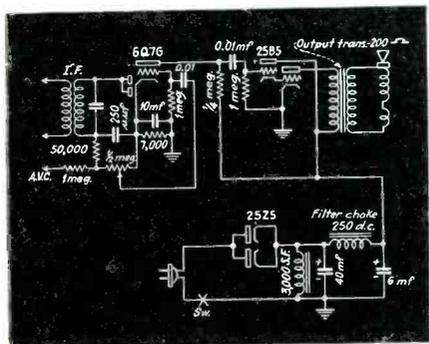
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| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | | | | | |

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SERVICE

DESIGN • REPAIRS • INSTALLATION

NEW CIRCUITS

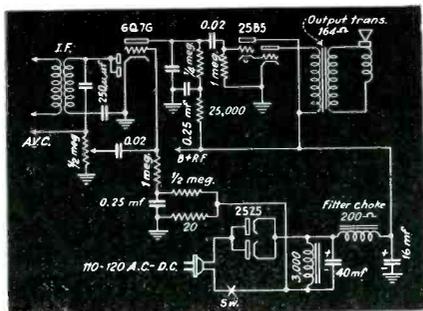


25B5-25N6 Operation.

Similar to the 6B5 in construction, the 25B5 and 25N6 tubes, glass and metal respectively, are designed primarily for a.c.-d.c. operation. Results obtained by Triad indicate that twice the power output is available with the same distortion level compared to the standard 43 pentode.

Since the plate currents of the 25B5 are about 20 milliamperes higher than a 43, it is essential that the filter choke has a d.c. resistance not greater than 200 ohms. Also, the familiar series speaker field cannot be used since the voltage available would be limited considerably. A speaker field of 3000 ohms shunted across the supply voltage will overcome this.

When it is desired to operate two 25B5 tubes as output amplifiers, two 25Z5 rectifiers should be used also.



However, if a permanent magnet type dynamic speaker is used, a single rectifier is sufficient.

The sensitivity of the 25B5 is no less

than the 43, but since the tube delivers twice the power output, greater grid signal voltage is required. It is recommended that a 6Q7 or 6R7 diode-triode be used as a detector-amplifier preceding the 25B5. Other tubes such as a 75 or 6C6 will not supply sufficient output without considerable distortion.

The 25B5 may be adapted to any a.c.-d.c. receiver. Figs. 1 and 2 show the circuit connections. Tests have proven that in all cases the power output has been more than doubled while at the same time the quality was comparable to that of a.c. receivers.



Magnetic Tuning.

A discriminator and frequency deviator are the two principal units in Philco's new signal seeking circuit.

The discriminator, a 6H6G, determines whether the desired signal is higher or lower in frequency by the polarity of the voltage developed on each cathode circuit.

When a desired signal creates a 470 KC beat with the oscillator, this beat is fed through the I.F. stages and amplified. It is then impressed on the 6H6G plates and rectified much in the manner of a standard second detector. This causes a D.C. potential to develop across the diode's cathode resistor, which in turn are connected to the grids of the 6N7G control tube.

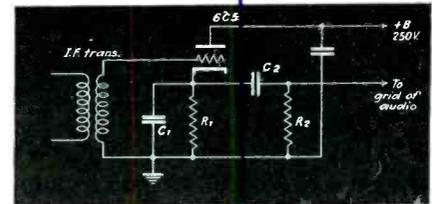
If the desired signal is properly tuned, the voltage developed in the cathode circuits of the 6H6G are equal and opposite and cancel. However, if the signal is mistuned, unequal voltages appear across the cathode resistors, the greater potential cancelling the other, the remaining voltage biases the corresponding grid of the 6N7G. When the desired signal is higher in frequency

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than 470 KC of the oscillator then one cathode of the 6H6G assumes a greater charge than the other, when this signal is lower the other cathode develops the greater potential.

The voltages produced in this circuit are used to control the bias on the 6N7G tube. By increasing the bias on one triode section an increase in frequency results, while an increase on the other section causes a decrease in frequency. When the bias voltage of this control tube is varied the effective grid to plate capacity changes also. This capacity is used to provide feedback for the oscillator. The capacity of one triode section permits a leading feedback voltage, tending to speed up the oscillator; (increase frequency) the other section a lagging voltage, showing down the oscillator (decreasing frequency).



Infinite Impedance Detector.

In recent years the standard diode detector has achieved considerable prestige. However, an infinite impedance detector, which is essentially a triode with a high resistance in its

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MODEL
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YOU AND YOUR CUSTOMERS WILL APPRECIATE THE UTMOST IN PROFESSIONAL APPEARANCE

Yes, Ranger-Examiner Equipment definitely means that Radio Service work can be done more profitably and easier. More profitably because considerably less money is required for precision equipment, and easier because Ranger-Examiner is a completely new line designed from scratch with all the latest improvements for quick and accurate service. Less weight too to carry around in sturdy all-metal cases.

Ranger-Examiner testers are manufactured by the oldest company in the service equipment field whose contacts make them fully acquainted with the needs of the radio serviceman.

Model 740 Volt-Ohm-Milliammeter has a

Triplet 3" square Precision Instrument. Scale readings: 10-50-250-500-1000 A.C. and D.C. Volts at 1000 Ohms per Volt (D.C. Accuracy 2%; A.C. 5%) 1-10-50-250 D.C.M.A.; 0-300 low ohms; high ohms to 250,000 at 1.5 volts. Rheostat adjustment for 13½ volts for ohm readings to 2.5 megohms. Batteries may be added permitting higher resistance readings in 250,000 ohms steps. Low Ohms to ½ Ohm—with 25 ohms in center of scale. Backup circuit. Current draw is only 1 M.A.

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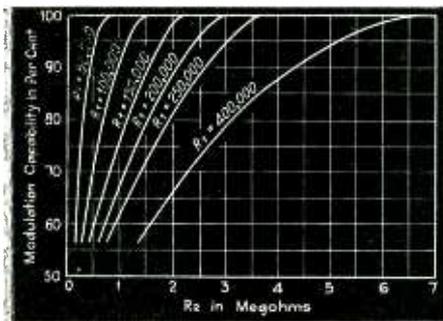
St. Address

City State

cathode circuit, shows a definite improvement in performance over the diode. As outlined by Sylvania, better modulation capabilities as well as increased gain and selectivity are the result.

Fundamentally the circuit functions as a linear detector; much similar to a diode. Resistor R_1 and R_2 play an important role in the modulation capabilities and gain. Reference to Fig. 2 will determine the correct value for maximum performance. It must be remembered that to use the lower values of these resistors results in reduced output. The capacity C_1 should be large enough to bypass the I.F. frequencies while C_2 should be in the vicinity of .1 mfd. The plate bypass condenser can be as large as possible, and may be one of the filter condensers themselves.

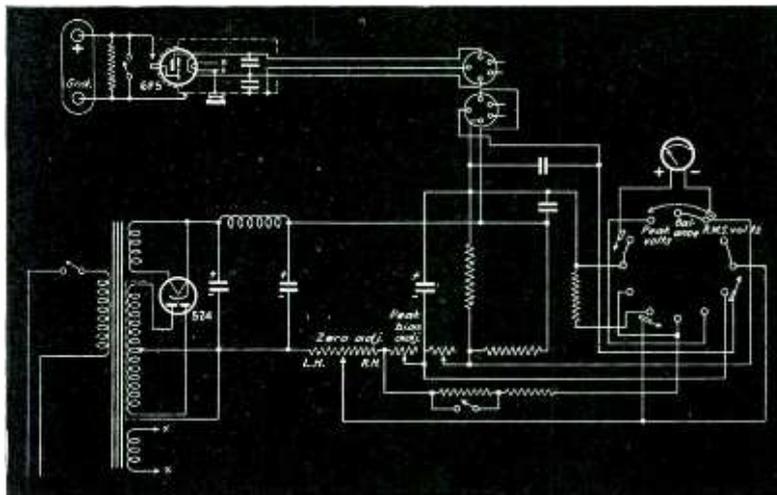
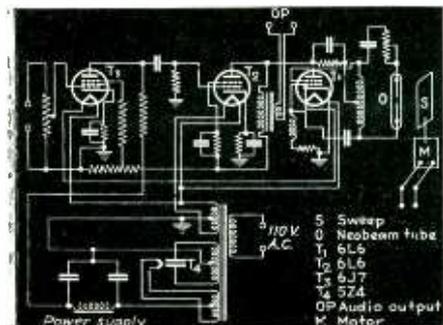
While this type of detector has very desirable features, it is necessary to employ a separate a.v.c. channel as a.v.c.



voltage cannot be obtained in the usual manner. A 6C5 has been proven by test to be the most desirable tube for this circuit. Tubes having high amplification factors do not have good modulating capabilities.

Neon Oscilloscope.

A neon tube Oscilloscope introduced by the Sundt Engineering Co. employs a novel circuit design. A special tube measuring 6 inches overall by $\frac{1}{2}$ inch diameter and filled with a purified neon gas has two electrodes 2 inches long by $\frac{1}{16}$ inch diameter set at each end. A 6L6 Beam Power Tube as a 100 K.C. radio frequency oscillator feeding direct-



Slideback Voltmeter.

A "slide back" vacuum tube voltmeter, permitting both peak and R.M.S. voltage measurement without resorting to charts, is incorporated in a new Clough-Brengle instrument.

A 6F5, used as the voltmeter tube, is at the end of a 30 inch extension cable. By so doing, it is possible for the tube grid to be placed within a few inches of the circuit to be measured, eliminating long leads and thereby reducing capacity. The input circuit under these conditions is 8 mmfd.; there is no resistance in parallel with the grid circuit hence no current is drawn from the circuit to be measured.

When this extension feature is not desired the tube may be placed within the instrument case and connections made through panel binding posts. A 10 megohm resistor shunts the tube grid in this position.

As a true vacuum tube voltmeter, a full scale reading of 1.2 volts is obtained when measurements are made direct to the tube grid. Frequency error is negligible up to 30 m.c. When used as a peak voltmeter, voltage scales of 10 and 100 volts respectively are available.

A 5Z4 in a self contained power supply provides the necessary power as well as the bucking voltage which cancels part of the voltages under measurement; hence the term "slide back" voltmeter.

Static-Velocity Microphone

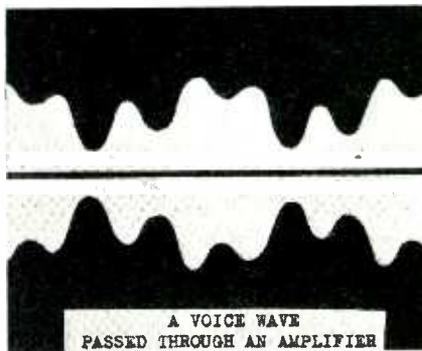
Combining two well known principles, the Bruno Laboratories have placed on the market a microphone for use in public address and sound systems. The new unit is, in effect, a combination between a condenser and a velocity mike. It consists of a flat insulated perforated plate, covered with 8 duralumin ribbons, loosely fastened at their ends. Sound velocity on these ribbons, rather than

ly into the neon tube keeps the tube ignited.

The principle involved is that the area of the glow covering the elongated cathode is proportional to the current passing through the tube. On alternating current the electrodes glow alternately, depending upon the frequency of the impressed voltage.

The input voltages are amplified by a 6J7 and 6L6 high gain audio amplifier and impressed on the oscillator. This fluctuating power corresponds to the vertical deflection of the wave pattern and will, of course, be too fast to be seen without a sweep system.

The image is then reflected on a re-



volving mirror so as to sweep the image horizontally across the line of vision. This sweep is controlled with a Vari-Speed Motor unit calibrated in R.P.M. thereby obtaining a direct reading feature which is especially important in making frequency determinations.

One microvolt input is sufficient to produce a full scale deflection of the image on a four inch calibrated screen. For example, a one-foot bare copper wire attached to the end of the shielded cable connected to the input terminals of the oscilloscope provides sufficient pick-up to indicate a 60 cycle line five feet away. For amateur and commercial radio laboratories this oscilloscope has unlimited uses, such as checking modulation, amplifier fidelity, hum tracing, distortion, gain measurements, and receiver sensitivity and response.

RECTIFIED RF SIGNAL CURRENT

HIGH-MU TRIODE PLATE VOLTAGE

AFC (AUTOMATIC FREQUENCY CONTROL)
DIODE BALANCING CIRCUITS

OSCILLATOR AND POWER
TUBE GRID CURRENTS

POWER DETECTOR BIAS

AVC DIODE CURRENTS

PHOTO-CELL CURRENTS
AND PLATE VOLTAGES

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them* **ALL**

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**Super-Sensitive
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Model 772

(20,000 OHMS PER VOLT)

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and remember . . .

you can buy this famous 20,000 ohms per volt analyzer, and other WESTON radio instruments, through the convenient WESTON INVESTMENT PLAN.



No instrument yet offered the serviceman has met with such overwhelming response as Model 772. The reasons are obvious. With its sensitivity of 20,000 ohms per volt, Model 772 is not only ideal for all usual testing routine . . . but it also enables you to get into and thoroughly check circuits which cannot be tested with former servicing instruments. And being built to high WESTON

standards, servicemen know that Model 772 will serve dependably for years. Before you consider the purchase of test equipment be sure to get all the facts on Model 772 and other WESTON instruments for radio servicing. Ask your jobber for full particulars or return the coupon today . . . Weston Electrical Instrument Corporation, 581 Frelinghuysen Avenue, Newark, New Jersey.

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Send full data on Model 772 and other WESTON instruments.

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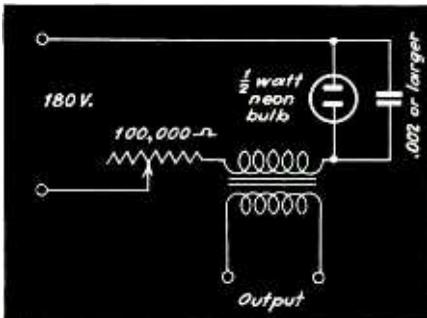
sound pressure, causes them to move to and from the plate similar to the ribbon of a velocity microphone. A polarizing voltage of from 50 to 350 volts is then applied to the ribbon and the front surface through a 10 megohm resistor. Any change in capacity between these two surfaces causes a corresponding change in the charging current of this capacity. This variation is then fed directly to the grid of an amplifier, much the same as a condenser microphone.

The output of this unit is said to be equal to that of a crystal microphone while the frequency response is comparable to that of the magnetic velocity type. With moderate polarizing voltages it may be used with cable lengths up to 100 feet. The usual type low capacity cable is desirable in all installations.

Neon Tube Specifications.

Neon tubes are widely used in various fields. In radio they can be found in tube testers, stroboscopes, high resistance indicators, signal lights and audio and R.F. oscillators. They vary in sizes from 1/4 watt to 3 watts. The following chart shows the characteristics of different wattage values.

One of the many uses of neon tubes is as an audio oscillator. Such a device



can be used to modulate a signal generator or, by inserting different values of capacity across the transformer, and pro-

Watts	Approx. Resistance in Base Ohms	Average Current Rating Amps.	Approx. C. P. Rating	Minimum Operating Voltage Volts Below Label		Useful Life Hours
				A.C.	D.C.	
3	1900	.030	.75	50	10	3000
2	3200	.020	0.5	50	10	3000
2	3200	.020	—	50	10	3000
1/2	3200	.005	0.05	10	—	3000
1	4800	.010	0.25	50	10	3000
1/4	27,500	.002	—	50	10	3000

vides an effective method of checking the frequency response of audio systems and speakers for peaks and cabinet resonance.

NEW TUBES

OZ4G A full wave gas filled rectifier developed principally for auto receivers by Raytheon.

DC Voltage Output	300 max.	Volts
DC Output Current	30 min.	m.a.
	75 max.	m.a.
Peak Plate Current	200 max.	m.a.
Starting Voltage	300 min.	V. (peak)
Voltage Drop (Dynamic)	24 avg.	Volts



Actual size

6H5 A grid controlled cathode ray tuning indicator by Raytheon.

Similar to the 6G5 except that the current to the target is controlled by a grid tied to the cathode within the tube. Previously this current was limited only by the emission saturation of the cathode. The addition of this grid results in greater illumination, longer life and uniform control over wide voltage ranges.

956 Acorn Super Control R-F Pentode

Heater Voltage	6.3
Heater Current	0.15
Plate Voltage	250
Screen Voltage	100
Grid Voltage	-3
Plate Current	5.5
Screen Current	1.8
Plate Resistance	0.8
Amplification Factor	1440
Mutual Conductance	1800
Input Capacitance	2.7
Output Capacitance	3.5

Suppressor connected to cathode at socket

6T7G Duodiode High Mu Triode

Heater voltage	6.3
Heater Current	0.15
Plate voltage	.250
Grid voltage	-3
Plate Current	0.9
Plate Resistance	65,000
Mutual Conductance	1,000
Amplification factor	65

Last minute report from RCA states that they are now manufacturing "G" type tube corresponding to all the present metal types. In addition three new types will be available.

5V4G corresponding to the 83-V

5Y3G corresponding to the 80

5X4G corresponding to the 5Z3

Types 6C5G and 6F5G have a shield external to the plate connected to the No. 1 pin.

AMATEUR NOTES

In which "Radio Retailing" briefly reports developments in "ham" equipment of general technical interest to servicemen.

Beam Transmitting Tube—Just announced by RCA, the 807 is a husky edition of the famous 6L6. Designed primarily for r-f service this new tube has lower inter-electrode capacity than the 6L6, improved shielding minimizes need for neutralization. Ceramic base with plate lead through top of bulb.

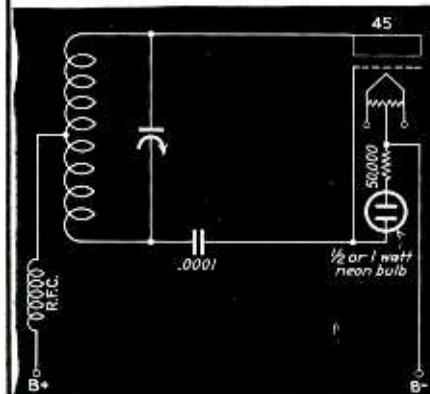
The maximum Class C specifications are:

Heater voltage	6.3
Plate voltage	400
Screen voltage	250
Grid voltage	-50
Peak r-f grid voltage	80
Plate current	95
Screen current	9
Grid current	2.5
Driving power (approx.)	0.2
Power output (approx.)	25

Variable Oscillator Grid Leak—

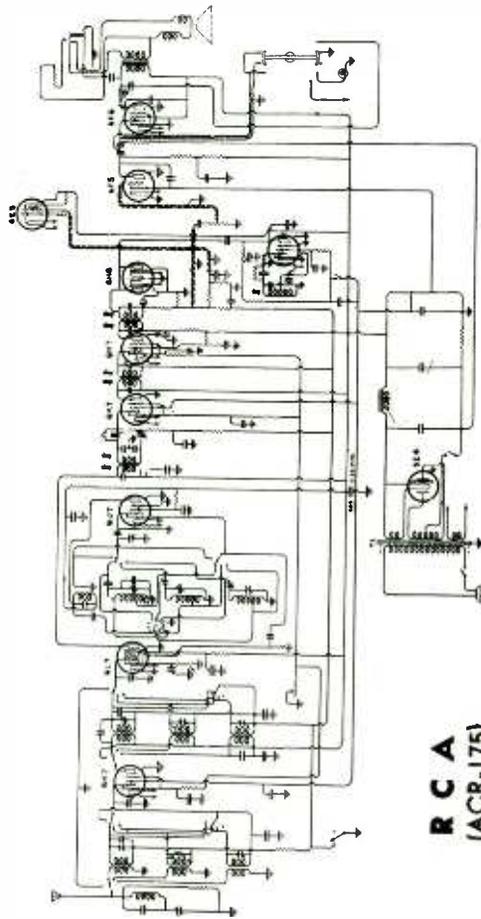
By inserting a small neon bulb in series with the normal grid leak of a five meter oscillator, a considerable increase in output can be obtained.

The action is such that the grid of the tube is left free when the neon bulb is not glowing. When the feedback voltage reaches the grid it must first build up sufficiently to ignite the bulb. Because of this delay, the grid receives a sharp impulse since no bias shunting network is attached. When the bulb does ignite, its resistances decreases, bringing the oscillator back to normal. This system allows



greater grid excitation at the beginning of each cycle, tapering until the normal maximum peak is obtained, thereby allowing greater output for a given plate current.

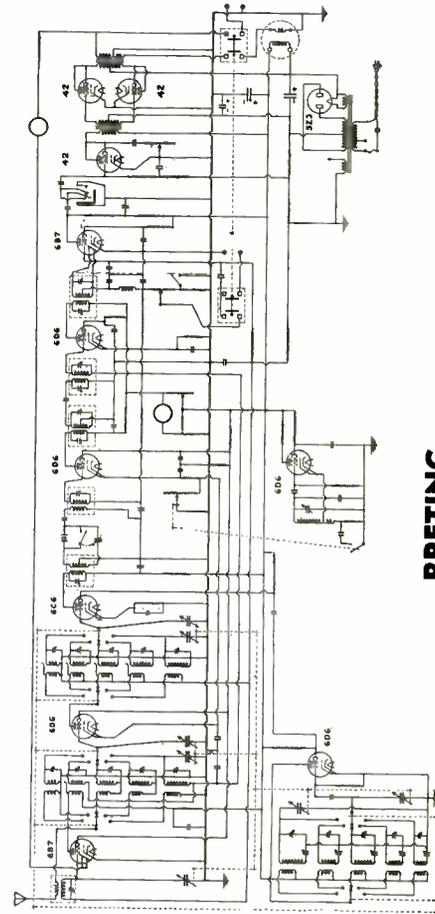
COMMUNICATION RECEIVER CIRCUITS



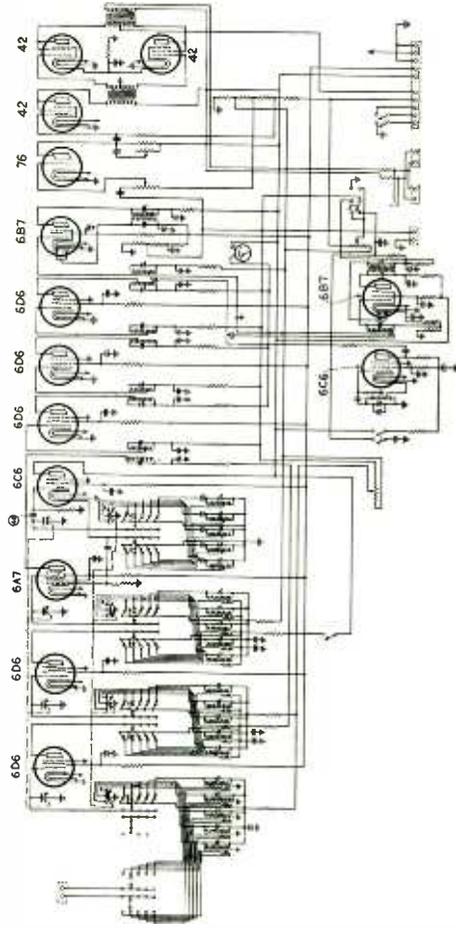
R C A
(ACR-175)

These sets are encountered among dyed-in-the-wool shortwave fans in increasing number. Many amateurs now bring them to well equipped repair shops for alignment and other adjustments requiring delicate and accurate instruments. And servicemen who are themselves amateurs will find them of personal interest.

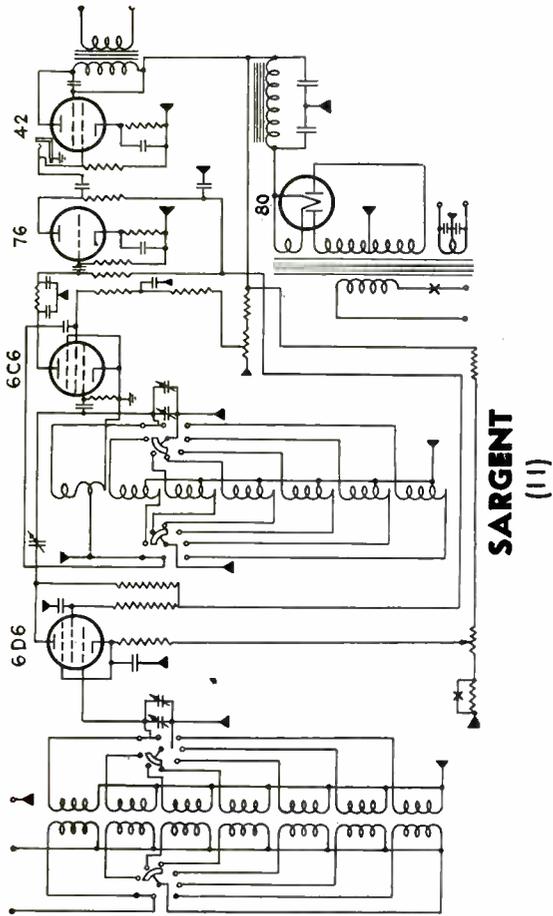
(Photographs appear on page 35)



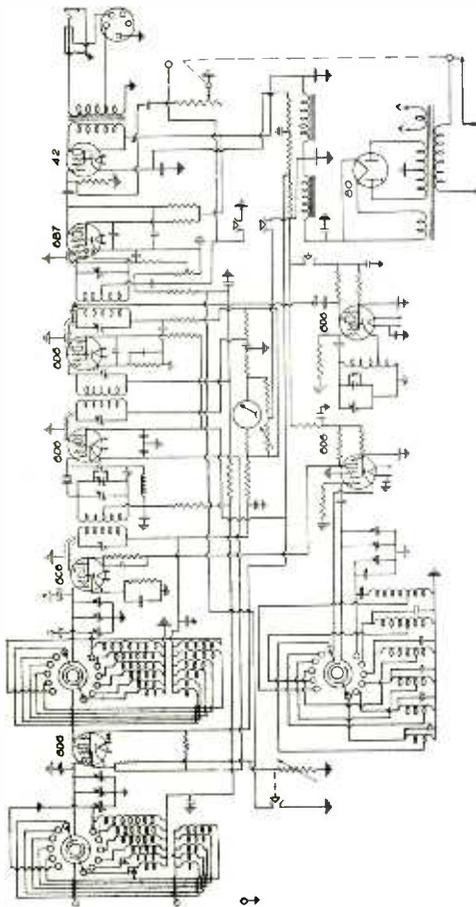
BRETING
(12) Circuit of new model
14 not yet available



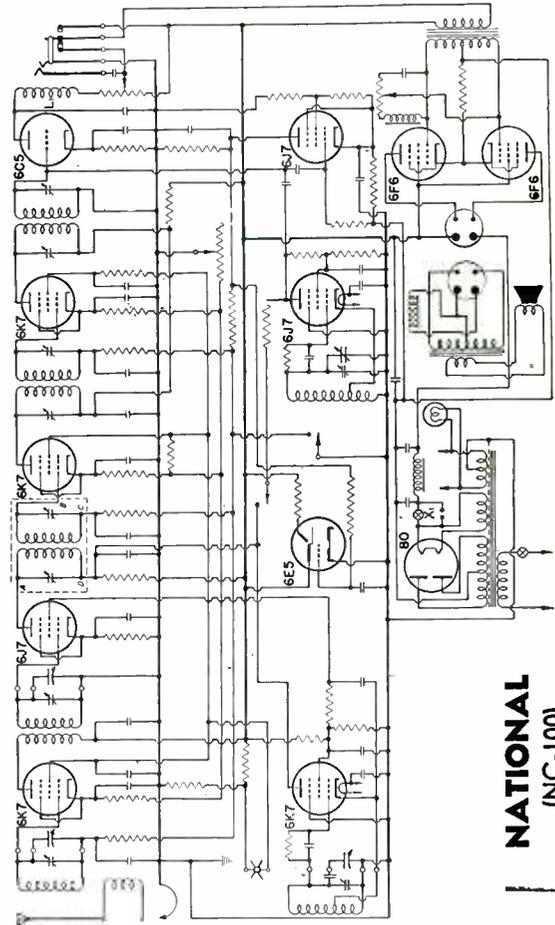
HAMMARLUND
(Super-Pro)



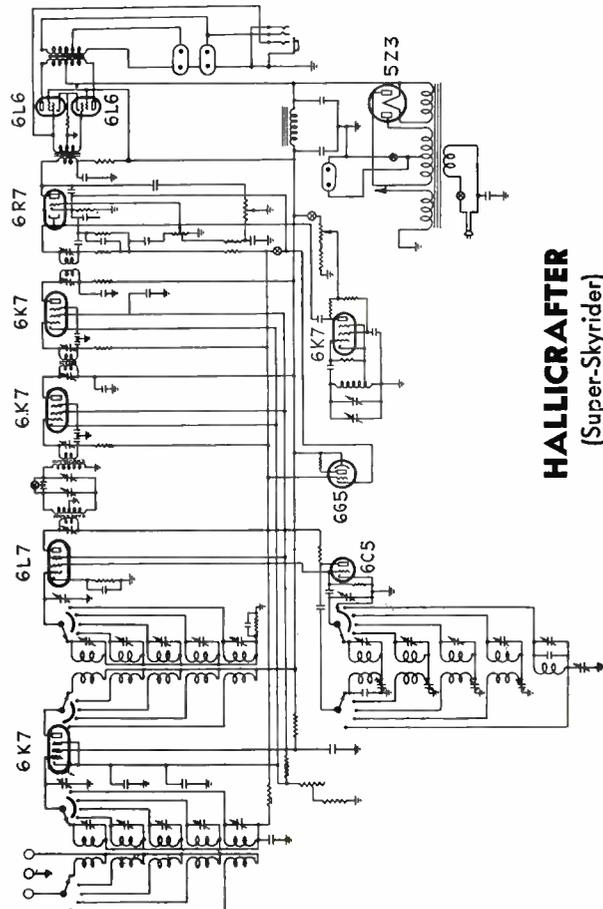
SARGENT
(11)



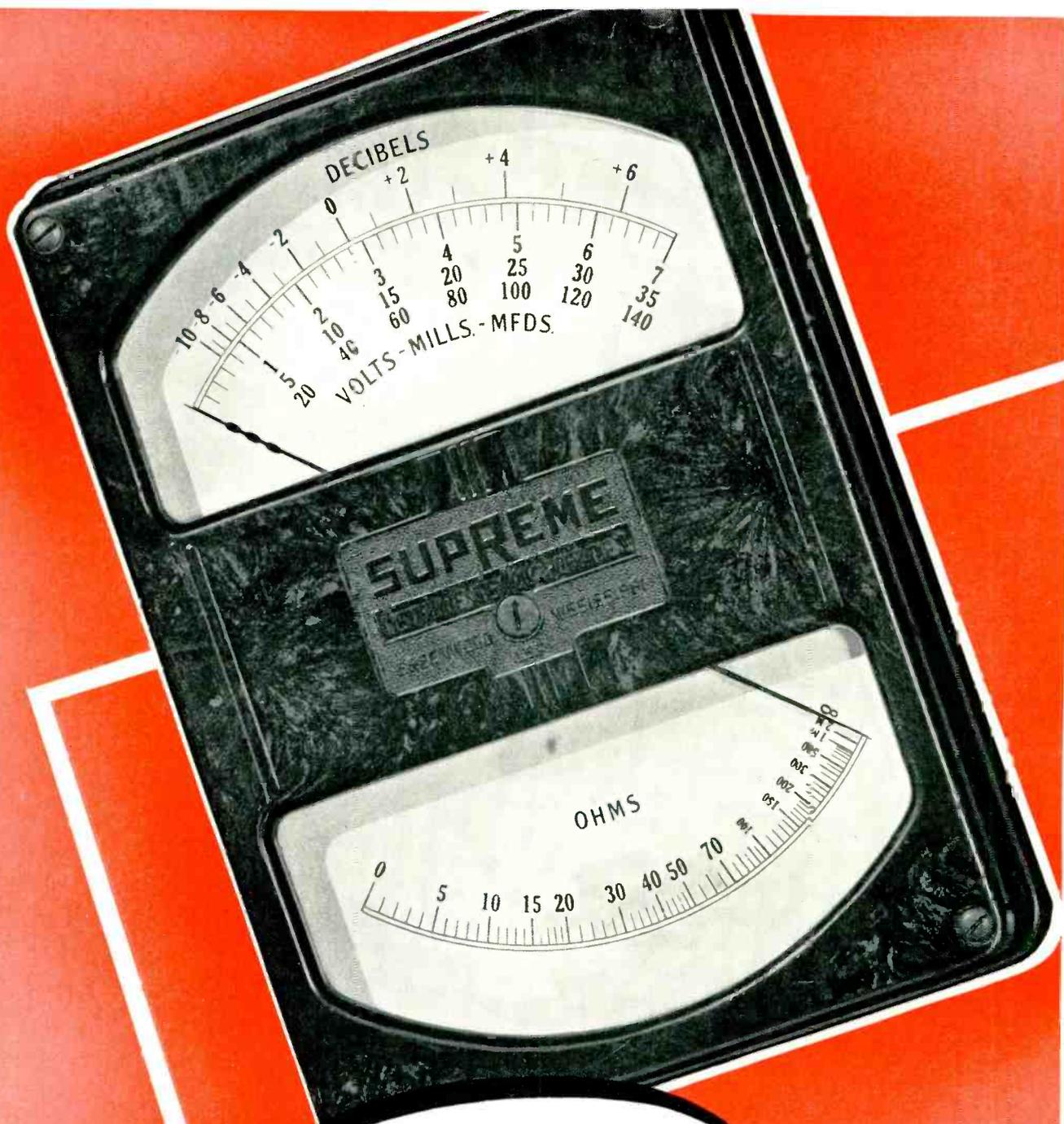
R M E
(69)



NATIONAL
(NC-100)



HALLICRAFTER
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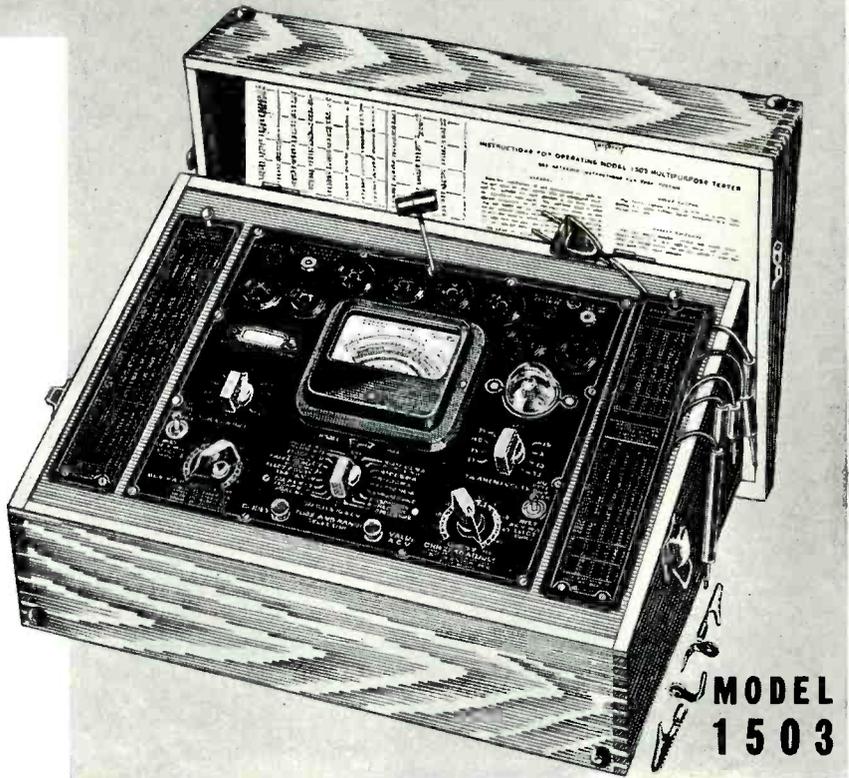
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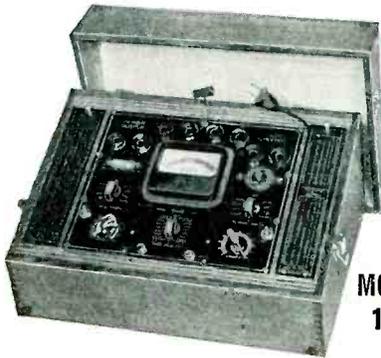
Normally the function of most tubes is to amplify a signal. But when tubes are required to deliver power, such as the 6F6, the amplification may test up and yet the tube may distort badly. Reason . . . weak emission . . . particularly at low frequencies. Such tubes demand both amplification and emission test, now available



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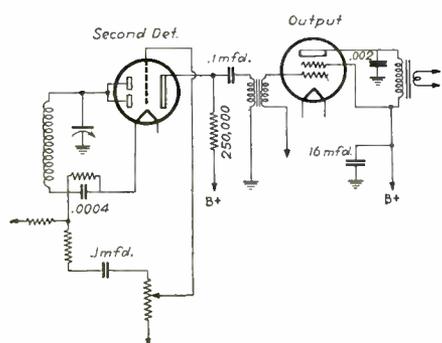


Improving Fidelity

By Gerald Evans

A great deal has been written regarding improving the fidelity of existing radio receivers. But in the majority of cases little has been said about the parts upon which high fidelity is most dependent.

There will probably be found from the plate of the output tube to ground a condenser, ranging from .006 to .02 mfd. in value. A capacity of the latter



value, in this position, would bypass all the higher frequencies to the ground. Nor is it so simple a matter as merely removing this condenser from the set, as in some instances second detector feedback may play havoc with the IF harmonics. A .002 mfd. condenser is large enough to effectively prevent this feedback.

Next examine the condenser in the diode return lead of the IF transformer of the second detector. It is used in connection with a resistor of about .5 megohm; and the audio voltage picked up off the diode side of the condenser by the volume control arm. It will readily be seen that this grid leak-condenser combination is really connected between the control grid of the first audio amplifier tube and chassis. It is also apparent that the greater the capacity of a condenser in this position, the more will the high frequencies be bypassed to the ground, and the upper musical harmonics lost to the balance of the amplifier and speaker. The size of this condenser varies with different circuits, from .00025 to .0015 mfd. A capacity of .0003 to .0004 mfd. seems to be the most desirable, especially where an 85 tube is used with a high grade audio transformer.

It will be found in most cases that the lower frequencies suffer almost equally with the highs. Assuming the speaker is capable of reproducing reasonably low notes, the next most neglected part is the condenser connecting the first audio tube to the output tube. Most sets use a capacity between .008 and .05 mfd. This condenser should be changed to .1 mfd. When an audio transformer is used, be sure it is a good

one, most recommended replacement transformers do not cost enough to be good.

If the plate current flows through the primary, keep it out by resistance coupling this tube, use voltages specified for resistance coupled amplifiers, otherwise serious distortion may result. Couple the driver tube plate to the primary of the audio transformer through a condenser of .1 mfd. capacity. The change in bass note reproduction is very marked when a condenser of this size is substituted in this position for one of smaller capacity. The B plus end of the transformer primary should be connected directly to the chassis. This also adds to the low frequency response.

A crystal pickup and a resistance coupled amplifier (or any other good amplifier to be used for a standard) together with a good speaker should be used for the comparison of the amplifier as the work progresses. The same phono record should be used each time a comparison is made, any change in performance is easier noted in this manner.

The speaker, on the radio to have its fidelity "lifted," should be tried on the phono pickup and the standard amplifier, then with the pickup and the amplifier on the radio. This will give the service man an idea of what can be expected in the way of improvement,—and incidentally helps sell the customer on the idea of fidelity improvement.

If the above changes start the set to motorboating, connect a 16 mfd. 450 volt electrolytic condenser from the B plus to ground. Cathode bias lessens the danger of motorboating, but if a drop in the B-line is used for bias, it is important that it be well filtered by a resistance capacity network.

AC-DC Antenna Circuit

By E. W. Hill

The performance of practically any AC-DC set can be improved, particularly on the low frequency end, by shunting an r.f. coil from an old broadcast receiver from the antenna post to the chassis. Results will sometimes be even better if the ground end of the coil is connected to an outside ground instead of the chassis. In the latter case be sure there is an antenna series condenser in the circuit.

Modernizing Old 2-v. Sets

By H. D. Hooton

The new 2-volt tubes, such as the 1A4, 1B4 and 1F4 types, offer the service man an opportunity to add to his income by modernizing the older model battery receivers. Generally, the 1A4 will replace the 34, the 1B4 the 32, and the 1F4 the 33 types. The first two named are of the smaller ST-12 envelope type which allows more efficient shielding and, therefore, a higher gain. The 1F4 tube is an output pentode with an amplification factor of 340, requires only 0.12 amp. filament current and 4½ volts of negative "C" bias at 135 volts plate and screen voltage. This tube will replace the 33 in all circuits where the output does not exceed 0.35 watt. Of course, it is necessary to re-adjust the heater and bias voltages.

Most of the early battery-operated all-wave superheterodynes had no provision for delay in the automatic volume con-



OHM ON THE BENCH—Don Kress of Chicago and his oscillograph, feeling the pulse of a patient.

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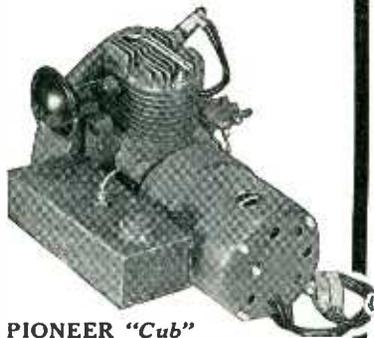
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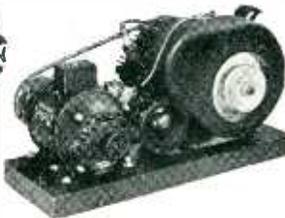


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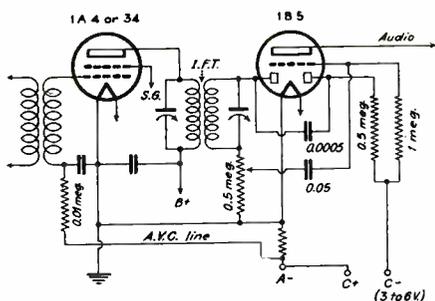
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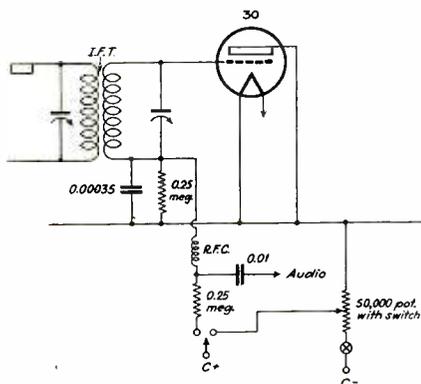
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control circuit, that is, the AVC action starts as soon as a signal is passed to the second detector. The author has changed the 30 diode in quite a few of these receivers to the more modern 1B5 and 1F6 tubes and the usual circuit for a delay equal to the applied "C" bias is shown in Fig. 1. The diagram as shown is correct for the 1B5 tube.

In many cases, however, changes in the detector tube are undesirable and, if a delay circuit cannot be used, the author uses the circuit illustrated in Fig. 2. As the diagram shows, a potentiometer



shunted across the "C" battery operates as a manual control of sensitivity but when returned to the "off" position, breaks the "C" circuit and re-connects the detector and AVC leads in their original arrangement. This allows the AVC action to be cut out for DXing on the short wave lengths and for the reception of very weak broadcast band signals. The potentiometer is of about 50,000 ohms value and is fitted with a self-contained D.P.S.T. switch. The high resistance is necessary to prevent an excessive drain on the "C" battery when the switch is in the manual position.

The early tuned-radio-frequency receivers, such as the Crosley 27-28 for example, which use 32, 30 or 31 tubes in the original circuit, can be improved considerably by using the 1A4 tubes to replace the 32s in the R.F. stages and the 1B4 to replace the same tube in the detector position. If the 1F4s are used for output, the only changes necessary are replacing the 4-prong sockets with those of the 5-prong type and reducing the "C" voltage to the required $4\frac{1}{2}$ for the pentodes. Usually the tone is much better even though the speaker windings do not precisely match the plate impedance of the 1F4.

Wet Electrolytics

By James A. Nash

When you have occasion to turn a chassis upside-down, observe before so doing if there is an electrolytic condenser mounted above the chassis. If there is, examine the rubber vent on top (if it has this kind of a vent) to see that it is leakproof.

Protecting Carbon Resistors

By W. Beech

The writer has had a great deal of trouble with carbon resistors which apparently were affected by climatic conditions. The values changed radically and were very noisy. In order to make these units impervious to moisture, the resistors, immediately upon being received from the supply house, were dipped in liquid coil dope.

The liquid, if applied in two or three coats, also makes a very good insulation for the resistors. The heat radiating characteristics or wattage rating of the resistors is not affected by the coating.

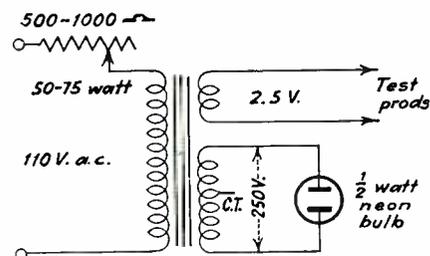
Noise Alignment of Receivers

By M. Chernow

Aligning a receiver when no oscillator is available can be accomplished by adjusting the trimmers for the highest noise level. In rural sections where noise is at a minimum, the same results can be obtained by shaking a loose electric bulb in its socket and using this noise as a signal source.

A.V.C. action is not brought into play by this method thus the peaking of I.F.

trimmers is readily accomplished by ear. Much time can be saved by using this noise method as a shock excitation generator.



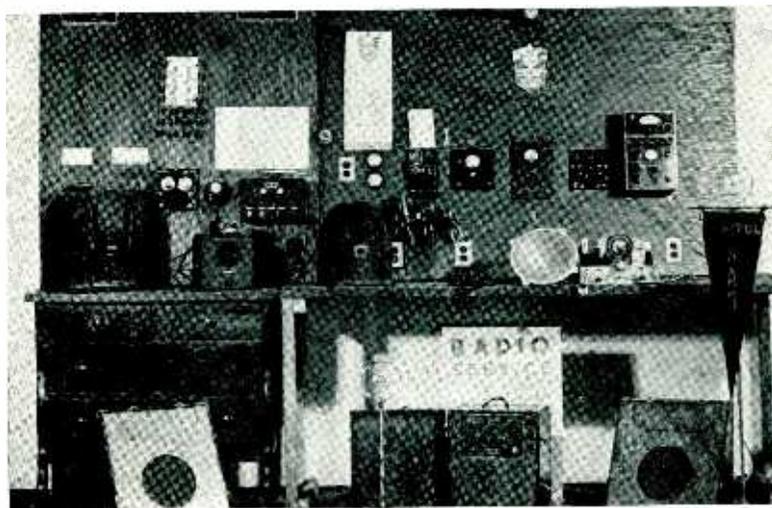
Low Resistance Tester

By Albert Emerson

A simple means of accurately determining the character of the resistance of coils in a band switch assembly is shown in the following diagram.

A midget power transformer, the smaller the better, with a 1.5 or 2.5 volt filament winding is the basis of the circuit. A half watt neon bulb is connected across the secondary. If the bulb glows too brightly it is advisable to insert a 5000 to 10,000 ohm series resistor in addition, a 500 to 1000 ohm variable resistor is connected in series with the primary and is adjusted to a point where the neon bulb just goes out under the test prods. No further change need be made in this resistor unless the line voltage fluctuates greatly.

With this device it is possible to make comparative tests on low resistance coils, contact resistance of band switches or any other low resistance circuit simply by shunting the desired circuit across the test prods. The brilliancy of the neon bulb will give a comparative check on the resistance of the circuit.



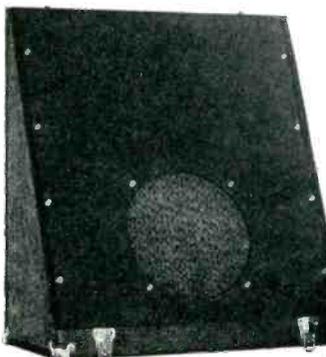
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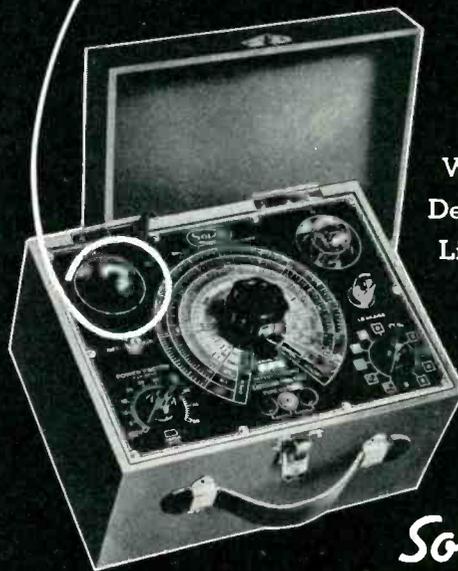
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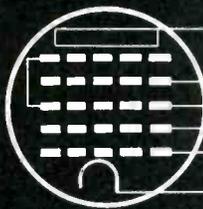
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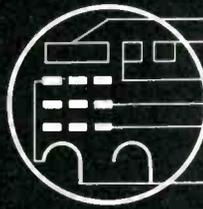
(Measured to chassis with 1000-ohms-per volt D. C. instrument)

6A7
Mixer



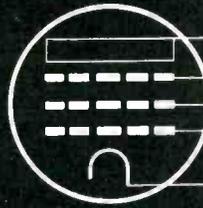
A.C.	A.C.-D.C.
230 to 265	97 to 134
0	0
90 to 110	63 to 80
137 to 180	80 to 112
-3 to -7.5	-2.6 to -8
2.5 to 5	2 to 2.6

6B7
Detector
Amplifier



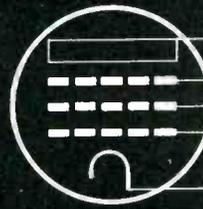
A.C.	A.C.-D.C.
115 to 135	25 to 45
0	0
0	0
75 to 105	20 to 35
0	0
1 to 2	1 to 1.5

6C6
Detector



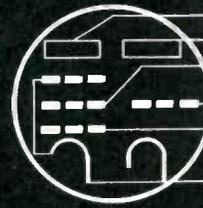
A.C.	A.C.-D.C.
0 to 30	0 to 22
0 to 2.6	0 to 2
25 to 75	18 to 45
0	0
0 to 2.6	0 to 2

6D6
I.F.
Amplifier



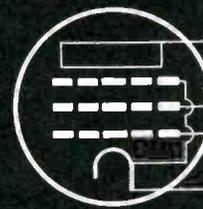
A.C.	A.C.-D.C.
225 to 265	97 to 105
2.8 to 6.6	3 to 3.5
90 to 120	97 to 105
0	0
2.5 to 6.6	3 to 3.5

6F7
Detector
I.F.
Amplifier



A.C.	A.C.-D.C.
110 to 135	83 to 105
118 to 140	20 to 35
45 to 60	70 to 105
0	0
0	0
0 to 1.5	0

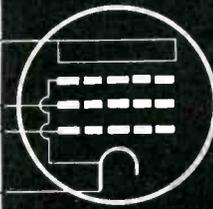
41
Output



A.C.	A.C.-D.C.
220 to 245	75 to 105
225 to 255	93 to 110
-1 to -6	-0.3 to -1.5
0	0

A.C. A.C.-D.C.

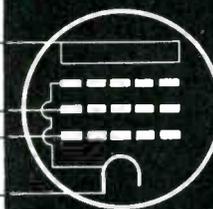
A.C.	A.C.-D.C.
225 to 247	75 to 105
240 to 260	80 to 110
-1 to -7	-0.3 to -1.5
0	0



42
Output

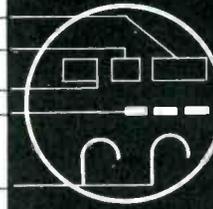
Not used

A.C.	A.C.-D.C.
75 to 105	
95 to 120	-0.3 to -1.7
0	0



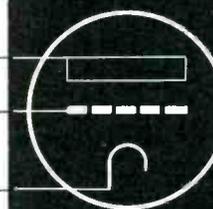
43
Output

A.C.	A.C.-D.C.
80 to 95	30 to 35
-0.1 to -0.2	0
-0.1 to -0.2	0 to -0.1
0	0



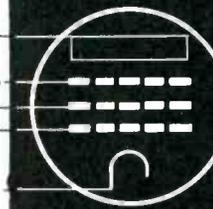
75
Detector
Amplifier

A.C.	A.C.-D.C.
115 to 140	35 to 48
0	0
72 to 10	35 to 48



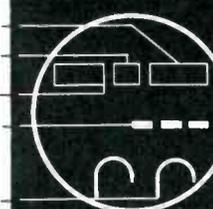
76
Audio

A.C.	A.C.-D.C.
225 to 250	107 to 120
2.7 to 6.5	2 to 2.6
90 to 115	80 to 107
0	0
2.5 to 6.5	2 to 2.6



78
I.F.

A.C.	A.C.-D.C.
118 to 135	40 to 48
0	0
2 to 2.5	0 to -0.1
-0.01	0
15 to 17.5	0 to 1

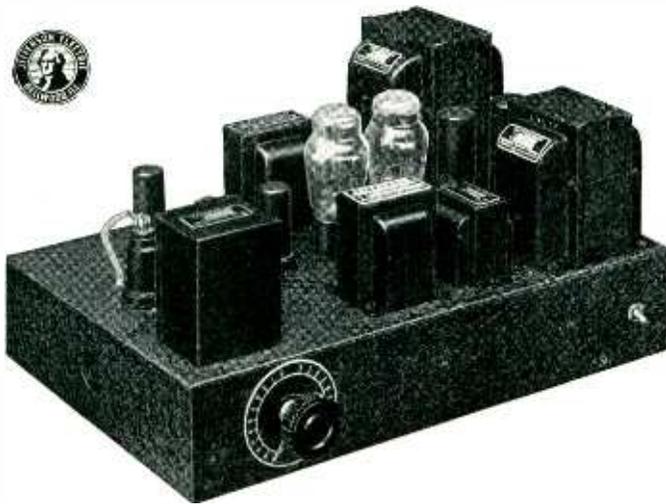


85
Detector
Amplifier

Tubes illustrated are the latest glass variety. In the October issue metal types

**RADIO
RETAILING**

were shown. Should we continue with actual socket voltages on older receivers?



NOW . . . you can get full 60 Watts from a pair of 6L6's

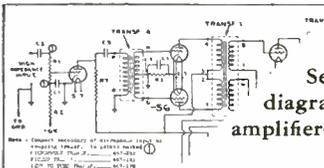
● The latest development of the Jefferson Engineering Laboratory—the 6L6, in which the most difficult application of the 6L6 Beam Power Tube has been engineered to produce a high power, high gain amplifier.

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JEFFERSON *Radio* Transformers



Jefferson Electric Company
Bellwood, Ill.

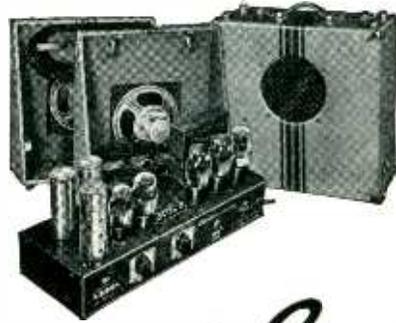
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TRICKS OF THE TRADE

COLONIAL 85

No reception. . . . Remove speaker plug from chassis and test for continuity between two smaller prongs. These are the primary lead of the output transformer which is subject to burnout due to heavy current of parallel 47's.

CROSLEY 608 GEMBOX

Common faults, in order of occurrence in the field . . . Failure of 0.5 condenser under chassis, power transformer lamination hum. To cure such hum loosen several lockbolts, hit laminations gently with hammer to set them. When hum stops carefully tighten bolts, tapping again while this is being done if hum reappears. Noisy volume control. Clean or replace. Gentle sanding with 0000 sandpaper and rub with vaseline cleans many satisfactorily. Freezing of dial. Replace drive gear or repair by smoothing burrs on gear and holes where it turns. Freezing of regeneration control. Replace. Poor tuning, cuts off near 100 on dial. Check tuning condensers for spacing and tracking. Burrs frequently short condensers when over half meshed.

EMERSON 26

Overloading on strong signals . . . second detector plate resistor has greatly increased value: replace with lower value.

GE K62, RCA R11

Motorboating . . . Connect a .1 across the resistor mounted inside the antenna coil.

GE J80-RCA R8

Crackling and weak reception . . . first audio primary. There are two transformers sealed in can, no room to mount another. Change to resistance coupling. Substitute 100,000 ohms for primary and 300,000 for secondary, couple det. plate to audio grid through .05 condenser.

GENERAL MOTORS—LITTLE GENERAL

Intermittent oscillation or fading. . . . Check all resistors and condensers. ground variable condenser rotor.

GRUNOW 660

Mushy reception01 mfd. coupling condenser between plate of 75 and grid of 42 leaking. Resistances as high as 5 to 10 megs is sufficient to impair reception. Replace with 600 volt type.

RADIO RETAILING, NOVEMBER, 1936

MAJESTIC 20

Weak or no reception, low voltage . . . shorted .1 mfd. condenser in first I.F. transformer can. It is unnecessary to melt tar; remove can and slit on side near red lead. Bend metal back and cut loose offending condenser. Replace can and install new .1 mfd. 600 v. condenser on outside.

MAJESTIC 90

Lacks pep. . . . Check cable and connections between power pack and chassis. Often sections of this cable are open.

MAJESTIC 300

Overload with volume all on, still not enough volume . . . high resistance leak in coupling condenser connecting to tube side of volume control.

PHILCO 54

Unstable volume . . . replace dual condenser No. 54 located behind 43 tube. Heat from tube damages this condenser.

PHILCO 65

Fading . . . intermittent open in speaker field. This field should have a resistance of approximately 3000 ohms.

PHILCO 84

Sudden drop in volume . . . dual condenser bypassing screens of 77 tubes shorting: replace.

PHILCO 84

Oscillation . . . connect .05 mfd. from high voltage to ground.

PHILCO 96

Intermittent operation for short periods, any attempt to make tests restores operation . . . replace 30,000 ohm metalized resistor in plate of first audio.

RADIOLA 17

Bad hum that cannot be taken out by hum controls . . . shorted filter choke: replace.

RCA 26

A.V.C. action weak, noisy. . . . Check a.v.c. plate choke. Also check C 18, C 20, C 21 for shorts.

Says Service Man Mac:



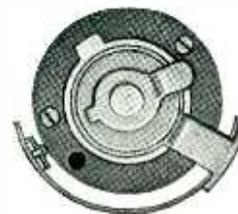
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Deposit Refunded



1937 Clough-Brengle Signal Generators. Model OMA operates from 110 volts, 50-60 cycle, continuously variable 100 K.C. to 30 M.C. Single and double trace selectivity. Curves for use with output meter or oscillograph; Complete with tubes and accessories. Model OC-A, 100 K.C. to 30 M.C., operates from 110 volts, 50-60 cycles. Complete with tubes and hand drawn calibration curves. Available on N.U. tube deals with time payment plan covering deposit. Investigate.

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The National Union Way makes the purchase of National Union radio tubes doubly profitable. Besides full protection on the highest quality radio tubes, each National Union tube purchased helps to earn free equipment. But, possession of the equipment is obtained at once with just a nominal cash deposit. (Deposit is rebated when required number of tubes have been purchased.) Over 50,000 completed deals with progressive radio dealers. Don't be misled. See your National Union jobber and get all the facts.

OTHER NATIONAL UNION OFFERS

In **SOUND EQUIPMENT** items available include 17-watt portable system, 10-watt portable system, 6-watt portable system, phonograph pickup and turntable, etc., all manufactured by Webster-Chicago.

In **SHOP EQUIPMENT** items available include stock cabinets, coats, display signs, etc. All items absolutely free the National Union Way. Get full details.

In **SERVICE EQUIPMENT** items available include tube testers, analyzers, oscillographs, signal generators, modulators, meters, etc., products of such manufacturers as Supreme, Clough-Brengle, Hickok, Triplett, Readrite, Precision, Radio City, Dumont, J.F.D. and others.

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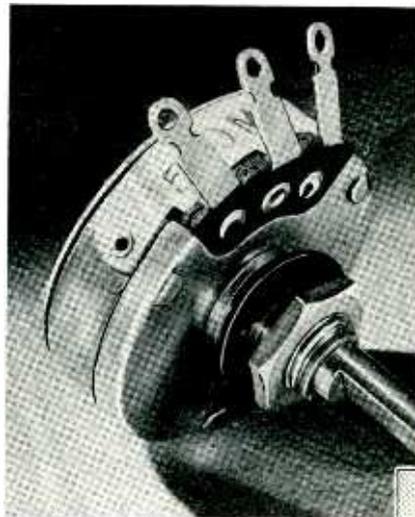
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(For information concerning component parts see page 113 of the September issue)

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(Continued on Page 87)

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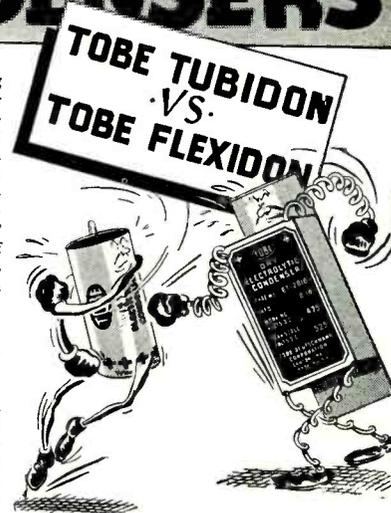
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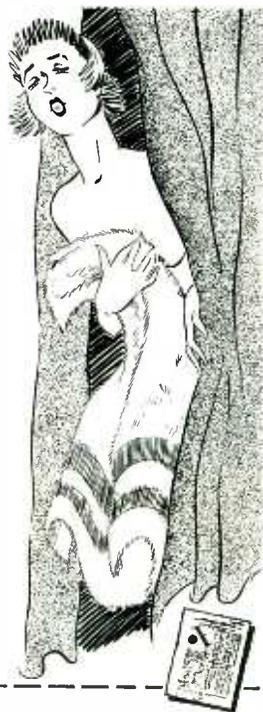
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Of Radio Retailing, published monthly at Albany, N. Y., for Oct. 1, 1936.

State of New York
County of New York } ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared D. C. McGraw, who, having been duly sworn according to law, deposes and says that he is the Secretary of the McGraw-Hill Publishing Company, Inc., publishers of Radio Retailing, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

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5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is. (This information is required from daily publications only.)

D. C. MCGRAW, Secretary.
MCGRAW-HILL PUBLISHING COMPANY, INC.

Sworn to and subscribed before me this 28th day of September, 1936.

[SEAL] H. E. BEIRNE,

Notary Public, Nassau County. Clk's No. 74, N. Y. Clk's No. 192. Reg. No. 8-B-115.
(My commission expires March 30, 1938)

BUSINESS OPPORTUNITY

FOR SALE—Radio and Electric store. Sales and service. Established eight years. Fine location. \$3,500.00. Terms. Excellent selling reason. Address: Fidelity, 1914 E. Sprague, Spokane, Wash.

SELLING OPPORTUNITIES OFFERED—WANTED
Selling Agencies—Sales Executives
Salesmen—Additional Lines

OPPORTUNITY OFFERED

JOBBER SALESMEN write us for hot Radio sideline. Big commissions. No investment. D. & S., 1914 E. Sprague, Spokane, Wn.

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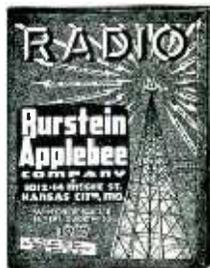
must be received by the 30th of the month to appear in the issue out the following month.

Address copy to the
Departmental Advertising Staff

Radio Retailing
330 West 42d St., New York City

PHILCO SERVICEMAN and Catalog of PHILCO Parts and Tubes—Sent Free on Request.

WILLIAMS PHILCO., INC.
800 S. Adams St. Peoria, Illinois



Get This FREE RADIO CATALOG

Over 10,000 items in this big catalog including radio receivers, nationally known radio parts and broadcasting equipment at lowest wholesale prices. A catalog of great value to dealers and servicemen. Write today for your FREE copy of this big catalog.

BURSTEIN-APPLEBEE CO.
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Ready ALLIED'S 1937 RADIO CATALOG



Every Service Department needs this up-to-the-minute Catalog! 152 pages packed with everything in radio, including the very latest developments. Over 10,000 exact duplicate and replacement parts—newest service test equipment, tube testers, oscillographs, analyzers, meters—radio books, tools—37 new low-priced radio receivers—

All-Wave Dual-Wave and Short-Wave, from 5 to 19 tubes—AC, battery, 22 volt, 6 volt and auto sets; latest Public Address systems—America's most reliable Windcharger and Turbopower units—tubes, batteries, accessories, etc. You can fill every service need from this great new ALLIED Catalog, at lowest prices.

YOUR SERVICE DEPT. NEEDS IT

SEND COUPON

ALLIED RADIO

833 W. Jackson Blvd. Dept. 18-1

Chicago, Ill.

Send us your new 1937 Catalog

(Free). Name

Address

City State

EVERY SERVICEMAN

Owes it to himself to read my new FREE Booklet



F. L. Sprayberry
the cost you might expect to pay. INVESTIGATE!
SPRAYBERRY ACADEMY OF RADIO
2539 University Pl., N.W. Washington, D.C.



STOP SEARCHING!

HERE IS YOUR "GUIDE"

Don't Grope Around In The Dark... Send For This New Radio Buying Guide Today!

Here is the solution to all your radio supply problems... Here is your key to the fastest service... Lowest Prices... and the largest stock of Radio Repair Parts in the world! This Radolek new 1937 Radio "Profit Guide" is the most complete Radio Parts Catalog ever published... over 160 pages... bringing to you over 10,000 individual Repair Parts... hundreds of new items... a complete new selection of Radio Receivers, Amplifiers, Tubes, Tools, Books and Instruments... Everything you need... always in stock... ready for prompt shipment... at the right prices.

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FASTEST SERVICE

COMPLETE STOCKS

LOWEST PRICES

Rely on Radolek for "Everything in Radio"



RADOLEK

601 W. Randolph St., Dept. AI, CHICAGO

Name

Address

Serviceman? Dealer? Experimenter?

LETTERS

Noise About Noise

The City of Bartow desires to pass an ordinance regulating all users of electrical equipment that causes interference with radio reception. I would appreciate it very much if you have at your hand any ordinances in connection therewith and also if you know the approximate expense required to silence X-ray machines and other machines of that nature.

Any information or references that you can give me in connection with the same will be appreciated.

With much respect.

BARTOW, FLORIDA

M. J. WILSON
City Attorney

Read "Noise is Costing Us Money," beginning on page 10 of our October issue. It is our belief that ordinances alone cannot rectify this situation.

EDITOR

More Flowers

I have never found a radio magazine as good as "Radio Retailing," let alone being better. I enjoy particularly the articles by George M. Solomon, the pages entitled "Display . . . Management . . . Advertising . . . Selling" and the Sales Ammunition charts.

Keep up the good work.

KNIGHTSTOWN, IND.

RICHARD WAGONER

Good Idea

Have been a constant reader of "Radio Retailing" for quite a few years. I wish to congratulate you for the Serviceman's Section as it is very useful. However, there is still another way to aid the struggling serviceman. Aid in eliminating the service gyp. This can be accomplished by education of the radio dealer and his salesmen better than any other way.

"Radio Retailing" is read by more dealers than any other trade magazine as you well know. Why not start a campaign directly to the dealer and his salesmen showing the necessity of competent and honest radio service? Why not work this campaign to a point that the dealer or his salesmen in selling a receiver will mention to his customer the necessity of yearly checkups by a competent, reliable serviceman?

WATSONVILLE, CALIF. CHAS. H. MCGEORGE

Size Makes Speed

May I compliment you upon your present publication as being very good. On your new socket—new tube internal diagram voltages why don't you give tube

sub-base chart alongside so we could paste these sheets on bristol board and use 'em for checkback on stickers where voltages may be off? I do this.

SYRACUSE

AL FIESS

The "Tops and Bottoms" chart on page 105 of our September issue gives the socket diagrams of all tubes, on one simple sheet. Stick this chart in the center of a large piece of bristol board and then surround it with our new "Actual Socket Voltages" charts as these appear. We'd have to make the diagram too small for rapid reference to put both voltages and socket data on one sheet.

EDITOR

Chart to End Charts

You really produced a tube chart when you made up the one in the September issue of *Radio Retailing*. Everything on one chart and not a whole pile to look through. And no matter whether one is working from the bottom or the top side of a chassis it is unnecessary to reverse the socket connections mentally for they are right before you.

RICHMOND, IND. EVERETT R. BOLANDER

Read Our Ads

We are interested in the sale and rental of coin-operated automatic phonographs but do not know who makes them. Can you put us in touch with a few manufacturers of such equipment?

POTTSVILLE, PENNA. L. SOLOMON
E. Liner's Furniture Store

Real Reader Interest

To all of you there at "Radio Retailing" headquarters let me say that I would not be without your top-notch publication.

Nearly two years ago a fellow tradesman let me take his copy to look over and I was so impressed that I sent in my own subscription the same day. I deemed it a great journal at the time but I find it difficult now to find words to express my estimation of its much superior calibre today. Just when I begin to think "Radio Retailing" can't be improved upon along comes a new issue even better than the last.

It is very apparent that "Radio Retailing" does not ever intend to rest on its past-gained laurels but is constantly striving to scale new heights in its effort to serve in the best manner possible those connected with the retailing or servicing of that fascinating device—the radio!

Take, for instance, "Radio Retailing" for September. Many more like that issue and a job in your circulation department will be nothing but a sinecure.

WATERBURY, CONN. JAMES A. NASH

Welcome, Salesmen

Some folks don't like the salesman's gall
And freeze up tight when e'er they call;
They'd like to boot them out the door,
Their chatter seems to them a bore,
But I will always gladly see
The man who wants to call on me.
There's Jimmy Briggs, a swanky chap
Who gives my back a healthy slap,
Then swings into a shady tale
And some of them are rather stale.
He's tried a dozen times or more
To get his products in my store,
But with my line I'm satisfied,
Though others I have often tried.
Still Briggs is always welcome here;
His very presence seems to cheer
My jaded spirits when I'm blue—
He's taught me many new things, too.
Who knows—if Briggs keeps coming

back,
He'll add my order to his stack.
There's also friendly Edgar Hicks
Who is a wow on politics.
He always pops up big as life,
And asks about my kids and wife.
Another salesman—Roger Cain
Can diagnose each ache and pain.
I'm always glad to see this lad
Especially when my gout is bad.
A chipper guy is Kendall Swope
Who gives me all the baseball dope.
To me he'll never be forgotten,
Although his darned cigars are rotten.
And so the salesmen come and go,
Their multitude of wares to show;
Each one a master in his way
With something kind and new to say.
That's why I treat them as I do;
I'm in the selling business, too.

MILWAUKEE EMIL J. BLACKY

Likes Sound Articles

We would like to use some of the material which appeared in your October issue, under the title "Home Made Sound Systems Are Through" in an early issue of the Operadio "Sound Advisor," their house-organ.

Have we your permission to quote from the article, giving credit, of course, for the source? We would appreciate an early reply.

CHICAGO WALTER H. BUTHMAN
Bisberne Advertising Co.

It's ok with us. Glad to have you use it.
EDITOR

Can't Say It Ain't

Clipping from *Cleveland News*: "Competitors: Business men who cut their own throats for the fun of hurting one another."

Ain't it the truth?

LORAIN, OHIO N. H. SILVERMAN
Ace Radio Lab.

Sell CROSLEY

... THE RADIO THAT HAS EVERYTHING!

TUBE FOR TUBE ... FEATURE FOR FEATURE ... COMPARE THESE 1937 CROSLEY VALUES WITH ANYTHING ON THE MARKET!



FIVER-5 TUBES
2 Bands... 540-4000 Kc.
Continuous... 5"
Speaker... **\$1999**
3 1/4 Watts Output.

MODEL 525-5 TUBES
2 Bands... 540-4000 Kc.
Continuous... 5"
Speaker... **\$2500**
3 1/4 Watts Output.



MODEL 529-5 TUBES
2 Bands... 540-4000 Kc.
Continuous... 5"
Speaker... **\$2995**
3 1/4 Watts Output.



MODEL 629-6 TUBES
American-Foreign... 540-1710 Kc., 2350-7000 Kc....
6" Speaker **\$3495**
... 4 Watts Output.



MODEL 634-6 TUBES
American-Foreign... 540-1710 Kc., 6000-18,000 Kc....
12" Speaker **\$3995**
... 5 1/2 Watts Output.



Model 644 Console-6 Tubes
American-Foreign... 540-1710 Kc., 2350-7000 Kc....
12" Speaker **\$4995**
... 4 Watts Output.

MODEL 744-7 TUBES
Continuous Coverage...
540-18,000 Kc. ... 6"
Speaker... **\$4995**
6 Watts Output.



Model 537 Console-5 Tubes
2 Bands... 540-4000 Kc.
Continuous... 8"
Speaker... **\$3995**
3 1/4 Watts Output.

Model 759 Console-7 Tubes
Continuous Coverage...
540-18,000 Kc. ... 12"
Speaker... **\$6750**
Output.



Model 649 Console-6 Tubes
American-Foreign... 540-1710 Kc., 6000-18,000 Kc....
12" Speaker **\$5995**
5 1/2 Watts Output.

The new 1937 Crosley Radio Line has *everything* ... beautiful designs ... superb performance ... new, advanced features ... greater dollar-for-dollar value. That's the reason for the pronounced swing to Crosley by the radio-buying public ... that's why aggressive dealers everywhere are clamoring for the Crosley Franchise. Swing in behind the leader and sell Crosley—the radio that has everything. See your Crosley Distributor now for details of the Crosley Franchise.



Crosley Plus Features

Look at this list of Crosley plus features that are the outstanding stars of the 1937 radio world. Every one is a powerful "seller" ... everyone a headliner that will draw traffic and make quick sales for the Crosley Dealer.

- AUTO-EXPRESS TUNING
- MYSTIC HAND
- BASS AND TREBLE TONE COMPENSATOR
- SIX-STEP FIDELITY CONTROL
- HIGH FIDELITY METAL TUBES
- CARDIOMATIC UNIT
- MAGNA-CERAMIC DIAL
- VIBRACOUSTIC SOUNDING BOARD
- GIANT CURVILINEAR SPEAKER



Model 769 Console-7 Tubes
Continuous Coverage...
540-18,000 Kc. ... 12"
Speaker... **\$7995**
6 Watts Output.



Model 989 Console-9 Tubes
Continuous Coverage...
540-18,000 Kc. ... 12"
Speaker... **\$9950**
12 Watts Output.



Model 1199 Console-11 Tubes
Continuous Coverage...
540-18,000 Kc. ... 12"
Speaker... **\$10950**
Output.



Model 1211 Console-12 Tubes
Continuous Coverage...
540-18,000 Kc. ... 12"
Speaker... **\$12950**
20 Watts Output.



Model 1313 Console-13 Tubes
Continuous Coverage...
540-18,000 Kc. ... 15"
Speaker... **\$14950**
25 Watts Output.



Model 1516 Console-15 Tubes
Continuous Coverage...
540-18,000 Kc. ... 15"
Speaker... **\$17450**
Output.

*** **WHATEVER HAPPENS YOU'RE THERE WITH A CROSLEY**

CROSLEY RADIO

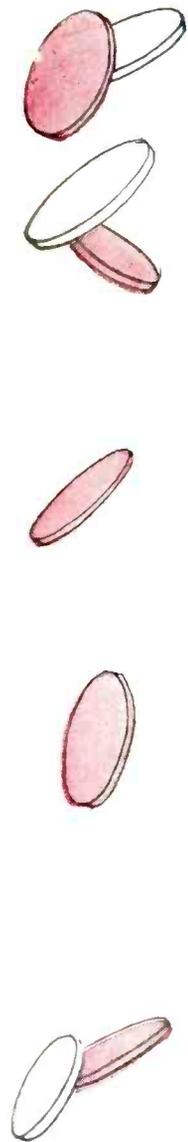
THE CROSLEY RADIO CORPORATION - - - CINCINNATI

POWEL CROSLEY, Jr., President
Home of W1W—the world's most powerful broadcasting station—70 on your dial.
(Prices slightly higher in Florida, Texas, Rocky Mountain States and west.)



G-E TONE TESTER

Amazing New Invention
opens up golden Opportunity
for sales and profits....



This ingenious device enables prospects to hear and see the great advance in radio reception made possible by **GE** Focused Tone Radio. The **GE** Tone Tester demonstrates, by clear comparison, the marvelous improvement in performance of the 1937 **GE** Focused Tone Radio over that of radios manufactured during 1927, 1930 and '33. It duplicates the contrast or side-by-side type of home demonstration right in the dealer's show room, and does it, too, by a more dramatic and convincing method.

Here's the kind of sales promotion assistance dealer salesmen are really looking for. The **GE** Tone Tester will sell **GE** Focused Tone Radio **ON THE SPOT** - boost radio shoppers into radio **BUYERS**. **GE** Tone Tester is a real scientific instrument, handsomely styled and finished. It is 24 inches high; illuminated; automatic; instant and visible in action; easily and quickly attached to a 1937 **GE** Focused Tone Radio.

Get full information on the **GE** Tone Tester at once! See your local **GE** Radio Distributor.

GENERAL  ELECTRIC

Focused Tone Radio

APPLIANCE AND MERCHANDISE DEPT., GENERAL ELECTRIC COMPANY, BRIDGEPORT, CONNECTICUT