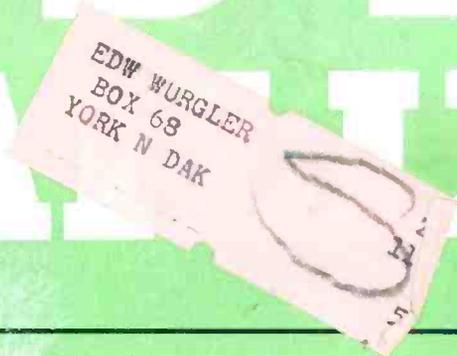


AUGUST, 1936

RADIO RETAILING

McGRAW-HILL PUBLISHING COMPANY, INC.

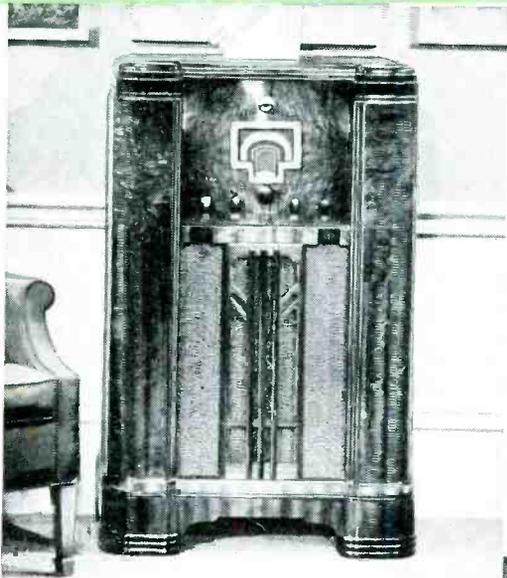
25 CENTS PER COPY



RCA VICTOR'S SALES

111.5%

OVER LAST YEAR! (FIRST 7 MONTHS)



Dealers making more money than ever by featuring RCA Victor's sensational NEW MAGIC VOICE SERIES!

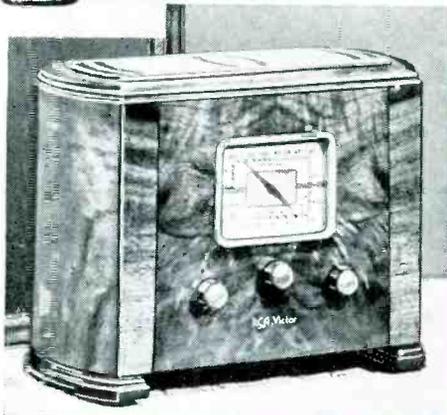
RCA Victor sales for the first seven months are up 111.5% over those for the same period last year! All over the country dealers are reaping a profit harvest by featuring RCA Victor's great 1937 Magic Voice radios with Magic Brain, Magic Eye and RCA Metal Tubes.

Why? Because RCA Victor enables dealers to offer values that MAKE SALES. Because RCA Victor backs its splendid merchandise with a gigantic color advertising campaign in the Saturday

Evening Post and Collier's, as well as advertising in other powerful national magazines. Because RCA Victor's Magic Key radio program and the numberless sales aids made available to dealers, still further make the public RCA Victor conscious.

Get behind this thrilling MAGIC VOICE SERIES. Feature, too, the fine low priced EXTRA VALUE SERIES. Push both series with all your might. It will pay you—well!

MAGIC VOICE SERIES... Model 10-K, a five-band, 10-tube superheterodyne with Magic Voice, Magic Brain, Magic Eye, Metal Tubes, plus many other sparkling features that will help make sales. Tuning range: 150-410 and 530-60.000 kcs. \$150. (Other Magic Voice models as low as \$129.95.)



EXTRA VALUE SERIES... Model 5-X, AC or DC, 5-tubes, 2 bands, superheterodyne. Tuning range: 540-6500 kcs. Domestic and short wave, police, aviation, amateur. Only \$32.95; (27 other models from \$20 to \$99.95.)



RCA Victor

RCA MANUFACTURING CO., INC.

CAMDEN, NEW JERSEY

A Service of the Radio Corporation of America

Don't worry about HUMIDITY!

MALLORY

Replacement Condensers are HUMIDITY Proof...

Steamy summer days may play havoc with ordinary condensers. But they do not affect Mallory Replacement Condensers because humidity doesn't get to them!

Mallory provides a heavy metal seal around the actual condenser unit inside the carton. This protection—plus a final sealing of the carton itself—so completely safeguards the condenser that its characteristics remain unchanged despite increasing or decreasing humidity.

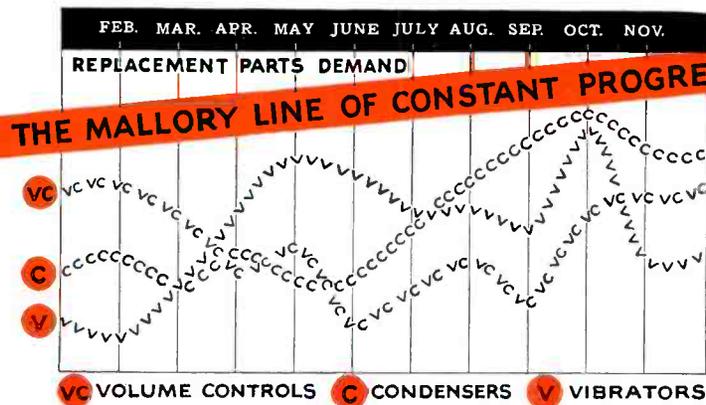
The humidity proof feature of Mallory Replacement Condensers is one big point of superiority. There are many others. Mallory provides smaller sizes with greater efficiency. Mallory presents the first universal mounting



features for both carton type and round can condensers. The Mallory Terminal Connector eliminates the necessity for splicing leads. And 69 Mallory Replacement Condensers provide universal application to meet the needs which heretofore have required literally thousands of condensers.

If you are not using them you are missing a real bet. Ask your distributor about Mallory Replacement Condensers—now!

BUILD YOUR
BUSINESS WITH
MALLORY



This composite graph shows the trend of service demand for the three principal replacement items in daily service work. Check your needs with the demand—and depend on Mallory for constant progress.

MALLORY

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

YAXLEY

RADIO RETAILING

AUGUST, 1936

In This Issue

O. FRED ROST Editor
 W. MacDONALD Managing Editor
 T. H. PURINTON Assistant Editor
 HARRY PHILLIPS Art Director
 ●
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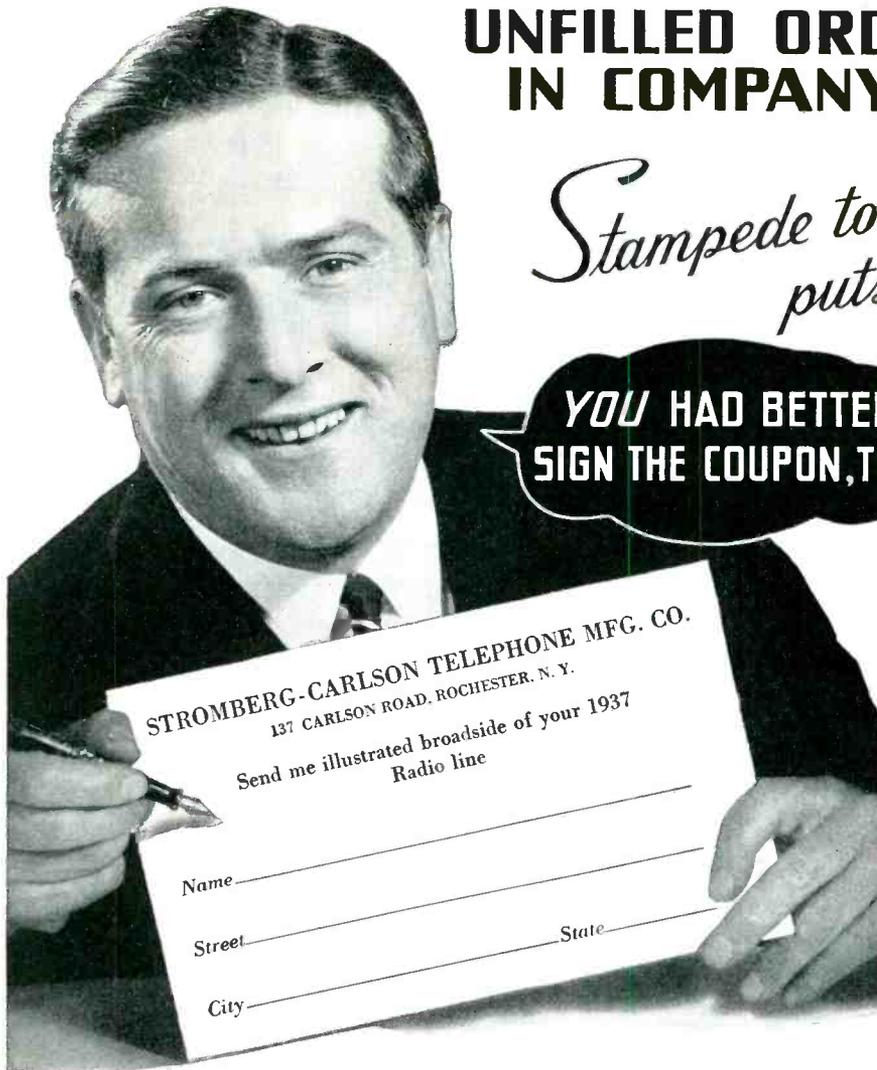
SALES STATIC "DO YOU FIX RADIOS?"



UNFILLED ORDERS GREATEST IN COMPANY'S HISTORY!

*Stampede to New Line
puts business at
Record Peak*

**YOU HAD BETTER
SIGN THE COUPON, TOO**



6 TABLE
MODELS
FROM \$ **49⁹⁵**

21 CONSOLES
FROM \$ **78⁵⁰**

5 RADIO-
PHONOGRAPHS
FROM \$ **199⁵⁰**

THIS RUSH of orders from dealers and distributors shows their appraisal of the new 1937 Stromberg-Carlsons—truly radio's magnificent line—offering not only more exclusive features, but a broader range of choice.

MORE CONSOLES, in number and variety—12 having the season's most talked-of radio feature, the Acoustical Labyrinth.

MORE TABLE MODELS—3 of them with rosewood cabinets.

MORE RADIO-PHONOGRAPHS, starting at a remarkably low price for instruments of Stromberg-Carlson quality.

WIDER PRICE RANGE—\$49.95 to \$985.00.

And attractive features, nearly all exclusive, such as Tri-Focal Tuning, Carpinchoe Leather Speakers, Indexed Knobs, Automatic Sensitivity Control, and Free-floating Phonograph Pick-up. *There is Nothing Finer Than a Stromberg-Carlson.*

Only Stromberg-Carlson has the Acoustical Labyrinth

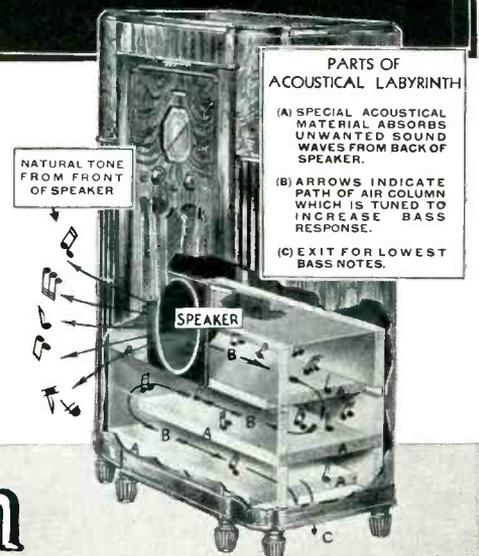
This exclusive Stromberg-Carlson feature takes the unnatural boom out of radio voices and music, and provides deep bass notes with a new fidelity.

The long, winding passageway of the Labyrinth, lined with a special acoustical material, takes the place of the usual box-like cavity in the cabinet which is the

source of the exaggerated boom in the low tones.

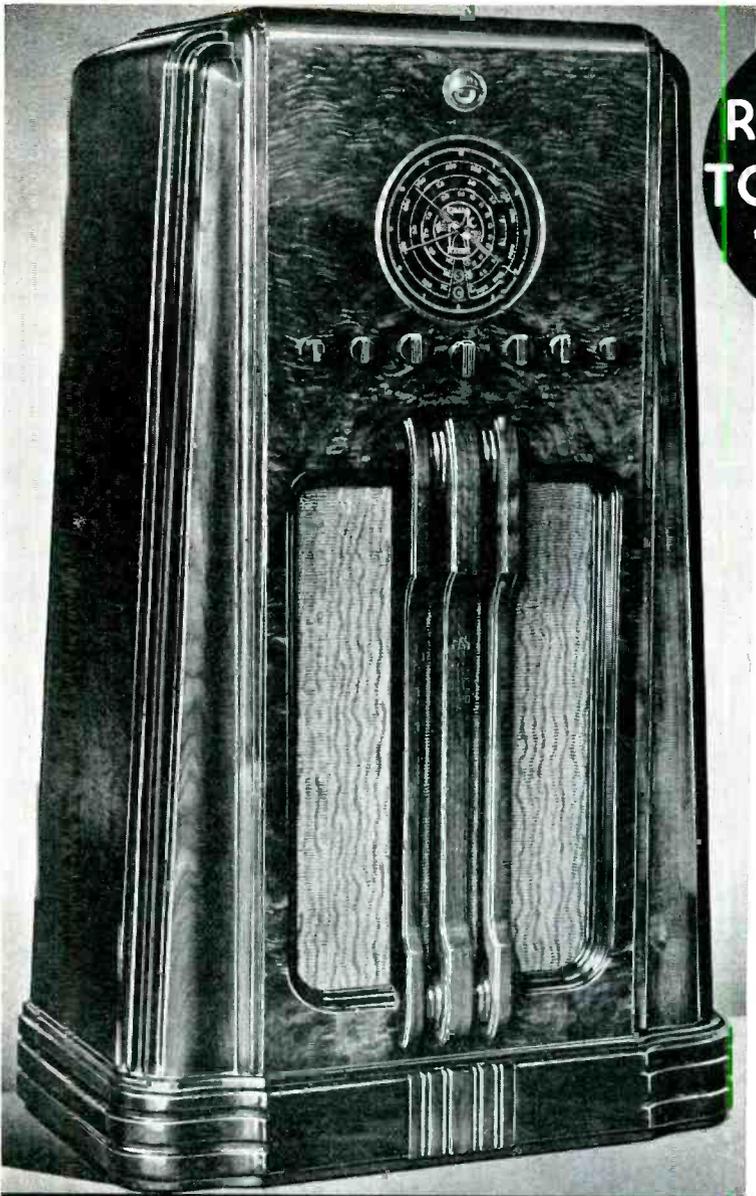
The air passage of the Labyrinth is so tuned and proportioned that it not only removes this exaggeration, but greatly extends the range of bass notes that are effectively reproduced. The Labyrinth also increases the volume capacity and accuracy of the loud speaker.

12 LABYRINTH
MODELS
FROM \$ **149⁵⁰**



CUT OUT AND MAIL THE COUPON TODAY

Stromberg-Carlson



The
**RADIO OF
 TOMORROW
 TODAY**

The Radio
 Line that
 is Winning
 Greater
 Acceptance from
**JOBBER!
 DEALER!
 CONSUMER!**

Claims are no longer necessary for the new Fada "Streamline" Radio . . . Jobbers, Dealers and Consumers have shown their preference in no uncertain terms . . . a preference which points to the greatest year in Fada's history.

JOBBER ACCEPTANCE: Many of the country's leading jobbers who have compared the new Fada "Streamline" cabinet designs, performance, features and values with other Radio lines have almost unanimously enlisted under the Fada Banner for 1937.

DEALER ACCEPTANCE: Since the introduction of the new Fada "Streamline" Radio, dealer acceptance has increased over 50%.

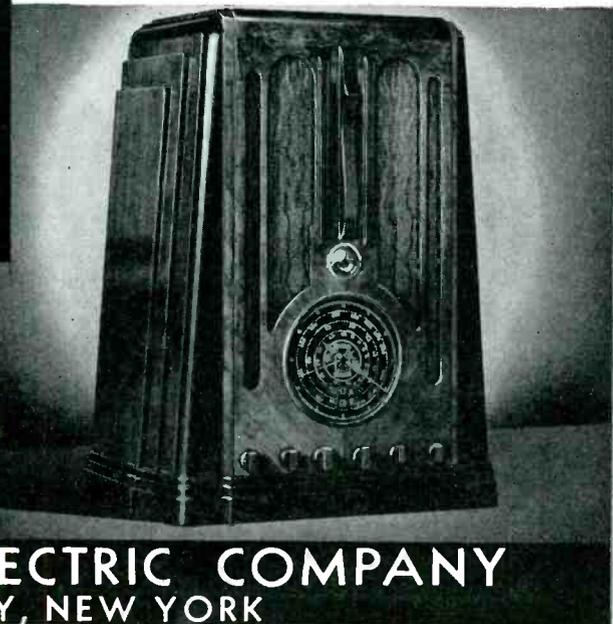
CONSUMER ACCEPTANCE: Sales for the new Fada "Streamline" Radio has already surpassed the entire year's sales for 1936. Repeat orders from every section of the country are proving their nationwide acceptance in styling, performance and value.

ADDED FACILITIES ENABLES FADA TO ADD JOBBERS
Jobbers with a past record of proven sales acceptance are invited to write or wire for complete information on the new Fada "Streamline" Radio.

FADA
Streamline
RADIO

Only Fada "Streamline" Radios have
PHANTOM

FLASH  **GRAPH**
TUNING SYSTEM



FADA RADIO and ELECTRIC COMPANY
 LONG ISLAND CITY, NEW YORK

The **BIG**

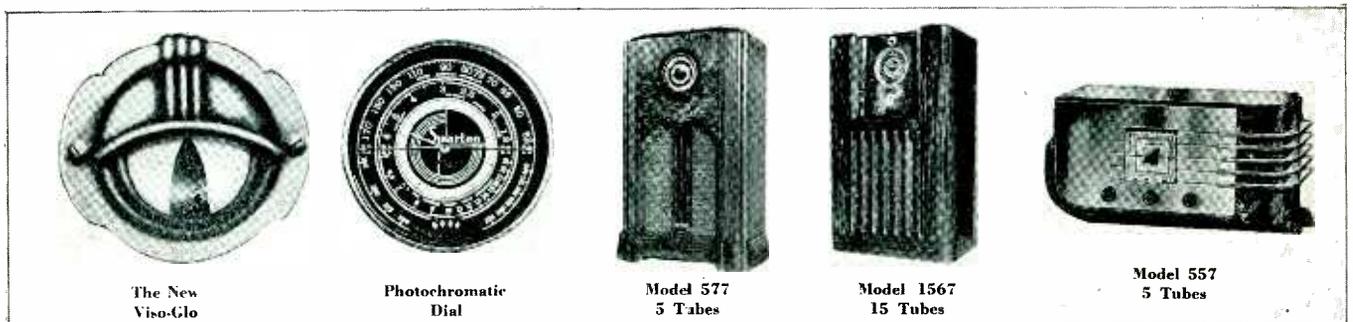
PHOTOCHROMATIC DIAL

• The new Sparton Radios received acclaim far beyond fondest expectations. Everyone agrees that Sparton offers the biggest “eye-full” and most amazing “ear-full” in 1937. The outstanding opportunities are readily apparent. With such smartness of style, such cleverness of design, such quality of reproduction, and such a distinct price advantage, dealers recognize the record rapid-turnover volume that is in sight. The surprise of the season, Sparton should prove to be a fast seller and quick money maker. Investigate NOW — hitch your wagon to a rising star. The Sparks-Withington Company, Jackson, Mich. Sparton of Canada, Ltd., London, Ontario.

- 1 Sparton's exclusive Photochromatic Dial** is reproduced on crystal clear mirror glass, affording new and permanent accuracy and the refinement of a fine etching. Here new beauty and legibility are brought to the radio.
- 2 Tone Expansion.** This clever device automatically naturalizes the expressions and “feelings” of artists to the fullest extent. Reproduction becomes colorful and alive, thus banishing the tone-flatness that has been a part of reception since the beginning. Background sounds are vastly reduced.
- 3 Automatic Vernier Tuning.** Rapid dial maneuvering until station is selected—then automatic step-down in speed of tuning pointer for sharp “cutting in” of station at exact point.
- 4 Centralized Radio Nerve System.** Resulting in the utmost sensitivity and clear reproduction on a noise-free background.
- 5 Automatic Volume Control.** Stations parade across the dial with uniform volume—whether local or foreign. Fading is eliminated. Bass notes are compensated.
- 6 Viso-Glo Tuning Eye.** For rapid and accurate tuning by sight.
- 7 Built-in Station Log.** Important stations conveniently logged.
- 8 Tone Control.** Offers a choice of blending or shading of the high and low tones to suit the individual taste and to temper the extreme range of Sparton tonal capabilities to certain classes of broadcasting—voice, foreign broadcasts, instrumental and organ music.
- 9 Separate Antenna Matching Transformers for Each Band.** To change the electrical characteristics of the aerial and to pick up the utmost energy on the wave band in use. Automatically operated by the band selector switch.
- 10 Shock Proof Chassis Mounting.** Chassis floated on rubber to insure quiet reproduction regardless of power output of the speaker. The tuning condenser gang is independently floated. The centralized radio nerve system in the larger models is also rubber floated in the chassis.

The new

1937 SPARTON

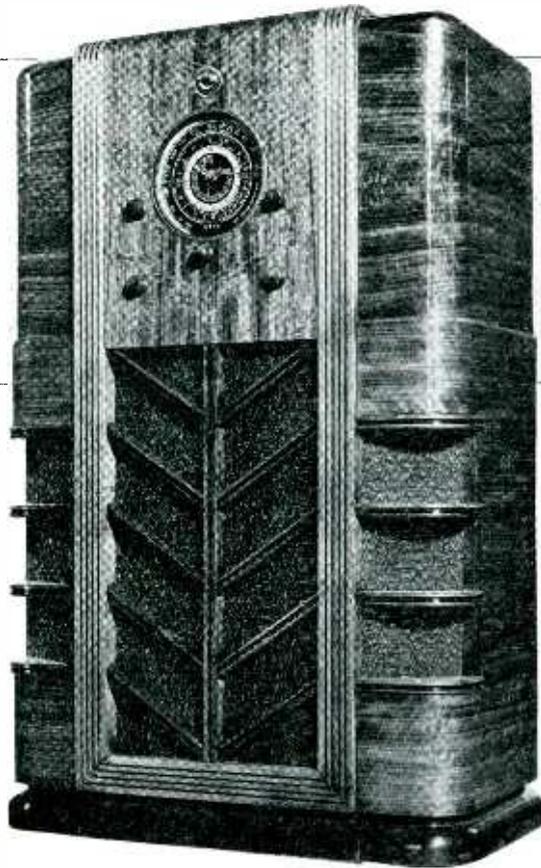


SHOW LINE *of* 1937

AND TONE EXPANSION



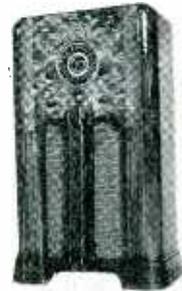
Model 1167
11 Tubes



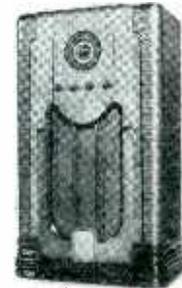
Triolian Model 1867
18 Tubes



Model 987
9 Tubes



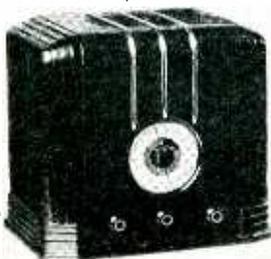
Model 867
8 Tubes



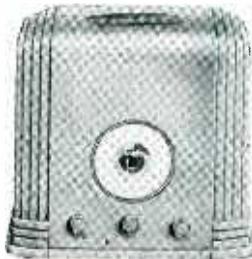
Model 667
6 Tubes



Model 567
5 Tubes



Model 517-B
5 Tubes



Model 517-W
5 Tubes



Model 537
5 Tubes



Model 617
6 Tubes

HERE'S A PAIR TO THE BIGGEST SHOW

Grunow "TELEDIAL TWELVE"

All-Wave, All-World,
"Self-Tuning" 12-tube set
with Metal tubes and "Violin-Shape" Cabinet

\$99.95



THERE is no precedent in the radio industry for this announcement. No manufacturer of radio sets ever before has announced a policy of *concentrated mass production*.

Ford did it in the automobile business. *Now Grunow does it in radio!*

Every item in the 1937 line of Grunow radios will be a price and quality LEADER.

The Grunow dealer will be enabled thereby to concentrate on a *few* fast-selling, strongly advertised sets.

Starting immediately, Grunow advertising spotlights attention *both* on TELEDIAL, the No. 1 radio sensation of the year—the new self-tuning radio that brings in 15 stations in 15 seconds, perfectly tuned; *and* on the new, patented "VIOLIN-SHAPED" cabinets which remove the last trace of cabinet resonance. The last word in All-Wave, All-World radios, *plus* TELEDIAL and "VIOLIN-SHAPED" cabinets!

And that's not all the story. Look at the prices. Low price levels never before reached in radio. TELEDIAL sets priced *way down under* conventional sets *without* TELEDIAL. Mail-order-chain, private-brand competition stopped cold by their own kind of prices on more attractive and higher-quality products.

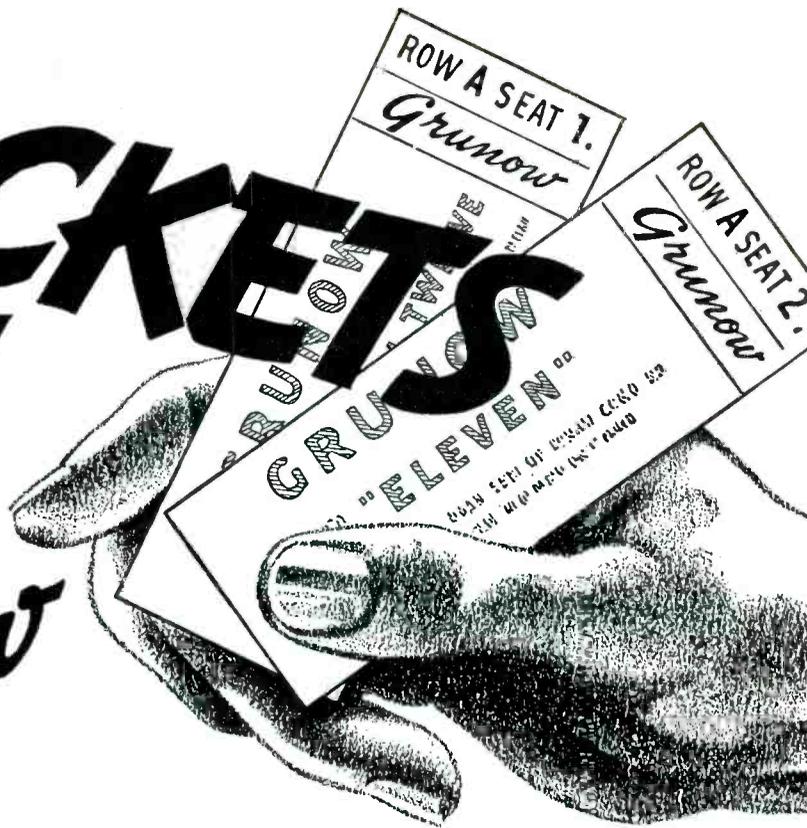
Backed by powerful promotion, Grunow will write radio history in 1937. Let us send you full details of this advanced step in radio merchandising. Write today.

And SHIRLEY TEMPLE

Shirley is the Grunow Teledial girl! At the same time you read this, the first ads in a smashing national magazine drive will appear directed to over 12 million homes—featuring the lovely little 20th Century-Fox star, whose newest release is "The Poor Little Rich Girl." By special arrangement with the studio, a local tie-up promotion which will net hundreds of prospects is available to all Grunow dealers, from your distributor.

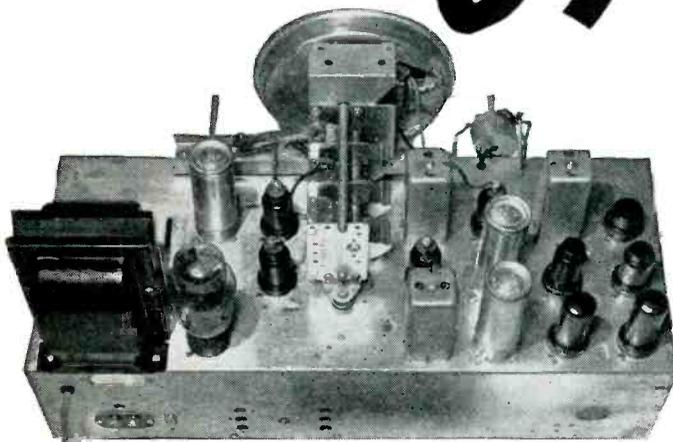
OF TICKETS IN RADIO!

Grunow "ELEVEN"



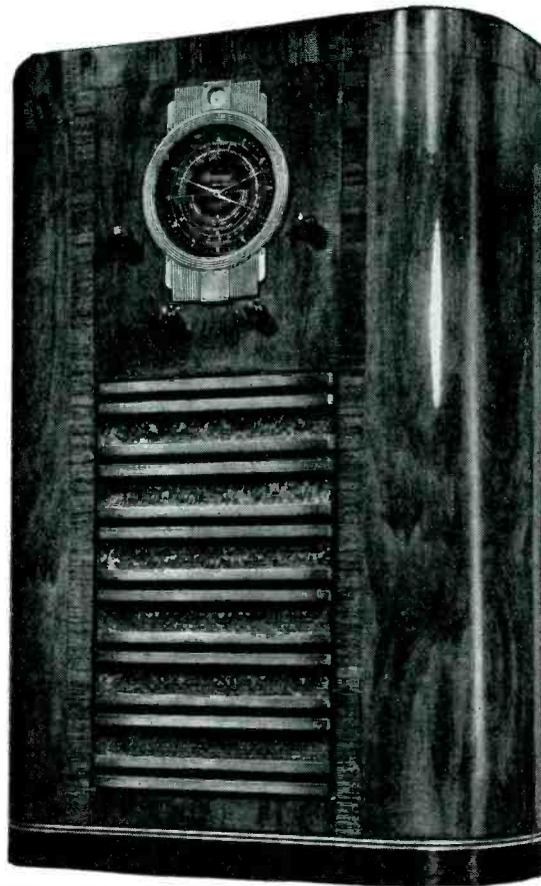
A quality, 11-tube set with
Metal tubes, "Violin-Shaped" Cabinet, and
All-Wave, All-World reception at the price of a "Six"

\$69⁹⁵



Look At This "GRUNOW ELEVEN" Chassis

This tells the quality story! The cleanest chassis
for service you've ever seen! Its size and metal
tubes are impressive selling features.

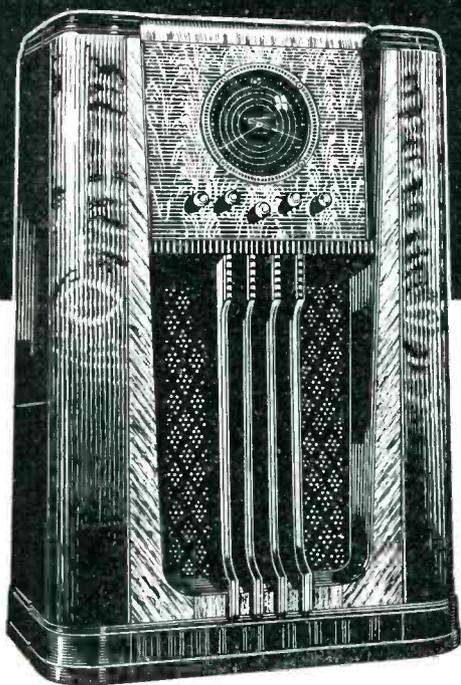


GENERAL HOUSEHOLD UTILITIES COMPANY
CHICAGO, ILLINOIS • MARION, INDIANA

Manufacturers of Grunow Super-Safe Carrene Refrigerator • Grunow Household Radios • Grunow Automobile Radios

THE SECOND "big parade" OF 1936 IS ON!

In Radio — As in Refrigeration — You'll Ride the Band-Wagon if You Ride with Stewart-Warner!



MASSIVE NEW COPPER PHOTO-TONE S P E A K E R

EVEN you hard-boiled radio dealers will cheer when you near and see this great new Stewart-Warner line. What Stewart-Warner did in refrigeration—with the stand-out models of 1936 and a sales gain of 127% over the preceding season—Stewart-Warner has done again in both AC and farm radio. And smart dealers all over America have already told us they'll go to town with Stewart-Warner this fall.

That great new Copper PHOTO-TONE Speaker alone is enough to sell most prospects—because a brand new kind of construction sets a brand new standard of tone mellowness and perfection. But it's just one of the most impressive list of features we've ever wrapped up in one radio. These sets have everything!

And they—and you—are backed up with the most amazing finance plan the industry has ever seen—plus the most powerful merchandising in Stewart-Warner history. It includes everything from envelope stuffers to a national radio broadcast series featuring Horace Heidt and his popular Alemite Brigadiers. Get on the band wagon now! Your distributor has the whole story—and it's worth listening to.

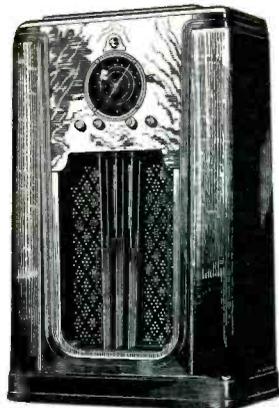
STEWART-WARNER CORPORATION
CHICAGO, ILLINOIS

Radio's Biggest Money's Worth! Here's "The Most of the Best" In Real Features—Real Enjoyment

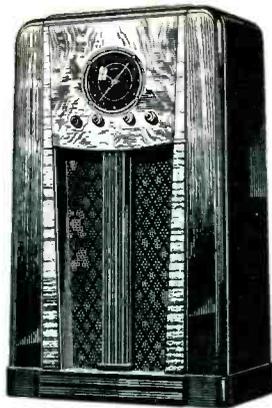
- ★ TWIN Copper PHOTO-TONE Speakers
- ★ ELECTRON BEAM Power Amplifiers in Push-Pull with driver stage giving 20-watt undistorted output
- ★ SHADOW BEAM Tuner using new-type Cathode Ray Tube
- ★ 12-Tube Duo-Circuit FERRODYNE Chassis—19 tuned circuits
- ★ Huge 7-inch MAGIC DIAL with new Automatic Band Indicator
- ★ True ALL-WAVE, including Weather Band
- ★ New Trilinear AUTOMATIC VOLUME CONTROL
- ★ New 5-point TONE CONTROL giving both bass and treble control including true Hi-Fidelity
- ★ Independent SELECTIVITY CONTROL
- ★ Dual BASS COMPENSATION
- ★ Automatic Antenna Control
- ★ Antenna and Power Line Filters
- ★ Hand-rubbed CRAFT-BUILT Cabinets
- ★ And Many Other Improvements



5-Metal-Tube Ferrodyne Receiver. Covers American Broadcasts and both Police Bands.



8-Tube All-Wave Ferrodyne Receiver with Shadow Beam Tuner and new PHOTO-TONE Speaker.



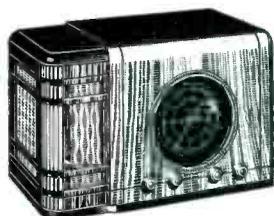
7-Metal-Tube All-Wave Ferrodyne Receiver with 12-inch Copper PHOTO-TONE Speaker.



6-Metal-Tube All-Wave Ferrodyne Receiver with new 6-inch Two-Ratio Magic Dial.



10-Tube All-Wave Ferrodyne. Electron Beam Amplifier. Shadow Beam Tuner 12-inch Copper PHOTO-TONE Speaker.



6-Tube Ferrodyne Receiver—with 3-band All-Wave Magic Dial and many other features



7-Tube All-Wave Ferrodyne Receiver, with all-metal tubes and big 6-inch Magic Dial.



● Massive new Copper PHOTO-TONE Speaker brings entirely new mellowness to radio tone.

NEW! AMAZING NON-RECOURSE FINANCE PLAN NOW READY!

You'll scoop competition plenty with Stewart-Warner's brand new finance plan! It's as far ahead of the field as Stewart-Warner's refrigerator finance plan was last spring! Non-recourse—100% advance—very low financing charge. Administered through all 144 C.I.T. offices. Ask nearest C.I.T. office or Stewart-Warner distributor for the complete details.

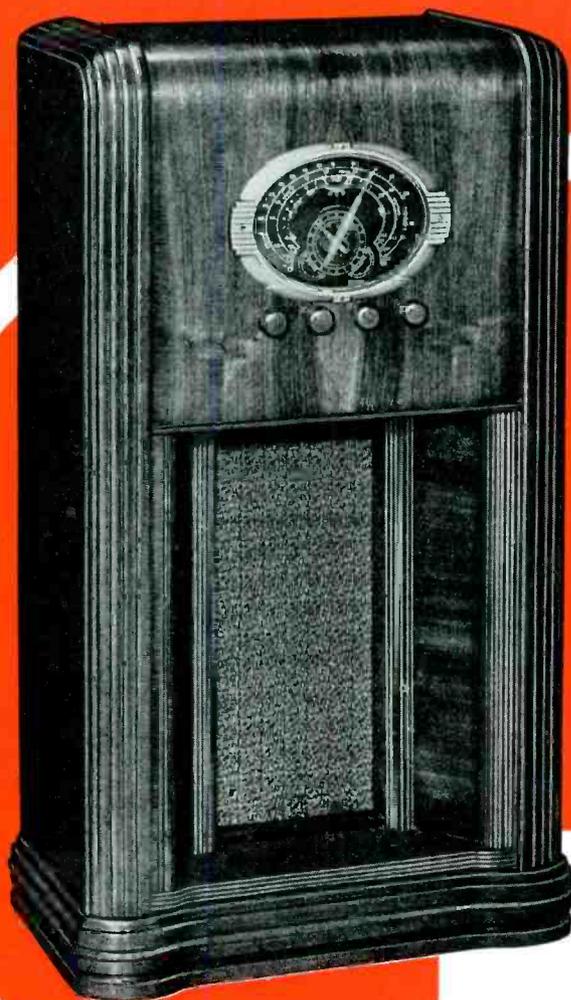
ON THE AIR for Stewart-Warner Radio!
Horace Heldt and his Alemite Brigadiers



STEWART-WARNER

NEWS • FOREIGN RECEPTION
MUSIC • OPERA

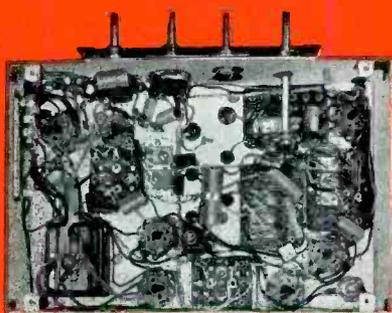
SPORTS
POLITICS



SALES APPEAL

The finest programs
in the world demand
a Belmont receiver!

Model 878
38" high, 22" wide,
11 1/4" deep



This powerful Belmont receiver is characterized by straight fundamental engineering. Every part is made easy to inspect or test without dismantling other parts. Model 878 employs seven of the latest type metal tubes and a cathode-ray tuning eye. It incorporates high fidelity band expansion, automatic tone compensation, high image attenuation, and over seven watts power output to a full ten-inch electro-dynamic speaker.

The beautiful simplicity of this ultra-modern receiver with its deep, recessed, speaker tone chamber, attractive oval dial, and popular cathode-ray tuning eye, provides the sales appeal that brings quick stock turnover. Investigate this Belmont three-band receiver! Ask your serviceman to verify its quality.

BELMONT RADIO CORP.
1257 Fullerton Ave., Chicago, Ill.
Cable Address, Belrad

Licensed under RCA and Hazeltine Patents

BELMONT

THE DEPENDABLE

RADIO

AUGUST

1 9 3 6

THE RADIO MONTH

RETAIL ORDERS UP

We've taken it upon ourselves to determine whether or not retail orders and consumer demand are following heavy jobber contracts, stimulated by early introduction of new lines. By using our field editors and the mails 124 dealers have been contacted in the last two weeks. Here's what we find:

Sixty-four per cent report that they have purchased more merchandise since initial showings than last season. Purchases by dealers range from 20 per cent to 200 per cent higher and many inform us that stock ordered in June and July exceeds that contracted for in all of 1935.

Consumer orders are up but lag somewhat behind dealer orders, indicating that the trade is optimistic and expects concentrated sales effort to bear fruit. Even those dealers who have failed to note any material increase in demand advise that Fall prospects appear excellent.

Consoles ranging in price from \$75 to \$100 have many takers. And service, on which we received scattered advice, appears to be 15 per cent above this time last season.

ROBINSON-PATMAN ACT FLASH

From our Washington correspondent, this last minute report: "Prospects do not favor material amendment of the Robinson-Patman act, which is designed, among other things, to eliminate 'spiff' commercial bribery practices condemned by RMA and *Radio Retailing*. The measure is strongly supported by independent merchants in towns of 25,000 or less and this group has more political influence than others are likely to assert in opposition to it at the next session of Congress.

"Those who are studying the act expect to see its most apparent effects

in the smaller communities. There are many instances, it is claimed, where chains have supported branch stores even though these did not pay in the hope that this would eliminate independent competition. The provision of the law prohibiting sales at a loss is expected to check the advance of chains into smaller places and to force retirement at many points.

"There is, however, nothing in the law which prevents manufacturers from giving chains or department stores or large cooperative buyers the same discount as is given to wholesalers. A marked increase in cooperative buying might, as a result, be one important effect. And it is possible that chains may counter by manufacturing their own brands in greater number, increasing national advertising on such brands."

20,000 OHMS

In the news this month is a set analyzer equipped with a 20,000 ohms-per-volt meter. Of considerable significance to servicemen is this long awaited increase in sensitivity for with the further complication of receiver circuits testing equipment must obviously be refined.

It is our opinion that the instrument referred to will start a design trend. Until its release the difficulty had always been the inability of any manufacturer to produce such equipment at a cost within the repairman's means. The need for such equipment has long been obvious.

Servicemen should depreciate the cost of test equipment, set aside a sufficient number of dollars per year to permit replacement or renovation at the end of useful life. This, in our estimation, is one of the important things on the technician's 1936 calendar.

ENTER, SERVICE UNIONS

Unionization of servicemen by organizations affiliated with the American Federation of Labor and independents appears to be gathering headway and while the final outcome of this new competition with established service organizations is by no means clear to us the situation obviously will bear watching.

CO-OPS COMBAT CHAINS

A leading mail-order house indicated recently that it planned to establish sub-dealerships handling radio and electrical appliances. So far as we have been able to determine since this was purely an experiment to be tried out in a few scattered centers and adopted as national policy only in the event that it panned out.

Independent retailers appear to be somewhat excited, nevertheless, and from various sources we hear that cooperative buying associations are being considered as a means of improving competitive position. In Illinois, particularly, such cooperatives seem imminent and *Radio Retailing's* Editors who are on top of this situation, plan a detailed story as soon as definite action materializes.

AUTO ANTENNA RODS CLICK

All metal rods projecting skyward from the bumper or hood of automobiles are not pumping ultra-high frequency signals into the air from amateur mobile transmitters. For the rod antenna idea appears to be clicking in connection with regular broadcast band auto-radios and in New England, particularly, such devices are now commonly seen.



O. FRED ROST

O. FRED ROST ~ ~ ~

New Editor for RADIO RETAILING

READERS OF RADIO RETAILING will be interested in the news that O. FRED ROST has become editor of this paper as of July 15th. The publisher takes great pleasure in this announcement. For MR. ROST brings a knowledge and experience to Radio Retailing that will both broaden and strengthen its service to the field. This is one more step in a long continuing policy that has advanced and expanded the editorial personnel and program of the paper, with the growth of the radio market and the needs of the reader.

MR. ROST was prominently identified with the early days of radio. As head of a group of electrical wholesale houses in the East, he was one of the first radio distributors and for eight years wrestled with the problems of establishing the radio trade. As one of the active leaders in the National Electrical Wholesalers Association, he took a progressive and constructive part in developing a national distribution for radio, at the time when rapid technical improvements were bedeviling manufacturers, wholesalers and retailers with critical obsolescence problems.

MR. ROST had come into the radio field as part of a carefully planned program, whereby he had already devoted years to the practical study of marketing and distribution. He saw it as the next major problem in the evolution of American business. He had already built up a broad background of personal experience in the hardware, food, department store, railway supply, automobile and electrical fields, embracing the manufacturing, wholesaling, retailing and merchandising functions.

He brought to the infant radio industry this diversity of background knowledge, coupled with a habit of constructive thinking and an enthusiasm for the improvement of business practice. As president of the Newark Electrical Supply Company in New Jersey, he staged the first all-radio show of which there is any record. In one week twelve or more of the then prominent manufacturers of radio sets, batteries and accessories exhibited their products before six thousand visitors.

MR. ROST also sponsored and conducted the first radio school for electrical men. Radio was coming fast. He wanted to keep the distribution of radio products in electrical channels and believed that electrical men should know the theory and practice of radio transmission and reception. He engaged a graduate of the U. S. Navy Radio School, an instructor from one of the naval bases, to conduct a study course. It lasted ten weeks and attracted an attendance of from 100 to

200 at each session. It was considered so valuable that electrical interests in New York City prevailed upon MR. ROST to repeat the course there.

MR. ROST's achievements in the radio and electrical industry are too numerous to mention here. He was active in every progressive movement and in 1927 received the James H. McGraw Award—the Wholesaler's Medal—for organizing and conducting a national educational course for jobbers' salesmen. This came as a fitting tribute at the time when he was about to gratify a lifelong ambition to devote himself to journalism in the fields of marketing and distribution.

In 1928 he joined the editorial staff of the McGraw-Hill Publishing Company as a consultant on distribution. In 1929 he took up active editorial work and has contributed articles on marketing and allied subjects to many McGraw-Hill publications, particularly those in the radio and electrical fields. Since then he has been increasingly absorbed in his principal responsibility as Marketing Editor of "Business Week."

Meanwhile, however, MR. ROST has achieved international recognition as an authority on marketing. His writings have appeared in many national publications. His volume "Distribution Today" is in wide use as a text book. He has lectured for universities and before national organizations. His first hand studies of distribution have carried him throughout this country and to Europe.

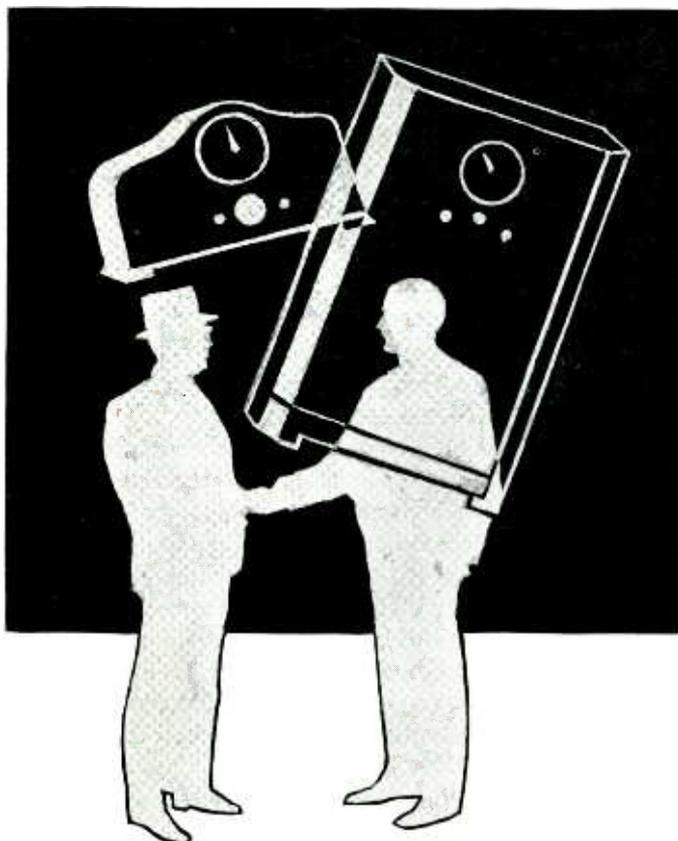
In returning now to the radio industry, as editor of "Radio Retailing," MR. ROST will once more devote himself to the advancement and upbuilding of the radio and allied industries. We believe he will again contribute a sound and constructive leadership, particularly in the direction of improving and stabilizing marketing practices and policies. Under his guidance, "Radio Retailing" will render an even more vital editorial service.

The many friends of Ray V. Sutcliffe, former editor, will be glad to know that he relinquishes this post to accept increased responsibilities in connection with the production of all McGraw-Hill publications. He will continue as a consulting editor on Radio Retailing and insofar as possible, will maintain his contact with the radio industry, in which he has been active for so many years.

Howard Ehrlich

VICE PRESIDENT

A P P R O A C H



**Do You Want to BUY a Console . . . or
Do You Want to BUY a Table Model?**

**Assume they came to buy right from the go-off or
even sure-fire prospects get storefront and merely shop**

THE ball flew down the fairway with a gradually rising trajectory. "At least 250 yards," exclaimed Jerry Thompson gleefully, as he stepped back to permit his employer, Tom Blake, to tee up. "Beat that if you can, old timer!"

Blake teed up deliberately, waggled his driver experimentally, then put his back and heart into a man-sized swing. Shading his eyes, he watched the ball soar, then roll to a stop 50 yards short of the younger man's drive.

"Too bad old man, too bad." Jerry patronizingly clapped his opponent on the shoulder. "Only 200 yards. No steam to that one Mr. Blake. Looks bad for you on this hole."

"Easy there young feller," cautioned the old timer. "You're not in the cup yet." Veteran of a thousand contests, he plodded along to where Jerry was preparing to drive toward the green.

Fumbling in his bag, Jerry pulled out a #7 club, looked over the lie, changed his mind and swapped for a #5. Swinging freely but over-anxious to clinch the hole, he lifted the ball too high and it plopped 20 yards short of the green. Blake, cool as a cucumber and wearing the air of a man who had wriggled out of many tight spots before, took a careful sight on the flag, limbered up with a tentative swing, and dropped his ball 30 feet from the cup.

"Hell!" exclaimed Jerry, slashing viciously at the grass, "these approach shots are my Waterloo."

Blake grinned at the younger man's discomfort. Then a quizzical look appeared in his eyes. "You know, Jerry, golf is very much like selling. A lot depends on your approach."

Assume They'll Buy

"Salesmen who have mastered the art of approach assume that everyone who enters the store with an inquiry concerning radio, no matter how triv-

By

George M. Solomon

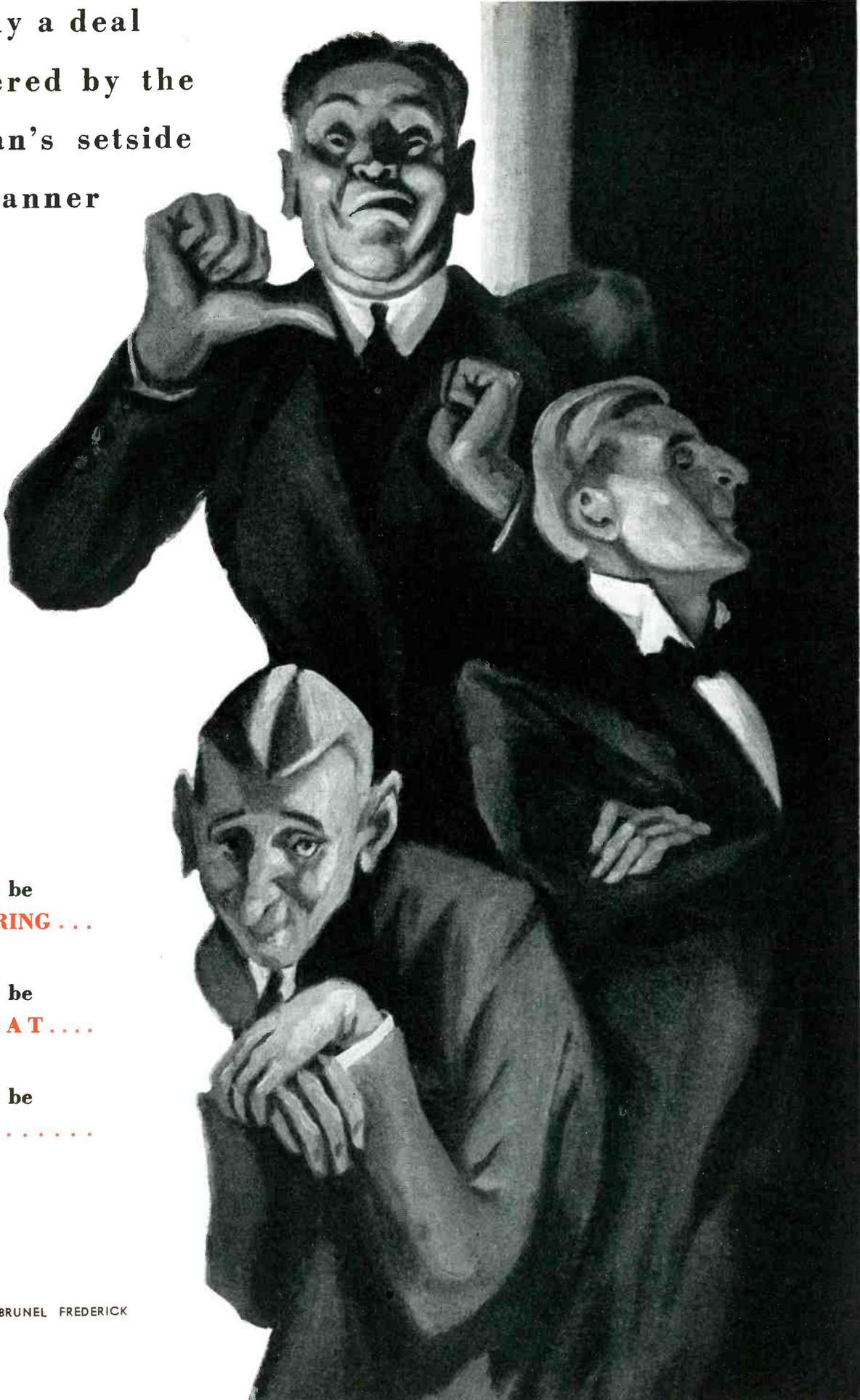
ial, is a prospect for merchandise. Radio has a universal appeal. Everybody wants one. If they have a set they can be interested in something newer and better. I can't stress too much the immediate advantage of indicating by your manner that you expect people to buy and assume that they are not just looking around.

"When a prospect enters the store don't wait to be approached. Avoid inane phrases such as 'Yes sir?' and say, instead, 'What can I do for you' or, 'Can I be of assistance?' Give prospects immediately the impression that you have been waiting for them. This is a direct and effective beginning. If the prospect indicates interest in some particular article conduct him to it and offer the article for sale. People who realize that you expect them to buy are placed in the uncomfortable position of disappointing you if they don't and it is contrary to human nature to hurt anyone's feelings if this is at all avoidable.

"Buyers immediately sense indifference on the part of a salesman. Lack of aggressiveness permits the prospect to postpone a decision. Remember that even though a man comes into the store intending to purchase he is generally impelled to stall when faced with the necessity of actually making a decision. I remember one actual experience of my own that illustrates this point. . . .

"One cold, winter's night, about 7 p.m., a well-dressed man accompanied by a small boy came into the store. I greeted him at the door. He began with the usual statement, saying: 'I'm interested in a radio.' To which I answered: 'What type would you like to buy, a console or a table model?' I assumed at once that he was a buyer. This compelled him to more accurately state his desire. Use of

Many a deal
is queered by the
salesman's setside
manner



Don't be
DOMINEERING . . .

Don't be
HIGH HAT

Don't be
S H Y

Oil Painting by BRUNEL FREDERICK

the word 'buy' cut a lot of preliminary red tape. And it helped in the final closing.

"After showing the item asked for and demonstrating it I asked him to buy again. When he hesitated I countered with: 'Mr. Green, the fact that you left your comfortable home after a hard day's work and brought your son all the way down here to look at the new radio models indicates that you need a new radio. As a matter of fact, it is probable that your family is waiting for you to return home with it. Now, don't go home and disappoint them.' This blunt statement rang the bell and clinched the sale quickly. It also taught me something I have never forgotten."

Buyers Get Store-Fright

"Strange as it may seem, most purchasers turn into 'lookers' just as soon as they cross the threshold of a store. They may have read your ads, talked the matter over with the family and left home with the firm intention of buying. But as soon as they cross your doorstep they go on the defensive and devise reasons for postponing the actual purchase. When faced with a decision involving the expenditure of \$100 or more the average man shies. This is why you must, in the initial approach, proceed on the assumption that the prospect is definitely a buyer. This breaks down the development of defensive mechanism before it has been fully formed.

"Approach every prospect with an attitude of deference to his wishes. Give every prospect the feeling that his wishes are your law, that you are anxious only to please him. Be extremely friendly. Do not act bored or aloof. If a man comes in accompanied by a woman state your name to the man and wait for him to introduce you. This usually forces him to give his own name while introducing the lady.

"Don't be over-enthusiastic. Most people do not like to be overwhelmed or fawned upon. Act as though you were glad to make the acquaintance of the purchaser socially, even though he does not purchase at once. Remember, he is going to purchase sometime, somewhere and when he does it must be from you.

"Get the prospect to like you, first. He will then like your merchandise and, accept suggestions more readily. Don't make the mistake of flaunting your knowledge as contrasted with his technical ignorance. No matter how ridiculous an inquiry may be treat it with serious consideration. The time to correct a buyer's erroneous ideas is after the sale.

"Work," Don't "Wait" On

"Work on customers rather than wait on them. Clerks wait on customers. Salesmen work on them. To merely wait on a customer is to let the prospect direct the conversation from beginning to end. A real salesman works on a prospect with a

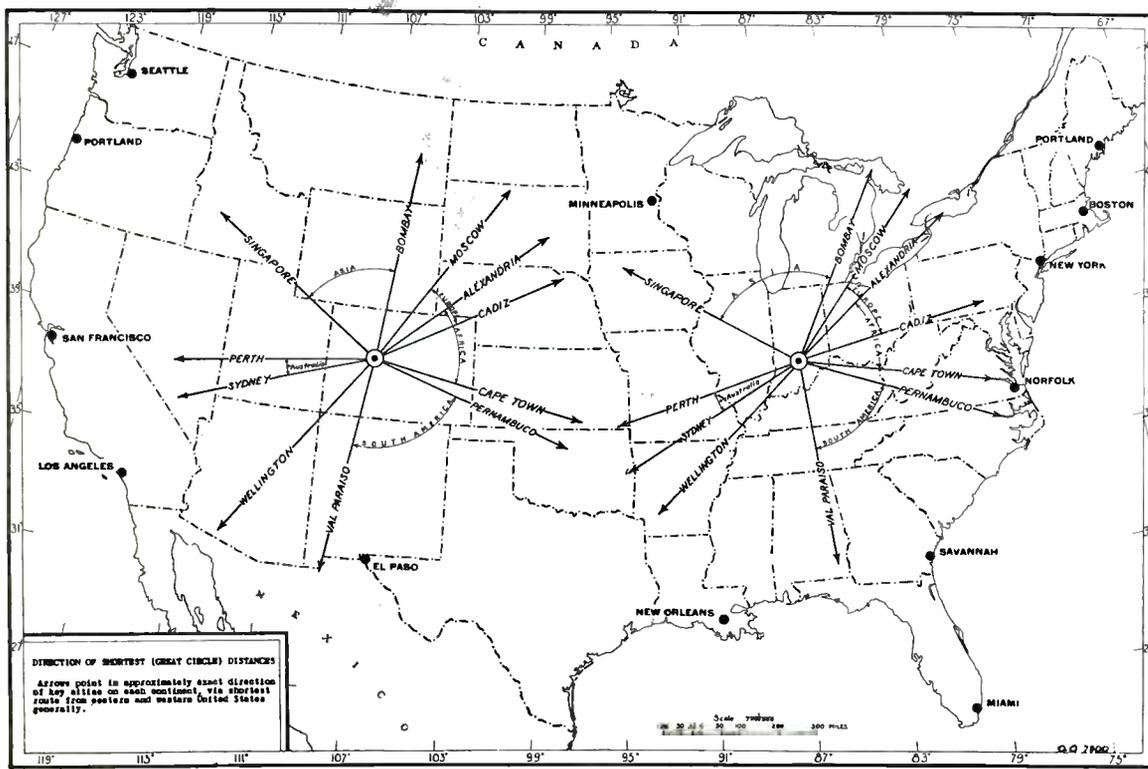
planned sales campaign. Every move is directed toward the definite consummation of a good sale. Weigh your opening words carefully, considering what your ultimate objective will be.

"Don't jump to hasty conclusions concerning the purchasing power of your prospect. You will find that your initial guess is nearly always wrong and that you are generally underestimate. Approach every prospect as though you expected him to buy the best you have. For a man who is well able to buy the best this approach is obviously proper. For the man who is unable or unwilling to spend quite so much your quality approach will build up the sale to a larger unit, generally, than he had in mind originally.

"Some of us come by correct sales conduct naturally but this is the hard way. It is far better to learn by the other man's experience. A wrong approach can gum up an entire sale and put the prospect forever out of your reach. The opening shot may antagonize him and then no amount of argument will gain his good-will.

"Placed immediately in a friendly frame of mind a prospect will go a long way to please you, the salesman, strange as this may seem. On the other hand he may, off to a bad start, deliberately harden his mind. That's why I stress the extreme importance of approach.

". . . and, speaking of approach, let's go back to golf."



DX... What Direction?

Useful when erecting directional receiving antennas, the arrows on this map point to foreign shortwave stations from eastern and western centers

FIGURES

RADIO RETAILING'S MONTHLY BUSINESS BAROMETER

	MORNING		AFTERNOON		EVENING	
	WINTER	SUMMER	WINTER	SUMMER	WINTER	SUMMER
MALE	37.5%	38.1%	36.0%	39.2%	46.9%	50.0%
over 18 yrs.	25.0%	26.9%	24.0%	26.0%	34.4%	43.2%
under 18 yrs.	12.5%	11.2%	12.0%	13.2%	12.5%	7.0%
FEMALE	62.5%	61.9%	64.0%	60.8%	53.1%	50.0%
over 18 yrs.	52.0%	54.4%	48.0%	51.5%	43.7%	44.5%
under 18 yrs.	10.5%	7.5%	16.0%	9.3%	9.4%	5.5%
TOTAL	100%	100%	100%	100%	100%	100%

SOURCE—Columbia Broadcasting System

APPLIANCE SALES QUOTAS HIGH

Electrical appliance sales quotas are shooting high for 1936, according to Dun & Bradstreet. From the progress indicated in the first six months of this year new records are expected. Production of refrigerators is estimated at 2,235,000, 30 per cent over last year. Washers and ironers should top 1,800,000, 27 per cent over 1935 and the biggest quota in this division's history.

NBC MAIL INCREASES

Indicative of increased interest in programs, which is obviously reflected in retail radio and service sales, the NBC's fan mail rose to 4,006,517 pieces in the first six months of this year. This compares with 2,194,932 in the first half of 1935, 3,124,426 in a similar period of 1934, 1,643,131 in '33 and 3,357,543 in 1932.

The 1936 first half total recorded is an all-time high.

BONUS MONEY LEFT

Bonus money cannot be credited for more than five per cent of automobile buying since June 15. To this most of those watching the effects of funds disbursement are willing to agree. It is also agreed that bonus funds constitute less than two per cent of the money that has been flowing into retail channels since mid-June.

Forty per cent of all veterans, it ap-

pears, have not yet cashed in their bonds. And not all the sixty per cent remaining has been spent. Retail advertising of radio, worded and directed to attract bonus money should, for this reason be effective.

EMPLOYMENT GAINS

The National Industrial Conference Board reports gains in employment, hours worked, and money earnings during June. Hourly earnings in 25 key industries averaged 61.7 cents in June as compared with 61.5 cents in May, a gain of .3 per cent. The average work-week was 39.2 hours as compared with 39 hours in the previous month.

The number of workers employed rose 0.7 per cent, total man-hours worked 1.2 per cent and payrolls 1.5 per cent.

Since a year ago substantial gains have been made. Hourly earnings rose 2.8 per cent, average number of hours per week 8.9 per cent, money weekly earnings 12.9 per cent, real weekly earnings 9.7 per cent, employment 7.4 per cent, total man-hours 16.8 per cent and payrolls 21.3 per cent.

SALES RESISTANCE DOWN

From Gerald Stedman, *Electrical Merchandising's* sales planning expert, comes word that less effort was required

Merchandising	
Cumulative Markdown (%)	40.6
Markdowns (at retail, % to sales)	7.8
Stock Shortage (% to sales)	1.3
Workroom Net Cost (% to sales of parent dept.)	3.9
Cash Discounts (% to sales)	1.2
Gross Margin (% to sales)	32.6
Number of Stock Turns	4.0
Sales (% to last year)	106.0
Sales (% to total store)	0.6
Returns (% to gross sales)	20.6
\$ Sales For Year Per Sq. Ft. of Selling Space	30.0
Operating	
Age of Stocks at Inventory	
(% under six months)	83.0
(% 6-12 months)	8.0
(% 12-18 months)	5.0
Administrative Expense (% to sales)	6.7
Occupancy Expense	
(fixed plant & equip. % cost to sales)	3.4
(total occupancy % to sales)	5.4
Publicity Expense	
(newspaper space costs % to sales)	5.3
(total publicity % to sales)	7.1
Buying Expense (% to sales)	3.9
Selling Expense	
(selling salaries % to sales)	8.5
(general selling expense % to sales)	2.6
(delivery expense % to sales)	1.5
(total selling % to sales)	13.5
Total Operating Expense (% to sales)	37.2
Results	Loss 4.6
Monthly Distribution	
Feb.	7.0
Mar.	6.8
Apr.	5.8
May	5.7
June	5.2
July	4.8
Aug.	6.1
Sept.	9.4
Oct.	10.7
Nov.	12.2
Dec.	18.9
Jan.*	7.8

SOURCE—Columbia's Original, NISCA. * 1936

during the first six months of this year to sell electric refrigerators.

In 1935 it required 13.8 telephone calls per prospect to close. Only 8.1 were required in 1936, according to a Milwaukee survey. Fifteen cold canvass calls were required per sale last year and 11.6 this season. Dealers made 5 calls per owner in '35, cut to 4.2 in '36. And it required 5.5 presentations to close last season, only 3.5 this year.

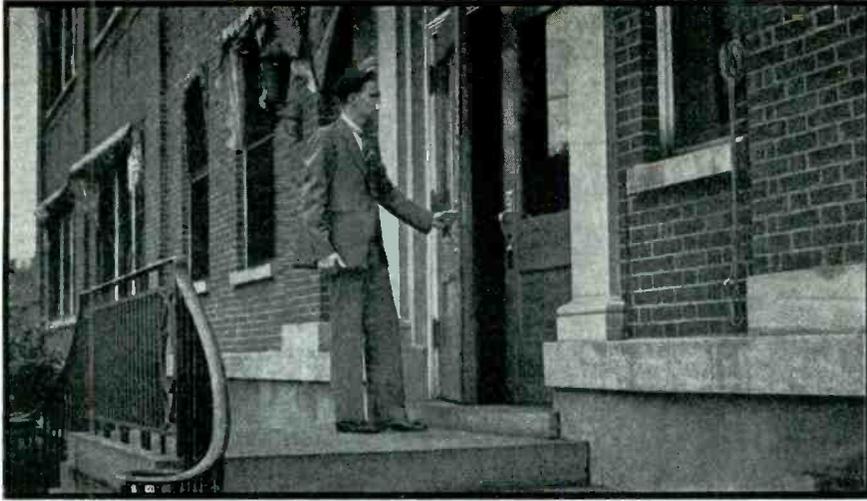
BRITISH IMPORTS

The importance of the United Kingdom as a market for American radio equipment is indicated by the following figures concerning imports from all countries: 1932—19,326. 1933—48,375. 1934—83,242. 1935—100,724. 1936 (Jan. to May)—30,882.

Phonographs are not included in these figures.

	No. of Sets	Value at List
A. C. Mantel Standard	1,474	\$58,249
A. C. Console Standard	9	1,486
A. C. Mantel Two Band	474	27,002
A. C. Console Two Band	788	77,216
A. C. Mantel Three Band	758	56,224
A. C. Console Three Band	1,598	167,283
A. C. Mantel All Wave	174	14,158
A. C. Console All Wave	619	94,448
Total A. C. Sets	5,794	496,066
Battery Mantel Standard	325	15,058
Battery Console Standard	136	9,035
Battery Mantel Two Band	101	8,570
Battery Console Two Band	138	18,532
Battery Mantel Three Band	36	3,445
Battery Console Three Band	258	32,139
Battery Mantel All Wave	1	97
Battery Console All Wave	2	248
Total Battery Sets	998	87,124
Automobile Sets	3,116	185,288
Total All Types	9,908	768,478

SOURCE—Audited Trade Commission, Ottawa



THEY'LL SEE YOU . . . If you look and act like a businessman ▶▶▶



(When dressed for servicing that's all you'll do)



THEY'LL LISTEN If you know your subject thoroughly, state your case briefly and intelligently



THEY'LL BUY If you show them how sound equipment can boost sales or cut costs

How to Sell

SOUND

SEVERAL years ago, while the author was sitting in the office of a radio jobber, the jobber received a large order for sound amplifying equipment.

I was much impressed. He checked the order, and passed it on for entry. When he had finished, he said to me, smiling, "There's a nice bit of profit for *that* service man."

There was probably a look of envy in my eye as I exclaimed, "If only I could get a chance to do sound work like that!"

"Why don't you?" he answered. I must have looked surprised for I had never sold a thing except service—when my customers wanted it. Of course, I knew how to service radios and amplifiers, but selling—well, that wasn't for me, that was for the expert. It's an easy thing to be told that sound systems can be sold, but to be faced with the problem of actually selling them is quite different.

"Let me tell you a story," said my friend. "After I finish we'll analyze the story and see if, from it, we can't formulate a positive plan of attack to increase your business by the sale of sound systems."

"Increase my business?" I thought "That's fine. I can stand that *any* time."

"When a sound system is installed,"

By
Harvey P. Rockwell, Jr.

FIRST of a SERIES

Practical methods of developing existing markets and unearthing new applications will be covered in coming issues

Estimating, installation and service will be discussed from both merchandising and technical angles

EQUIPMENT

he continued, "there is not only the profit of that sale to consider. In time, there will be service on the equipment—new tubes and the like, that will continue to boost your business. Later, perhaps, your customer might want to expand his system—there's another opportunity, if you've done a good job. The field is so broad that new uses will occur every day. Best of all, think of the prestige for your radio work. When you tell your customer that you are the sound engineer for the Downtown Hotel, you have a decided advantage over other servicemen."

"Did you ever hear of a sound system in a coal yard? Perhaps it never occurred to you that one might be used to advantage there, but it did to one of my customers. He was no different from you—nor any better as a serviceman. However, he did have imagination. He knew that the scales on which the trucks were weighed were located quite a distance from the central weighing house where the checker read the indicator and released the loads. When the loaded truck was driven on the scale it might have been 200 lbs. or over and the checker had to come out of the weighing house to tell the driver to take off more coal. In cold weather, the checker often let such a load go,

figuring that the next one would average out.

"This serviceman saw how a sound system would enable the checker to correct the load easily, show a profit and make a very good advertisement for the coal company.

"All of this was preliminary selling. It was the simple research that prepared for the sale. You can do the same thing; but the important point to remember is the way in which he approached the coal yard manager to make the sale. Before calling, he put on his best suit, saw that his shoes



were shined, and his hands clean. He knew that the customer's first impressions were going to help a great deal. 'But let me go farther. Look at this business card. Wouldn't that be more attractive to you than an ordinary one, such as you use?'

"A little time spent preparing an attractive card will save you time and money waiting for your customer. Call your printer and let him design a good card for you! (I did, and here it is). It makes your prospect feel that you know your business.

"Let me give you another example," he suggested. "You've heard of Paul Whiteman and probably wondered why he has been called 'King of Jazz.' Do you think his music is superior to all other bands? Possibly not. But most of us do enjoy him. Why? Because Whiteman puts on a wonderful show. This serviceman who sold the coal yard did the same thing. His sound truck was neatly painted. It attracted attention. His letterhead was like his calling card. It gave the appearance of success."

I interrupted: "You surely have told me a number of things I hadn't realized before. Why *I* could do any of them."

Servicemen Can Sell

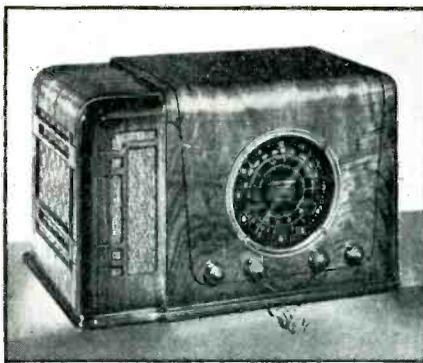
"Yes, you could, and sales work will enable you to meet all your prospects on a much better basis. As a matter of fact, with such a background, this serviceman entered the coal yard manager's office confident that he could make a sale. His attitude was not "cocky" nor was any high pressure needed. He knew his product. He knew it was built by a reliable manufacturer, and that it would do all that was claimed for it. He had proven to his own satisfaction that the customer had a real need for a sound system. Now, all that was needed was to arouse the customer's interest, create desire and the sale was made.

"You see, there is no need to hesitate, feeling that while it is easy to repair any radio or amplifier, selling belongs to the expert. You weren't such a good serviceman when you started. The fact that you're in business today shows that you were willing to learn. We all started on a selling career early in life. As a child, we soon learned how to sell by at-

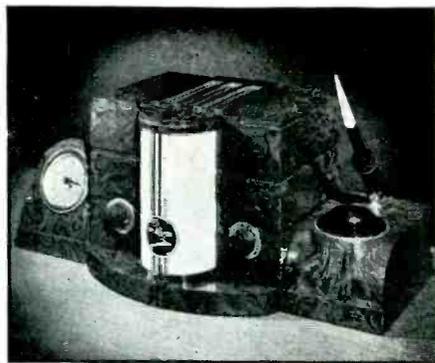
(Please turn to page 54)



IT'S THE TOP — This novel design may start a trend (Admiral)



NEW AND DIFFERENT — Speaker grille and control panel contrast nicely (Stewart-Warner)

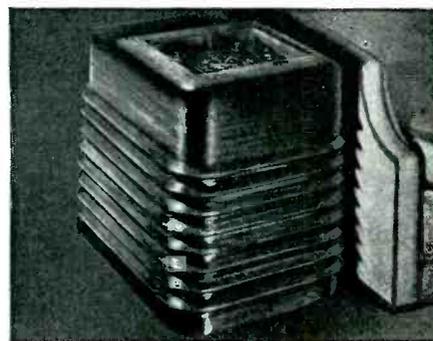


FOUR IN ONE — New radio, clock, writing set and desk lamp combination (Sengbusch)



ARMCHAIR RADIO — But isn't it difficult to tune, lady? (Southern Furniture)

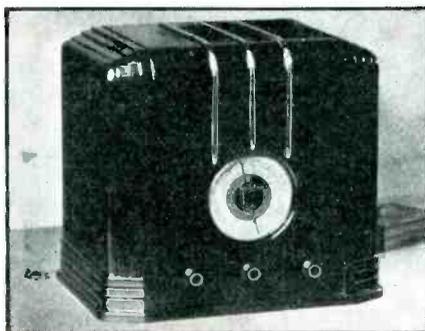
EYE-CATCHERS



DOUBLE UTILITY — This chair-side set has a compartment for magazines or what have you? (Zenith)



STYLED PORTABLE — Clean, artistic design is not confined to home sets (Emerson)



BAKELITE AND CHROMIUM — Here's an effective modern offering (Sparton)



SKYSCRAPER MOTIF—This twin-turreted console should stop traffic (St-omberg-Carlson)



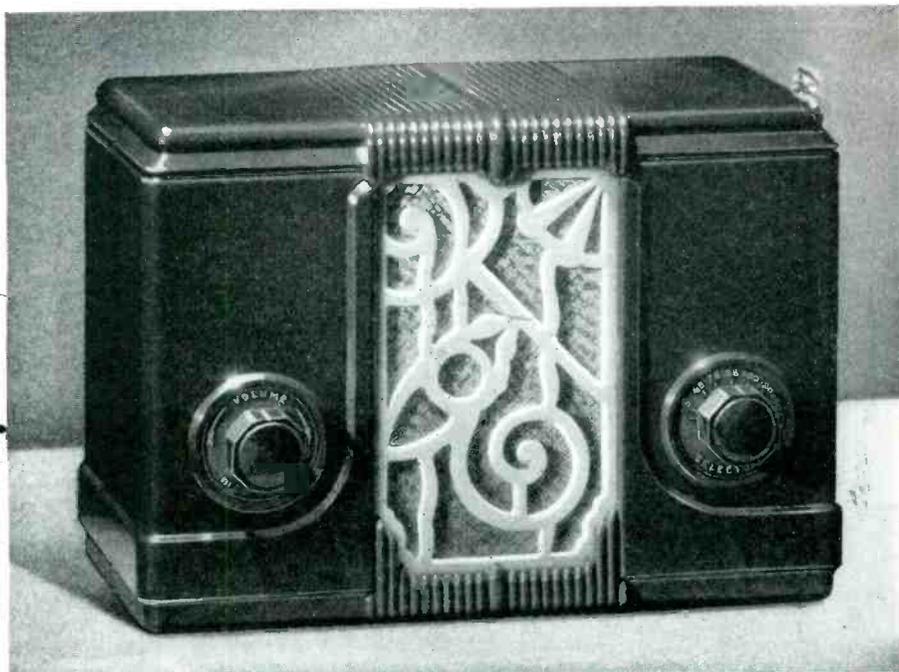
SET IN WHITE — Attractive in the kitchen, bedroom or modernistic homes (RCA Victor)



ROUND AND BLACK — Both color and shape are unusual (Wilcox-Gay)

Elected!

RADIO'S FRONT PAGE **VALUE**



A tested LEADER at a price that PULLS

Day after day the Kadette Jewel is rolling up a tremendous acceptance and yet there still exists a great market.

Millions of potential Jewel sales await radio dealers who go after them, for millions have yet to see this front page radio value. Once they see it—they'll buy it like countless thousands already have.

Today the Jewel is a tried and tested leader and at its amazing new low price of \$10.00 we believe it is only

just coming into its own.

Gleaming Bakelite cabinet with distinctive grille in contrasting colors . . . color choice to harmonize with any room decoration . . . superb tone . . . tunes the broadcast ranges 550 to 1600 kilocycles . . . ambilectric, AC or DC.

Feature this tested leader—keep a good stock on hand. Get your share of the wave of business that is sweeping the Kadette Jewel to new heights of popularity and sales.

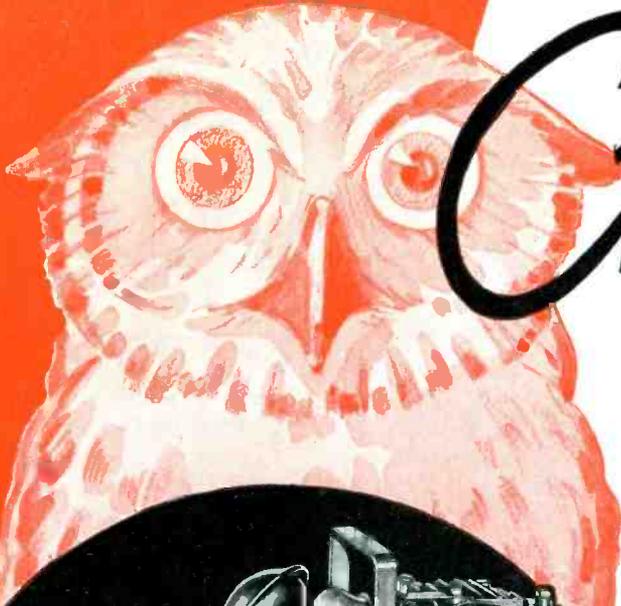
INTERNATIONAL RADIO CORPORATION • ANN ARBOR, MICHIGAN, U. S. A.

KADETTE



CREATORS OF

Quality COMPACTS



Choose WISELY

When Selling Gasoline Motor Powered Battery Chargers »



\$59.50

F.O.B. MILWAUKEE



STANDARD EQUIPMENT

Multiple control switch — cut-out — ammeter — battery leads — voltage regulator terminals — ignition shielding — motor power take-off and starter pulley — air cleaner — muffler — stop button — choke knob — emergency starter rope — carrying handle — tools and complete instructions.

Choose wisely the battery charger that you sell to your radio customers beyond the power lines. Sell them the Briggs & Stratton Power-Charger—the compact, dependable, fully engineered battery charger that keeps 6-volt and 2-volt radio batteries fully charged all the time—power for continuous radio performance—provides electric light up to 200 watts and supplies gasoline motor power for driving small equipment.

Every Power-Charger sales will mean double profit to you. You will be assured a worthwhile profit on the Power-Charger, plus your regular trade profit on 6-volt radios and at the same time know that you have delivered a product that will render complete satisfaction — one that is backed by a company of world-wide reputation for building quality products.

Power-Charger Alone has all These Features

Briggs & Stratton 4-Cycle Gasoline Motor—Air cooled—nearly ¾ million in use — trouble-free, low cost operation.

Patented Built-In Flywheel Magneto — Moisture proof. Supplies motor high tension ignition current. No battery needed except for electric starting. Motor easily started.

Electric Starting — Gasoline motor is electrically cranked by turning switch, 6-volt storage battery supplies current.

Generator — Special design, 6-volt, 200 watt, high efficiency unit with ample overload capacity. Armature full ball bearing. Fan cooled.

Multiple Control Switch — 4 settings — Start, Neutral, Low, High — "Low" delivers trickle charge for final charging stage, which conserves Battery Life.

Voltage Regulator Terminals — Provide for easy installation of voltage regulator which automatically controls generator output, and is available at small extra cost.

Ignition Shielding—Motor ignition is shielded. Power-Charger will not cause radio interference when running.

Power Take-Off and Emergency Starter Pulley — V-belt is provided to drive small equipment direct from motor. Pulley notched for easy emergency starting with rope.

Electric Control Box — Automatic cut-out, electrical instruments and all wiring fully enclosed and protected.

Fully Guarded — Drive belt and take-off pulley completely guarded. Safe.

Write, or mail the coupon for full information on the new field Briggs & Stratton Power-Charger opens up for you.

BRIGGS & STRATTON CORP., Milwaukee, Wis.



Briggs & Stratton Corp., Milwaukee, Wis.

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-3

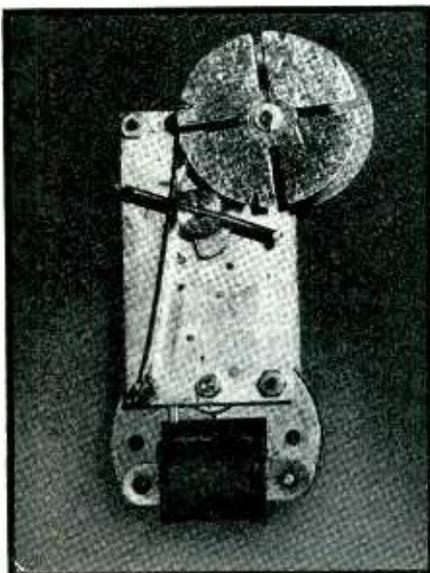
MOTION IN THE WINDOW

**Inexpensive
Four-Stop Device
Lends Itself
to Many
Action-Display Uses**

**By
I. L. Cochrane**



In this typical display a stop-and-start disc revolves behind the opening at the top of the enlarged tube silhouette



Synchronous a.c. motor, built-in reduction gear and Geneva movement are all in one unit

A NEW YORK Consolidated Edison display dramatizes with motion the variety of entertainment and information arriving every second over the radio. An enlarged cut-out tube suggests radio and the pictured reminders, which appear and disappear in the opening at the top of the tube, emphasize what one is missing without a set.

A succession of views rotated in this manner is perhaps one of the

oldest and most used motion display ideas in the retail field; but it is still good and bound to be a sales booster when applied with a touch of the dramatic or whimsical. In the past, however, this form of display was largely confined to manufacturers of receiving sets able to produce such displays in quantity. Thanks to the growth of animation in recent years, new developments now make it possible for every dealer to create and build his own displays.

While the display pictured was animated with a specially devised form of the Geneva gear for five successive stops, by using the new low-cost four-stop complete unit illustrated, a dealer may adapt this idea and many other variations with the same mechanism. Radio brings sports, music, talks and humour, all of which lend themselves to the display shown. In addition, the allwave set makes it possible to show glimpses of the Kremlin, London Horse Guards, Eiffel Tower, etc., each emphasizing the world-wide broadcasts now heard in the home.

Other suggestions naturally come to mind, such as glimpses of popular serials on national hook-ups. Likewise, a succession of receptions of purely local interest. Price variations from the low-cost little fellow up to the more elaborate is another way to put over a sales message. In fact, the

different applications of a stop-and-start disc is almost endless.

The device illustrated is a complete unit, ready for attachment. No extra mechanical parts. It comprises a non-synchronous a.c. motor, built-in reduction gear and Geneva movement, all in one. The Geneva gear, first used in a Swiss precision-made watch, is, in its enlargement, ideal for motion displays, as the nature of its construction yields a gradual start and gradual stop, with quick acceleration between. The four slots and pin arrangement is also simple and sturdy. This device is made by the Speedway Manufacturing Co., Cicero, Illinois, and lists at \$5.40.

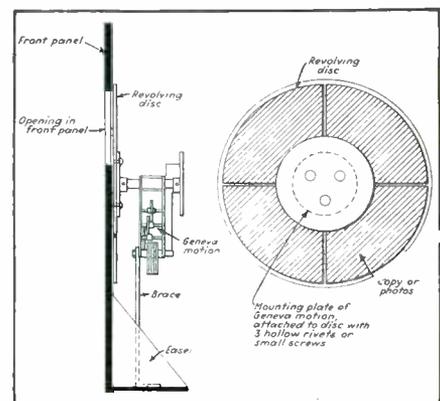


Diagram showing a simple method of setting up the driving unit

DISPLAY MANAGEMENT

"Bull" Connor, sports announcer sponsored by McDavid, who built up such personal popularity while on the air that listeners recently elected him to the legislature



"Radio Bob" McDavid, who has concentrated \$40,000 of his advertising in the last seven years on sports broadcasts

Broadcasts Build Business

BIRMINGHAM — Sponsorship of radio broadcasts, particularly of football and baseball games, has been the chief factor in the development of a million-dollar-a-year wholesale and retail radio and refrigeration business for R. P. McDavid & Co.

A pioneer in linking up radio sales with sports broadcasts, R. P. McDavid, president of this concern and himself formerly sports editor of the *Birmingham Age-Herald*, has spent \$40,000 in the past seven years for radio time. Last year his company, using the ether waves as the first line of attack, sold more Zenith radios by three times than had been sold in Alabama in 10 years.

All away-from-home games of the "Birmingham Barons" in the Southern Baseball League and then all football games played by the University of Alabama and Alabama Polytechnic Institute (Auburn) as well as some of the leading high school games were sponsored by McDavid. He will go on the air with commercial announcement just before President Roosevelt speaks each time during the presidential campaign now under way. And in addition he sponsors a news broadcast four times a day. His commercial announcement goes on the air before and after the newscast, so that means the listening public hears about

his merchandise 50 times a week.

"We spend all this money for broadcasting because we find there is a psychological advantage in linking radio sales with sports," says McDavid. "The recreational side of a man's nature is his freest and most natural. While at play he spends money freely. So our object has been to make radio and sports inseparable so that he will buy our radio as cheerfully as he spends his money to see a ball game or a prize fight. In our sports broadcast we reach our listeners at a time when they have their ears glued to their radio and have no idea of turning the dial.

"We know people listen to our broadcasts from the hundreds of letters and telegrams we receive, particularly from shut-ins and from those in remote rural sections, mining villages and saw mill towns. More concretely our broadcasts tell in rising sales curves following outstanding events like a World Series baseball game or a major college football game. We give the names of our dealers along with our own in all broadcasts."

McDavid is a pioneer in putting southern football games on the air. Before doing so he had to visit the college presidents and sell them on the idea. Events since have proved his

ADVERTISING SELLING

contention that the radio helps instead of hurts attendance at the games.

Before putting a game on the air he explains to his listeners why it is necessary to intersperse commercial announcements. He will tell his listeners this fall that he is paying \$5,000 for the privilege of broadcasting the football games and he will promise to tell about his radio during time-out and between halves, to avoid interference with the running account of the game. Last year he had not one complaint of "too much commercial" during his broadcasts. Careful handling avoided trouble.

"Our broadcasts," says McDavid, "have been particularly helpful in reaching out into the provinces and selling battery sets not only for our retail store but for our dealers. Two-thirds of the homes in Alabama are still unwired and only 10 per cent of them have radios, so the market is hardly touched."

Combating Chains

CHICAGO—From V. A. Kamin, president of Corona Radio & Television, interviewed here, comes the following suggestions concerning methods of combating mail-order chain store competition:

"Get a finance plan as good as the chains. You can't collect 10 per cent where the chains ask 6. And taking credits they turn down is bad business. With the cheap money that exists today a competitive financing plan can be worked out readily by most dealers.

"Get traffic merchandise. It is absolutely essential for the independent dealer to have radios that can be sold at the same price as the chain store merchandise, without sacrificing profit. The rapid growth of cooperative buying indicates that many independents appreciate the importance of price.

"Cultivate the expertness which most independent dealers at present enjoy over the chains. Chains rarely employ clerks who are as expert as those employed by independent dealers. Dealers have generally been in the business a longer time, know all the ins and outs, and are respected as specialists by their communities.



SELL-UP SHELF . . . Up in the air on the wall are table models at LeMoine's, Denver. The customer has to crane his neck to see them and L. G. Killian, department head, finds this an easy excuse to demonstrate a console first

The future will see smart dealers going in for even more schooling and education of their help along both merchandising and technical lines."

On the same topic comments Harry Alter, veteran distributor: "Handle a nationally advertised line. There is a glamor to these names that mail-order

merchandise cannot have. Take less mark-up. The chain rarely exceeds 30 per cent, in my estimation. Work out a trade-in allowance that will put nationally advertised brands right alongside chain store products in price. And work the service department for leads and sales."

Phonebook Tips

CHICAGO—Writes Charles Phillips, past-master of phonebook service advertising: "A nation-wide survey has disclosed the fact that over 95 per cent of all residential telephone subscribers have radio receivers! The significance of this to radio servicemen and dealers with service departments is that a few cents a day added to the telephone bill will place your advertisement within every telephone subscriber's home. New books generally come out in September or October.

If you make proper use of telephone facilities, at least 80 per cent of your service calls should come in over the phone. A telephone is the biggest equalizer between a lavish store front and a neighborhood service station. Strangely enough, merchants with large window space on prominent streets make the least use

of their telephone advantages. If you study any classified telephone directory you will note the leading ads are usually placed by the more obscure shops.

"With a dozen or so ads to compete with, why should anyone choose yours?"

"Large space will draw the most attention—all other factors being equal—but half-page and page ads seriously boost the overhead of a small retail establishment. In your own phone book, you'll find little quarter and eighth-page ads which fairly scream for attention while big, uninteresting space seems cold and unattractive. Your ad will pull if prepared attractively and worded intelligently.

"Take a look at the florist's ads, at the dry-cleaning or mover's section of your phone directory. Which

DISPLAY....MANAGEMENT....ADVERTISING....SELLING...

would you call if you didn't know any of the advertisers from previous transactions? Analyze the ads you would choose.

"A good ad is one which first attracts your attention; second, tells what you desire to know about the advertiser; third, builds your confidence in the reliability and integrity of the firm; and fourth, presents the phone number, name and address clearly.

"A fundamental rule to follow in laying out an ad complying with these requirements is first an illustration; second, a headline; third, brief concise copy; fourth, address, phone number and name if the name has not been given previously.

"The illustration may be an artistic arrangement of lettering as in the excellent small ad of the Supreme Radio Service Shop, of Chicago, or a simple line drawing of an aerial mast as used by the Swantz Radio Service of Madison, Wisconsin. One of the best phone directory ads appeared in South Bend, Indiana, a few years ago—its author is now in the advertising business. A very flattering photograph of this man greeted the reader. People like to know with whom they are dealing and a smiling countenance



"MY BEST SALES STUNT"

That's the way Roger Hertel, Clay Center, Neb., classifies this idea of erecting a tower, with wind-charging generator, right out in front of his store. Not bad!—if you can get away with it.

serves as an excellent introduction.

"The headline is difficult to write and yet is the most important part of a directory ad. Unless you are extremely well known in your community, don't put your name first! Avoid a trite, hackneyed expression such as the familiar one, 'Service All Makes.' A headline conveying confidence might read, 'Honest, Reliable

Radio Service,' and on the next line, 'Ten Years' Experience—Most Modern Equipment.'

"Good body-copy might read, 'We specialize in these and similar receivers—' followed with a list of the makes most commonly found in your community. Don't omit the orphan radio brands—customers who have been deserted by manufacturers and dealers are excellent prospects for service from a new organization.

"Feature a big, legible phone number, a medium sized firm name and in smaller type, your street address.

"In preparing a telephone ad, sketch out the space for an illustration, write the headline and body copy, then consult your telephone company who has a man ready to assist you with all details of type size, preparation of illustration, and arrangement of this material in your layout. You will be shown a proof of the ad before the directory is printed for you to check all details and give your final approval. Look it over carefully before it runs.

"If you have been overlooking this lucrative source of business investigate it at once—the business office of your telephone company will provide you with full details upon request."

Rubber Stamp Collection

TULSA — A well-ordered "rubber stamp" routine used by the Cargile Service Laboratories, retailing and repairing radios and other electrical devices, has assisted materially in doing away with customary sixty and ninety-day waits for payment.

Since patrons frequently are not home when repaired appliances are delivered and it is not advisable to give credit on such work J. Wayne Cargile submits a bill by mail immediately. A rubber stamp affixes these words: "Thirty-three and one third per cent increase in the labor charge for payments made after five days from date of issue." Results are remarkable, he claims. The stamp message appears to carry more weight than actual printing. Questioned concerning the reason for the addition Cargile attributes it to office expense.

"Past-due" stamps also appear to get



RURAL DEALERS PLEASE COPY . . . Herschel Batey, working on the Schug plantation near Paragould, Arkansas, has equipped his plow with a Simplex radio to follow the baseball scores while his mule follows the rows. Takes the monotony out of a tough job

These Great Orchestra Leaders

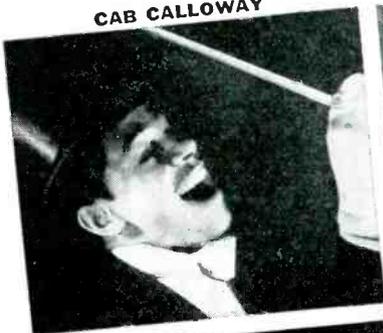
PARADE ACROSS THE PAGES OF THE SATURDAY EVENING POST
TO SPEED YOUR "SUCCESS IN THE RADIO BUSINESS"



FRED WARING
CAB CALLOWAY



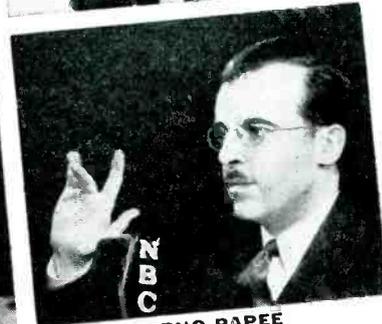
RUDY VALLEE
BEN BERNIE



PAUL WHITEMAN
GUY LOMBARDO



ERNO RAPEE
FRANK ELACK



THE trade has already ordered over 4 times as many American-Bosch CentrO-matic Radio sets as a year ago. American-Bosch *must* have something worthy of your investigation.

It certainly has! . . . It has the "Automatic Maestro," latest and greatest radio engineering development. It has a market-measured line that embraces every price class. It has the exclusive band-stand baffle, over-size speakers, super-size black dials, woman-captivating cabinets, amazing prices—these and other selling advantages total 24 all-star features that are making American-Bosch CentrO-matic Radio the fastest moving line of the year.

And it has the year's outstanding promotions—both in point-of-sale and consumer advertising. National advertising stars great orchestra conductors, to emphasize the role of the "Automatic Maestro." Point-of-sale advertising features Paramount movie stars, living room backgrounds, challenging literature and the most beautiful, sales-compelling demonstration display stand in radio history.

American-Bosch is hitting a winning stride—in a big way. You can find greater success in the radio business with American-Bosch. Mail coupon below and learn why.

UNITED AMERICAN BOSCH CORP.
SPRINGFIELD, MASS. New York, Chicago, Detroit

American-Bosch Radio is licensed under patents and applications of R. C. A. and Hazeltine Corp.



UNITED AMERICAN BOSCH CORP.
SPRINGFIELD, MASS. Dept. R.R-8

Please send copy of "Success in the Radio Business" containing complete information about the new American-Bosch line.

Name

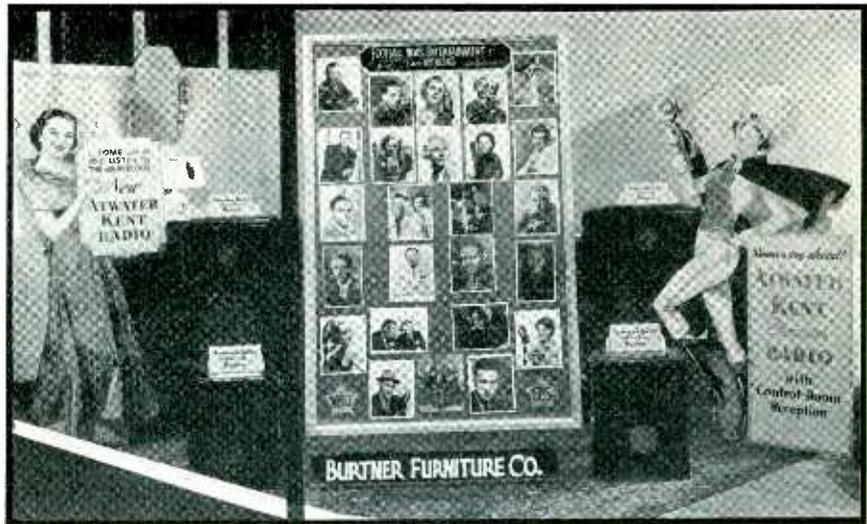
Address

AMERICAN-BOSCH

DISPLAY....MANAGEMENT....ADVERTISING....SELLING....

better results than either printed notes on bills or personal letters. Two of these read: "Again we are obliged to remind you of this account, which is now much overdue. Please make immediate settlement and thereby save yourself any unnecessary expense and unpleasant proceedings." And: "Past due! This account has no doubt escaped your notice. Will you please favor us with a remittance promptly and oblige."

A mild reminder, stamped in blue ink on a bill, is this little jingle: "You need your money and I need mine; If we both get ours it would be fine. But if you get yours and hold mine too, what in the world am I going to do?"



BROADCAST TIE-IN . . . In March we suggested in an editorial "The Need Is Mutual" that broadcasters and radio dealers could and should cooperate more frequently. Back comes this photo from Edney Ridge of WBIG, showing how his station is working with a typical Greensboro, North Carolina, shop

Booth Labels Sell DX

MADISON, WIS.—Three months ago Melvin Willsey, of the Atlas Radio Store, hit on a display idea that has since built up store traffic to heights not seen since 1929 by intriguing the consumer's natural interest in shortwave reception.

Over each individual demonstra-

tion booth of a long row, visible even from the street, he placed a sign bearing the name of some foreign capitol. Within the booths he placed his usual set displays but tuned one hooked up in each cubicle in on the country indicated by the booth's identifying sign.

People passing the store assume instantly that they can come in and dial in directly to the foreign capitols indicated. And usually they can for Willsey keeps time schedules of foreign transmissions and is already to go simply by snapping a switch. In the event that the countries indicated are not at the moment on the air it is simple to prove it by producing the schedules and the prospect is either given a complete demonstration on American shortwave broadcasts while he is in the store or invited to come back at a stated time to hear the country in which he was initially interested.

"It is a simple method of putting demonstration booths back to work again," says Willsey. "They were losing their pulling power because the novelty had worn off."

By simply throwing a switch Melvin Willsey brings in a foreign capitol for a shortwave fan on a pre-tuned receiver in one of his cleverly labelled demonstration booths

Steps Up Trade

SOUTH BEND—Don Elbel, who judges trade-ins by the condition of their cabinets rather than the "works," offers to take them back at full price any time within 90 days if the purchaser wishes to swap for a new radio.

The net result is that the sale of new merchandise is not blocked, and if the customer pays for his trade-in over a three months period the credit risk is lessened. If he skips, the house does not take it on the chin as only a used set is lost.

Credit In Advance

BENTON HARBOR, MICH.—The sharp ear of a girl in Gordon's Music Shop gives a new angle to credit business. Demurely, she sits at her desk until she hears the salesman extract a customer's name. Then she slips to the telephone and quietly calls the local merchant's credit bureau for a report on him.

Turning to the salesman, she wiggles the prospect's credit rating. The deed is done so neatly that the prospect is sold a radio that fits his pocket-book without suspecting that the deal has been tailor-made.



He's Your Prospect

Here is one of 6,000,000 Farmers who need radio — your greatest opportunity for sales and profit.

He is one of the 5,158,000 Farmers reading about the sensational Sentinel of 1937 Farm Radio in the leading farm papers.

His neighbor owns one of the hundred of thousands of Sentinel Farm Radios now in service.

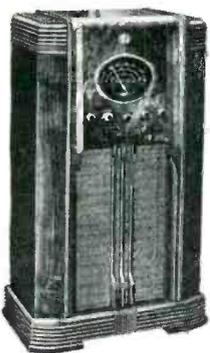
His family has heard the marvelous tone quality of Sentinel's new Dynamic Speaker—has admired the beauty of the superb Sentinel cabinets.

His son wants to tune in European stations on the distinctive Sentinel Dial.

He is thrifty and Sentinel's tremendous value and low prices appeal to him.

He knows the Sentinel line is complete—that there is a Sentinel Radio to suit his requirements whatever they are.

He's "Sentinel Minded!"



SELL this man! He knows this Pioneer Farm Radio! He can't resist the amazing performance, the beauty of this sensational many-featured, low-priced but high quality 1937 Sentinel Line. It's the surest, soundest road to substantial dealer profit. Write today for full details of the new Sentinel Farm Radio and the Sentinel Sales Program for 1937

- ◆ 2, 6 and 32 Volt Models
- ◆ Prices start as low as \$29.95 complete with batteries
- ◆ New Permanent Magnet Dynamic Speakers
- ◆ Tel-Eye Tuning
- ◆ New Console Cabinet
- ◆ Foreign Reception
- ◆ Attractive modern cabinets
- ◆ Distinctive new Oval Multi-colored Dial
- ◆ Farm Power Gas Engine Generator and Wincharger Dial



Sentinel

RADIO CORPORATION
2222 DIVERSEY PARKWAY CHICAGO ILL.

MAIL THIS COUPON TODAY

SENTINEL RADIO CORPORATION,
2222 Diversey Pkwy., Dept. R.R.-A., Chicago
Gentlemen: Please rush me complete details of the 1937 Sentinel Farm Radio Line.

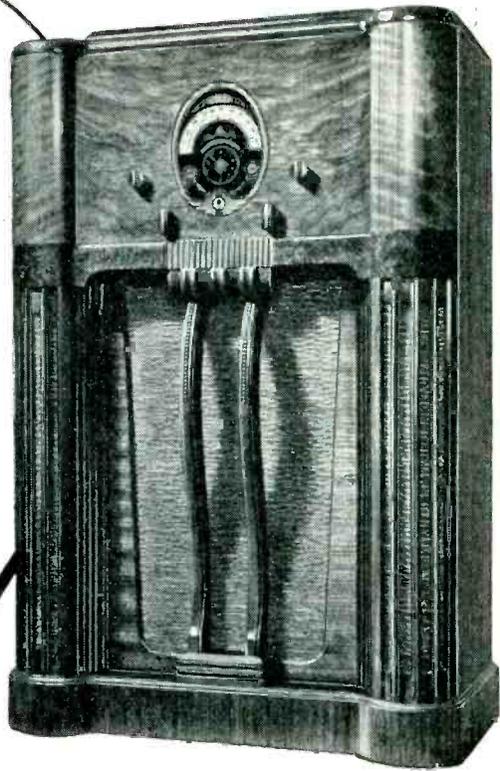
Name
Address City State

"THE PIONEER OF FARM RADIO"

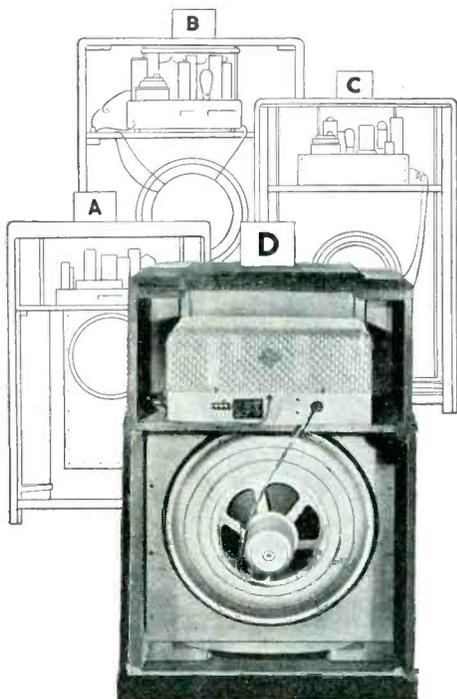
3 to 1

**CONSUMER
PREFERENCE**

*for Fairbanks-Morse
Radio*



Masked demonstrations give F-M overwhelming majority over three other nationally known makes



Recently 977 typical radio prospects were shown four radio sets. All were leading makes. All were covered with cloth, which left only the back of the cabinets exposed. All identification marks were removed. Only cards lettered "A," "B," "C," and "D" marked these four radios. Each one of the 977 persons, men and women, was asked:

If you were considering the purchase of a radio, which one of these radios would you investigate first?

Of the 977 persons interviewed, 658 or 67.35% expressed preference for Letter "D," the Fairbanks-Morse radio; 208 or 21.29% for make "A"; 56 or 5.73% for "B"; 55 or 5.63% for "C."

Why 3-to-1 preference for Fairbanks-Morse?

The answer is easy. The Fairbanks-Morse Turret Shield and Tone Projector are features which every person can see, feel, hear, and understand. Features that sell themselves.

Radio engineers conduct chassis per-

formance tests inside an ELECTRICALLY SHIELDED CAGE. The principle of the laboratory screen room is applied in the Fairbanks-Morse Turret Shielded Chassis, as the chassis also operates inside an electrically shielded cage. Noise and interference are screened out.

The Fairbanks-Morse Tone Projector is an enlarged cone, 22 inches in diameter, attached to the front of the speaker, making possible the largest baffle employed in any radio today. It projects and makes audible musical overtones, ordinarily lost.

In addition to these two outstanding sales features and the exclusive Semaphore Dial, new Fairbanks-Morse radios contain 36 other features which add to salability.

What side of the 3-to-1 selling odds do you want to be on? Write for full information on the reasons for, and proof of, this 3-to-1 preference! Address your Fairbanks-Morse distributor or Fairbanks, Morse & Co., Home Appliance Division, 2060 Northwestern Ave., Indianapolis, Indiana.

FAIRBANKS MORSE
RADIOS

MASTER ANTENNAS

Modern allwave types handle 25 sets, cost under \$5 per outlet, permit skilled radiomen and contractors to tap virgin big-city market



▲ NEATNESS . . .

A hot pitch kettle seals wires buried in slots cut in roofing, results in a finished job that is a revelation to hotel and hospital management



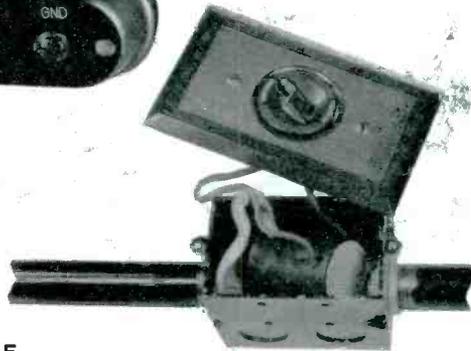
▲ SPEED . . .

Adjustable prick-punches built right into a jig save much time when positioning holes to hold mounting flanges and straps for iron-pipe masts



▲ SAFETY . . .

A window-cleaner's belt protects this specialist working high up on a New York apartment



▼ SECURITY . . .

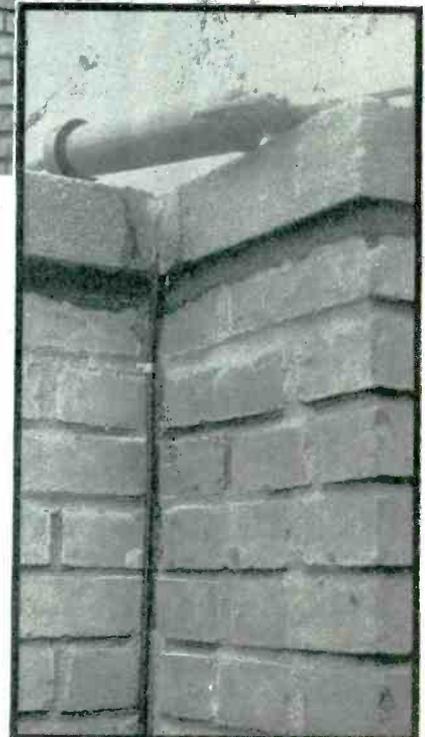
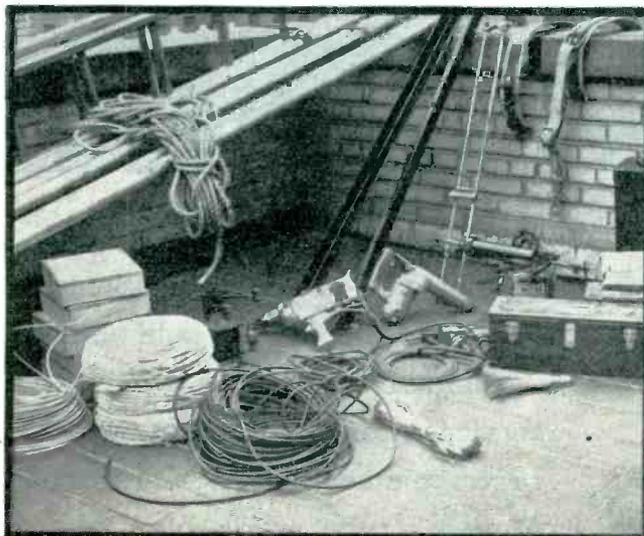
Wires run up the parapet, cross the coping through a slot and are sealed in place with the caulking gun shown resting above

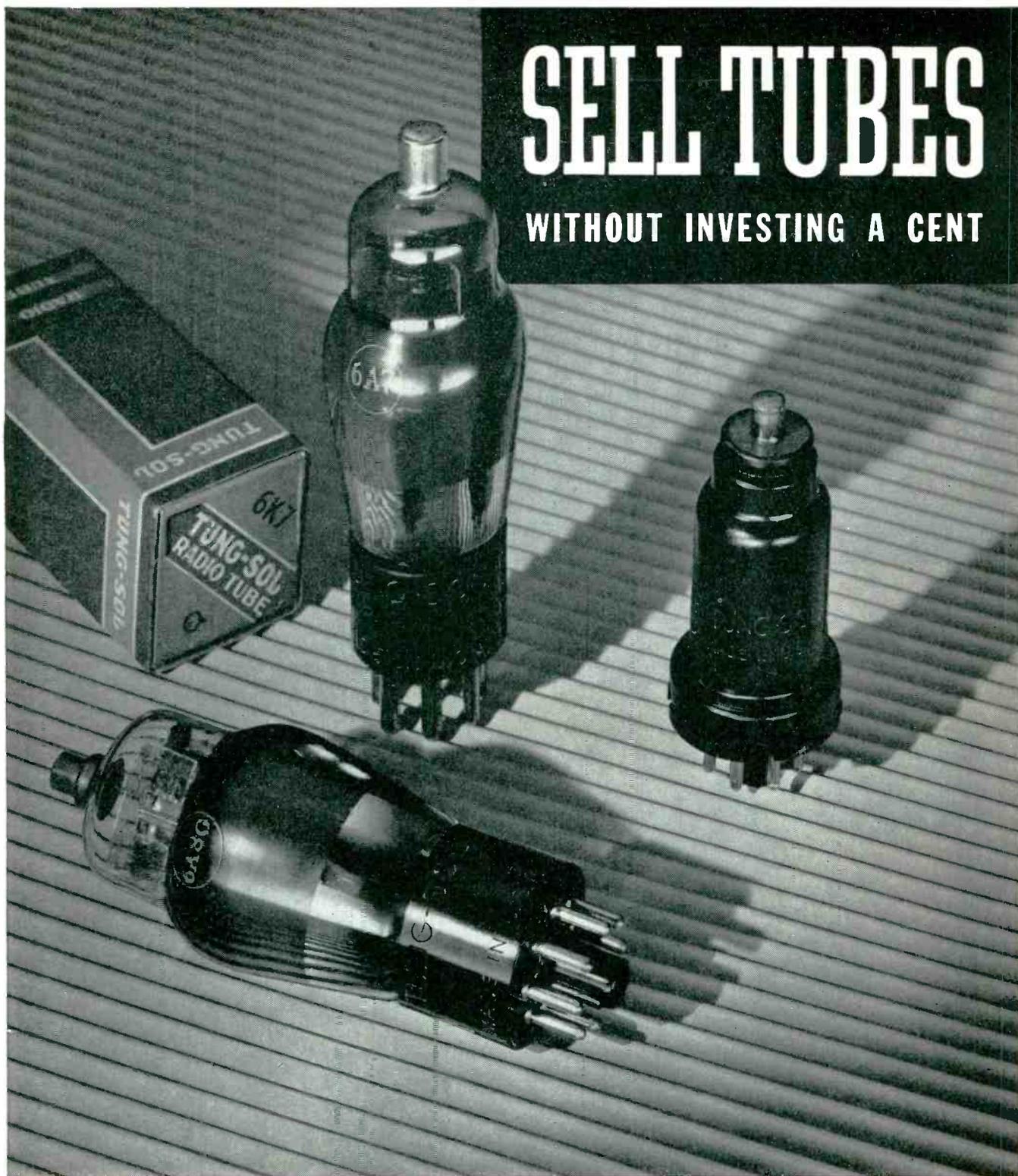
▲ CONVENIENCE . . .

Outlets for concealed or exposed wiring include coupling coils so necessary for good pickup over a broad band of frequencies

EFFICIENCY . . . ▶

Tools do much to put profit in this rapidly developing new business. Here is a typical kit. Labor, of which insurance is an important part, runs 60 per cent of the average job cost





SELL TUBES

WITHOUT INVESTING A CENT

TUNG-SOL

Tone-flow radio Tubes

TUNG-SOL LAMP WORKS, INC.
Radio Tube Division

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

Tubes must be made right in order to be sold successfully on such a basis. Tung-Sol tubes were the first and are today the only line sold nationally on consignment.

There are still desirable locations where independent service organizations who can meet requirements may be appointed as Tung-Sol agents. Ask your nearest Tung-Sol tube wholesaler who will supply details.

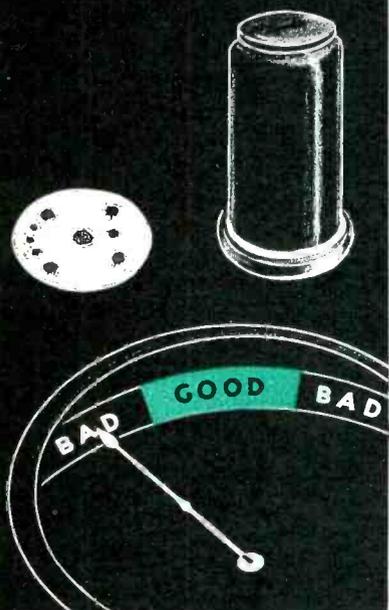
Why It Pays To
TEST TUBES REGULARLY

You May Be Able to Detect
BURNED OUT FILAMENTS

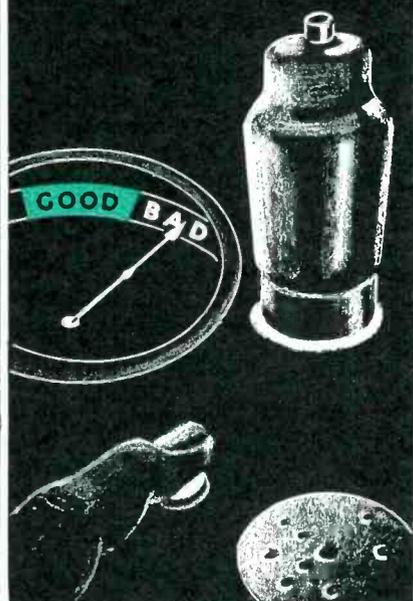


But Only A Tube Checker Will Show Up

WEAK CATHODES



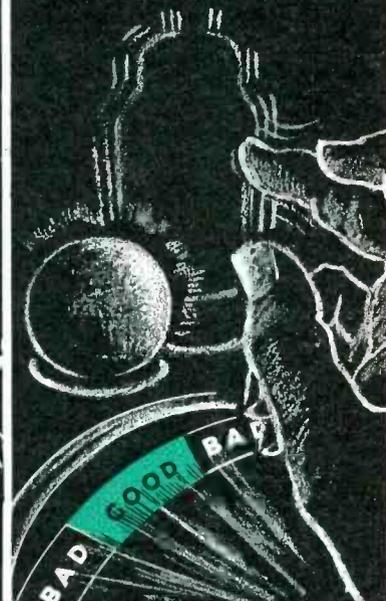
GASSY TUBES



SHORT CIRCUITS



LOOSE ELEMENTS



Any of these troubles can
DAMAGE THE SET ... HURT OTHER TUBES ... as well as RUIN RECEPTION

Sales Ammunition from **RADIO RETAILING**

C. I. T. Localized Finance Service Now Available for Radio Dealers

RADIO manufacturers, from A to Z, are now providing their dealers with the C. I. T. Budget Plan.

This makes available for radios the same quick, personalized service that has helped dealers build record sales for refrigerators and other major household appliances.

Furthermore, you can now offer your customers a combination C. I. T. Budget Plan sale of any two or more acceptable articles in one contract.

With the advantage of this new and better selling weapon the 1936-37 season should be one of the most profitable that radio dealers have ever known.

C. I. T. with Local Offices throughout the country is as near to you as your telephone. For quick credit service and the purchase of paper call the nearest C. I. T. office.

AS SALES GO UP—PRICES COME DOWN

Once a Luxury for the Few—Now a Pleasure to all
—with the aid of Instalment Buying

The earliest radios, whether home-made or shop-made, didn't cost very much or work very well. Later models were more efficient but expensive—luxuries obtainable only by those who could pay cash. Then the industry followed the lead blazed by automobile builders—it sought the aid of instalment selling. Responsible families with small incomes could pay part cash and the balance out of earnings.

Better Sets at Lower Prices

Sales went up and prices dropped down. Spurred on by increased sales, engineers improved radios amazingly. Today people in all walks of life enjoy superlative entertainment in their own homes, whether they buy for cash or on the C. I. T. Budget Plan.

Again and again inventive genius, mass production and instalment selling have—by placing consumer luxuries within the reach of the average pocketbook—increased payrolls, improved products and decreased prices.

C. I. T. has been privileged to take an active part in this advance. From a small beginning in 1908, C. I. T. has grown to be the largest independent sales financing institution in America. Today, the C. I. T. Budget Plan is enabling thousands of Americans to enjoy radios while paying for them out of income. Similarly, millions of families are enjoying the full benefits of automobiles, refrigerators, washing machines and other modern household conveniences which promote health, comfort and happiness.

Send for this Free 16-Page Booklet

The C. I. T. Budget Plan is so simple, so practical, so easy and so money well "buying out of income" tells why it is the new advance to take the C. I. T. home purchasing on the instalment plan. For a free copy, write C. I. T. Corporation, 1 Park Ave., New York, Dept. 5

C. I. T. COMMERCIAL INVESTMENT TRUST CORPORATION
WIDENS THE SCOPE OF BUSINESS

This advertisement is one of a series appearing in leading weekly magazines and newspapers throughout the country, having a total circulation of over 12,000,000.

- Abilene ~ Akron ~ Albany ~ Altoona
- Amarillo ~ Asheville ~ Atlanta ~ Augusta
- Bakersfield ~ Baltimore ~ Bangor ~ Bay Shore
- Beaumont ~ Beckley ~ Billings ~ Binghamton
- Birmingham ~ Boise ~ Boston ~ Bridgeport
- Bronx ~ Brooklyn ~ Buffalo ~ Butte ~ Camden
- Cape Girardeau ~ Carbondale ~ Cedar
- Rapids ~ Charleston ~ Charlotte ~ Chattanooga
- Chicago ~ Cincinnati ~ Clarksburg ~ Cleveland
- Columbia ~ Columbus ~ Cumberland ~ Dallas
- Dayton ~ Denver ~ Des Moines ~ Detroit
- El Paso ~ Erie ~ Evansville ~ Florence
- Fort Wayne ~ Fort Worth ~ Fresno ~ Glens Falls
- Greensboro ~ Greenville ~ Hagerstown

- Harrisburg ~ Hartford ~ Hempstead ~ Hickory
- Houston ~ Huntington, W. Va. ~ Indianapolis
- Jacksonville ~ Jamaica ~ Jamestown
- Jersey City ~ Johnson City ~ Kansas City
- Knoxville ~ Lexington ~ Lincoln ~ Little Rock
- Los Angeles ~ Louisville ~ McAllen ~ Manchester
- Memphis ~ Miami ~ Milwaukee ~ Minneapolis
- Mobile ~ Montgomery ~ Montpelier ~ Mt. Vernon
- Nashville ~ Newark ~ Newburgh ~ New Haven
- New Orleans ~ New York ~ Norfolk
- Oklahoma City ~ Omaha ~ Orlando
- Paducah ~ Paterson ~ Peoria ~ Perth Amboy
- Phoenix ~ Philadelphia ~ Pittsburgh

- Portland, Me. ~ Portland, Ore. ~ Portsmouth
- Poughkeepsie ~ Providence ~ Raleigh
- Reading ~ Reno ~ Richmond, Ind.
- Richmond, Va. ~ Roanoke ~ Rochester
- Rome, Ga. ~ Sacramento ~ St. Louis ~ Salisbury
- Salt Lake City ~ San Antonio ~ San Diego
- San Francisco ~ San Jose ~ Savannah ~ Scranton
- Seattle ~ Spartanburg ~ Spokane ~ Springfield,
- Mass. ~ Springfield, Ohio ~ Stockton ~ Syracuse
- Tampa ~ Texarkana ~ Toledo ~ Tucson ~ Tulsa
- Utica ~ Washington ~ Watertown ~ West
- Palm Beach ~ Wheeling ~ White Plains
- Wichita ~ Wilkes-Barre ~ Wilson ~ Worcester
- Yakima ~ Youngstown ~ Zanesville

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

NEWS

PEOPLE • PRODUCTS • PLANS

Radio, Movie Industries Battle For Television Rights

Set Makers Seek To Avoid Monopoly Through Patent Control.
Hollywood Thinks It Should Launch Art, Avoid Ads

WASHINGTON—Despite the fact that television is yet in an experimental stage the radio industry and the motion picture industry, aware that assignment of frequencies now being taken up by the FRC will direct its commercial course to a large extent, are already jockeying for position.

Independent radio manufacturers take it for granted that television will develop along lines similar to radio, are most concerned with avoidance of virtual monopoly through frequency control. Motion picture interests, on the other hand, strive to wrest television from the radio industry, at least during the introductory period, in order to protect Hollywood investments.

Said Samuel E. Darby, Jr., to the FRC, speaking in behalf of 11 independent radio manufacturers: "I represent eleven independent radio receiving set manufacturers. . . . These companies have produced and distributed approximately three-fourths of all the radio receiving sets in use in this country today. It is logical to expect that these concerns will be the manufacturers in like proportion of television equipment for home use when television becomes a realized fact. . . ."

"My purpose in being heard is to insure that before assignments within the television band are made to private interests, investigation and study be made of the patent situation bearing on television and, what is more important, the subject of monopoly. . . . The Commission which will grant licenses in the new portion of the spectrum will have to consider the record of those who apply for channels. And I respectfully submit that the Commission should not be a party, in the assignment of frequencies, to the expansion of a monopoly that has already exacted a toll from the American public of approximately 50 million dollars and that holds forth the possibility of exacting as great or a greater amount from the public in the field of television."

Said Robert Robins to the FRC, speaking for Hollywood interests: "Expert technical opinion holds that television services are ready for commercial exploitation. The introduction thereof threatens the capital structure of the moving picture industry, as well as its very existence. . . ."

"We propose that the most practical

method of promoting this new art and consequently creating a new industry, is as follows: Firstly, television service in its early stages must be confined to entertainment and educational purposes, such as the regular motion picture feature production, shorts, and news-reels, and that television must be kept free from advertising sponsorship.

"Secondly, television programs must be a separate and distinct service, and must be offered to the recipients on a service charge basis. Thirdly, rates rules and regulations must be determined by a competent public.

"Past experience in the motion picture industry demonstrates that it is uneconomic to combine advertising with a visual program. Audiences find this even more objectionable than an audible advertising announcement in connection with radio broadcasting. . . ."

"In conclusion . . . adequate capital is ready to inaugurate such service in accordance with the plan stated."

SENTINEL EXPANDS PLANT

CHICAGO—The Sentinel Radio Corporation has just taken over an additional plant building here and has simultaneously altered its present building to take care of increase volume, brought about particularly by the demand for battery radios.

The entire new battery line, Ernest Alschuler informs *Radio Retailing*, is now equipped with a new type of permanent magnet dynamic speaker.

Fistiana and Figures



Jack Dempsey puts punch in a Stewart-Warner convention while Grady Cole (left), popular radio commentator, and Furman Ferguson (right), sales promotion manager, look on. Insert: Frank Hiter, vice-president and general manager, studies rapidly mounting sales figures



Grunow Reorganization Plans Completed

Court Relinquishes Control, Turning Assets Back to Company. Concern Secures \$1,000,000 RFC Loan

CHICAGO—Reorganization plans of the General Household Utilities Company, manufacturer of Grunow radios and refrigerators, were completed August 3 when trustees under the supervision of the Federal Court conveyed and transferred all the assets in their charge back to the company, divesting themselves of control.

Details included a loan from the Reconstruction Finance Corporation in the amount of \$1,000,000, of which \$600,000 is being utilized immediately, the remaining \$400,000 being available upon application.

Officers of the reorganized company elected were William C. Grunow, president; Allen G. Messick, vice president; Ralph R. Trimarco, treasurer, and Sidney L. Arneson, secretary. The newly elected board of directors includes George A. Ball of Muncie, Indiana, William C. Grunow of Chicago, Raymond W. Higgins of Duluth, Allen G. Messick of Chicago and Clyde E. Whitehill of Indianapolis.

Since March 1 the company has had net earnings in excess of \$250,000 and is firmly established on a sound financial basis for future operations. Wholesale and retail outlets for Grunow products have increased steadily, according to officials, and the recent introduction of "Teledial" tuning is attracting widespread attention.

Important additions to the 1937 line are being outlined to distributors and dealers at a Chicago meeting as we go to press.

MAJESTIC IN PRODUCTION

CHICAGO—Radios and refrigerators bearing the trademark "Majestic" will be in production and ready for shipment shortly, according to N. L. Cohn, president of the Triangle Electric Corporation, who has formed a manufacturing sub-

siary to be known as the Majestic Radio & Television Corporation. Manufacture will take place at Marion, Indiana. Offices will be at 600 West Adams St., Chicago.

SIMPSON MAKING TESTERS

CHICAGO—Announcement comes from the Simpson Electric Company of two news items. A new address, 5216 W. Kinzie Street, and the fact that the company is now making testing equipment and a complete line of panel instruments. Readers of *Radio Retailing* will remember Ray R. Simpson who was president of Jewell Electric Instrument Company, which was sold in 1931 to Weston Electric Instrument Corporation. George H. Koch is sales manager of the firm.

EMERSON SHOWS CLICK

NEW YORK—Showings of new merchandise offered by Emerson Radio & Phonograph have been the most successful in the concern's history, writes Nate Hast, sales manager, who has personally conducted many in the last two months, aided by president Ben Abrams.

Following outstanding attendance at Chicago's Stevens and New York's Waldorf-Astoria, two hard-to-crack big-city territories, Emerson receivers clicked at the Colonie Country Club, Albany, Algonquin Club, Bridgeport, Rockledge Country Club, Hartford, and were well received at Syracuse and Rochester.

Speaking to dealers at these meetings Ben Abrams divulged the interesting fact that in 1932, when Emerson really started to go places, he produced a 5-tube set at \$25 list, fully \$5 above the current market, and sold 150,000 of them due to outstanding cabinet design. He stated, further, that there were over 100 million Emerson

New Utah Tops



Here's Ira J. Owen, new president of Utah Radio Products and one of the country's leading administrative and industrial engineers and . . .



. . . O. P. Smith, head of the sales department, whose appointment was publicized last month

records in use, a good prestige builder, and that over a million receivers made by his company were in consumer's homes.

Clarion to New Quarters

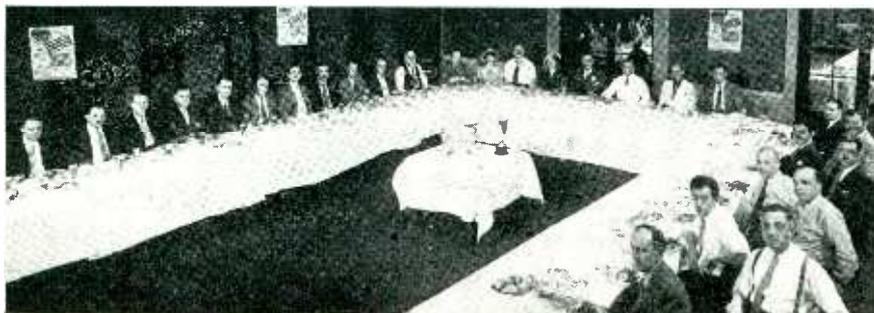
NEW YORK—The Transformer Corporation of America, recently reorganized manufacturer of Clarion radios and allied products, has opened a new plant at 69 Wooster St. Hubert Shortt is the newly elected president and general manager. Frederick H. Skrotzki becomes treasurer and sales manager.

Sound equipment bearing this concern's trademark has just been announced.

New Zealand Tariffs Up

WASHINGTON—Information concerning New Zealand's plan to increase tariff is confirmed here but the proposed higher duties will not, as rumored, discriminate against American products. The increase will be general, applying to products imported by all countries.

They Busted Their Crosley Quotas

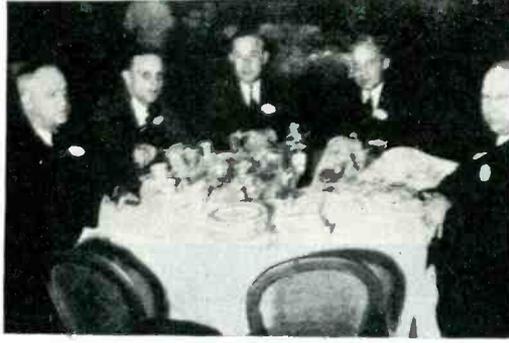


The winners! High dealers in the recent competition staged by New York's Crosley Distributing Corporation. In the picture: George Brown, Blair Finnigan, John Ellis, Leo Raffer, Bill Edwards, Lewis Baron, John Rubabbo, Jules Smith, Charles Moore, Ed Lowe, Mr. Bearman and Max Richling

Distributors in the News



SELF SERVICE—E. C. Morefield, of Mills-Morris; Tom Raney from Tennessee; H. L. Cochrane of Arkansas. All pushing Zenith



AFTER DINNER CONFAB—Extreme right: R. F. Trant from Norfolk. Others are, left to right, W. L. Kellogg, H. Carpenter, I. C. Sampson and Norman Cook, all of McGranahan Distributing, Toledo



FIRST CONVENTION—L. C. Wiswell joins up with Stewart-Warner, brings his staff along to see the new line



TABLE FOR FOUR—J. McDonald of San Antonio and J. Melton of El Paso sit in with M. O. Beckham and Gus Treffeisen of Stewart-Warner



ON HIS OWN—Jimmie Johnson (left) founder and president of the Cooper-Louisville Co., has resigned to start the Johnson Distributing Company at Tampa, Florida. Syl Rapiet (right) stepped up as Cooper's president. Lewis Crosley and Rogers seem pleased



WHEELING ON DECK—S. S. Front and A. K. Clifford of the Front Company stoke up



INFORMAL, SAYS HE—Al Witte of the F. B. Connelly Company, Seattle, faces "Radio Retailing's" camera



GO-GETTER JAW—O. G. H. Rasch, secretary-treasurer of Interstate Electric, New Orleans



OWN MEDICINE—Wheless Gambill, Jr., of Nashville, tunes in on his office set



RADIO SPECIALIST—Bill McNaboe, formerly of GE, who has joined New York's Royal-Eastern Supply

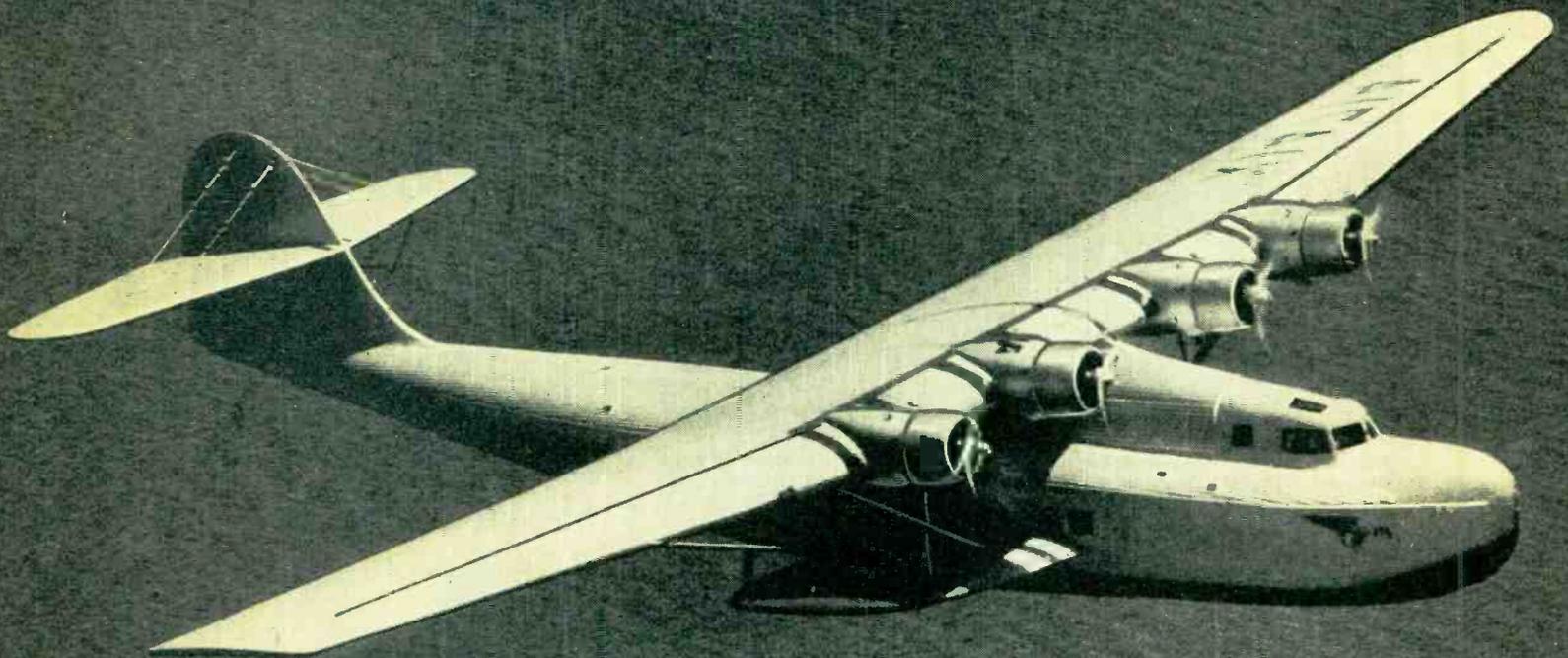


TAG-DAY? Kneecamp (hatless) of Beck & Corbin, St. Louis, chats with Spangler, GSM for National Carbon



EYEFUL AND EARFUL—Howard Buchwald of Lincoln Sales, Baltimore (left) looks over new merchandise, gets the details from Fred Johnston, Jack Allen and Neil Bauer, all Crosley men

'round



**SOUND
ENGINEERING**

Pan-American Airways...swift transportation system linking the United States with 33 foreign countries. Similarly, RCA Communications joins 32 large American cities and 47 nations with fast radiotelegraph service... Above is pictured the famous *China Clipper*, Pan-American Airway's mighty transpacific airliner, one of a fleet of new and super-powered sky giants.

RADIO CORPORATION OF AMERICA

EVERYTHING IN RADIO FOR SERVICE IN COMMUNICATIONS

the World by Radio

TWENTY-FOUR HOURS EACH DAY, the Radio Corporation of America, through RCA Communications, Inc., provides the world with dependable, efficient, economical domestic and international radiotelegraph service.

Messages sent "Via RCA" flash across nations with the speed of light, winging along invisibly over snow-capped mountain peaks, scorching deserts, mighty seas and sunken valleys, to swiftly bring together thousands separated by time, distance or raging elements.

The communications systems with which RCA achieves this far-flung service extend across thousands of miles, forming an invisible bridge between 32 important metropolitan centers in this country and 47 foreign lands. At Rocky Point, Long Island, RCA owns and operates Radio Central, world's largest and most powerful radio station. From this point and several others, domestic and trans-oceanic messages are shot into space. Next time *you* send a message *anywhere*—send it "Via RCA."

This, however, is but one of the RCA's radio services. This organization alone is engaged in *every* phase of radio. That's why the American public regards RCA as a house deserving of the utmost confidence. And because of this confidence, any product trademarked "RCA" sells well.

Hence, RCA dealers do a better business—enjoy finer profits. They are connected with Radio's Leader—the institution that has been *first* with radio's greatest *sound* achievements—the organization that some day will thrill the world with radio *sight*—RCA!

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

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

Covering the World "Via RCA"

RCA Communications, Inc.,
offers direct radiotelegraph
service between:

32 AMERICAN CITIES

including

New York	New Orleans
Boston	Detroit
Philadelphia	Chicago
Camden	San Francisco
Baltimore	Los Angeles
Washington	Seattle

—plus efficient, fast transfer service to
hundreds of communities

and

47 FOREIGN COUNTRIES

Argentina	Italy
Belgium	Japan
Brazil	Macao
Chile	("Via RCA" Manila)
China	Mexico
Colombia	Norway
Cuba	Panama
Curacao	Philippines
Czechoslovakia	Poland
Dominican Republic	Portugal
Dutch East Indies	Porto Rico
Dutch Guiana	Russia
Fiji Islands	Siam
("Via RCA" Honolulu)	("Via RCA" Manila)
France	Society Islands
French Indo-China	("Via RCA" Honolulu)
Germany	Syria
Great Britain	Sweden
Guatemala	Switzerland
Haiti	Spain
Hawaii	Turkey
Holland	Venezuela
Hong Kong ("Via RCA" Manila)	

—plus rapid transfer service to all other
points in the world!

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



Give Television Double-O

By fast plane from Chicago came Messrs. Alschuler, Block and Schnell of Sentinel to see RCA's recent television demonstration, staged for licensees

KELVINATOR ENTERS WASHER, IRONER FIELD

DETROIT—From H. W. Burritt, vice president in charge of sales, comes word that the Kelvinator Corporation has thrown its hat into the washer-ironer ring. Early in 1937 a complete line will be in production, under the wing of V. J. McIntyre, with the company since 1927 and now appointed to head up the new activity.

M. S. Bandoli takes McIntyre's place as domestic sales manager, moving up from district managership of Texas. P. L. Miles, former salesmanager for the range division of G.E., is simultaneously appointed to head Kelvinator's range department.

RMA IS ACTIVE AGAINST SPIFFS

NEW YORK—Definite progress toward improvement of radio merchandising is being made through the activities of the fair trade practice committee reported formed last month. E. F. McDonald, Jr., chairman, works with James M. Skinner, E. T. Cunningham, C. E. Wilson and F. W. Gigax, and called a second meeting July 8 at the Waldorf-Astoria, considering production problems, including dumping, "spiffs," sales contests, inventory control and other troublesome industry problems.

Additional meetings are scheduled for August and September.

Brach Moves

NEWARK—Leon S. Brach, president of the company bearing his name, advises that newer and larger quarters have been obtained at 55 Dickerson St.

Sparton "Rolling Trade Show" Completing 7000-Mile Swing

Chartered Train Carries New Line Samples To Trade In Nation's Leading Cities

JACKSON, MICH.—By wire from general sales manager Arthur T. Haugh to the factory and then air-mail to us from The Sparks-Withington Co., comes the following spot news concerning the travels of the 1937 Sparton Radio Special Pullman, which left Jackson July 14 to show new models to distributors and dealers:

CHICAGO—Sixty two dealers were franchised and purchased 632 units, jobber's sales totalling \$23,400. Heavy purchases by Sam Schulman, of Commonwealth Utilities, who bought 1,750 units for \$64,000, Marshall Field and Mandel Brothers.

ST. LOUIS—Showing directed by Gene Straus of Mayflower Lamp and Sales. Twenty-eight dealers purchased \$9,500 worth of merchandise. Distributor's total opening stock order was 1,000 units, amounting to \$34,000. Prominent dealers signing up: Famous-Barr and Scruggs-Vandervort.

KANSAS CITY—Sixteen dealers renewed, placed opening orders totalling \$6,500, despite arrival of the Pullman immediately after a two-day holiday.

DENVER—Al Vogler, general manager, and Gene Carroll, sales manager of Central Supply, met the train. Orders tabulated totalled \$9,600. Prominent dealers present: J. L. Jones of American Furniture, Knight-Campbell, Charles E. Wells Music, Denver Dry Goods, Joslin Dry Goods, Fred Davis Furniture plus many out-of-towners.

SALT LAKE CITY—Took an order for \$7,500 from distributor J. G. Read. Twenty-eight distributors signed up for the line.

BOISE—Bertram Motor Supply, ex AK distributor, looked over the merchandise, John O'Donnell on deck with the entire sales force. Bought \$6,500 worth of stock, including auto-radios.

SEATTLE—Welcomed by Seattle Radio Supply, distributor, represented by R. C. James and Clem Reeves and Ed. Michaelson. Other jobbers attending: Schwabacker Hardware, Graybar Electric, North Coast Electric, F. B. Connelly Company, Harper Meggee. Prominent dealers on hand: Frederick & Nelson, Grunbaum's Furniture, Ernst Hardware, Weisfield and Goldberg, Bon Marche, Roemer Electric, Curtis Radio and Peoples Stores, of Tacoma. Fred and Phil Lenzi, of Spokane, drove 378 miles to buy 214 units, totalling \$7,200.

PORTLAND—Among those present: P. J. and Ambrose (Jr.) Cronin, Ward and Young of Graybar, Eddie Rapp and Seely of Lipman and Wolfe, Flynn Furniture of Vancouver, Dave Honeyman and Brown.

Two Spartons and Haugh



General sales manager Art Haugh (left) and his Sparton Special are welcomed at Seattle by Intermountain zone manager Scotty Smith (center) and L. A. Robinson, California zone rep

SAN FRANCISCO—Placed order for \$27,500 worth of stock with Frank Gallion of Dunham, Carrigan & Hayden, Ray M. Wright of Sherman Clay, Larry B. Quinby of John Bruener. Distributor has all hands on deck including Ben Halliday, Jack Wright, Frank Kardel. Visited by Ball and Lamaraux of the Furniture Exchange.

LOS ANGELES—Jobbers O. S. Person and Motor Rim & Wheel headed the procession, represented by Ray Mattson, LeRoy Dobbins, Herman Dohse, Wesley Smith, Cameron, Joyce Edgin, Ted Baynton, Carl Haugh. Opening orders from dealers and distributors totalled \$32,740, factory billing.

Orders taken at the close of business in Los Angeles totalled 20 cars with a retail sales value of \$432,000. And from California the Rolling Trade Show rolled on to El Paso, Dallas, Amarillo, Houston, New Orleans, Memphis. Included also in the itinerary and probably covered by the time *Radio Retailing* mails, are: Louisville, Cincinnati, Dayton, Columbus, Cleveland, Toledo, Detroit.

FAIRBANKS-MORSE EXHIBITS

INDIANAPOLIS—Parker H. Ericksen, of Fairbanks-Morse, reports that the dollar volume of sales placed at the company's recent convention here exceeded the sum recorded in the first three months of the 1935-36 season.

ONE TUBE TOWN . . .

ANDERSON, MO.—You can't buy anything but National Union tubes here, according to M. Brotherson, for that's all dealers sell. A garage, two drugstores and a jewelry store comprise Anderson's retail distribution.

Fada Jobber Host

NEW YORK—Times Appliance Company, newly appointed Fada radio distributor, started off on its new line with a bang by staging a showing for 200 metropolitan dealers. E. B. Ingraham, president, and Willard Ray, vice-president, were aided in their presentation by president J. M. Marks of Fada, who expressed pleasure regarding dealer interest in his 1937 models.

Gross Meetings Lauded

ROCHESTER—From Stromberg-Carlson headquarters comes news regarding unique meetings staged by Gross Sales, Inc., New York. Ben Gross, we hear, limits attendance to just a few retailers at each meeting, has many meetings, with the result that confusion is avoided and each dealer receives more attention.

Gross Sales' offices and showrooms have just been moved, new quarters being laid out expressly for the display and demonstration of radio.

Aitken In New Home

DETROIT—The Aitken Radio Corporation is now located in new quarters at 5840 Woodward Ave., specializing in Crosley products.

Quality Appeal Stronger, Says McCanne

Public to Buy Better Merchandise
On Credit, Stromberg Executive Feels

ROCHESTER—The appeal of quality merchandise is definitely on the increase, thinks Lee McCanne, radio salesmanager for Stromberg-Carlson, interviewed here. Says McCanne:

"Why is Packard leading all other cars

in growth of sales? Why is Lincoln second, Buick and Cadillac well out in front? Why are they going ahead faster than popular-price cars?

"There are two reasons. First, because people who have long wanted to own a Packard or Lincoln or Buick are now yielding to that desire. Business is better. They have learned to buy on time out of income, at only a few dollars more, per payment, than for lesser cars. The whole philosophy of our times is against the saving of money. And it is once more fashionable to look prosperous—to be well dressed—to own a fine home—to give parties—and to drive a fine car. Every prospect who buys a fine car has a two-fold effect on the industry. He increases sales of the fine car. And he reduces the potential sales of popular-price cars.

"The second reason is this: These fine car manufacturers have met their public halfway with the Packard 120, the Lincoln Zephyr, the Buick 40 series and Cadillac's LaSalle. This has not only brought quality cars into new price levels, within the reach of more people, but has instilled confidence that the prospect's financial situation would be considered, that he need not feel embarrassed in asking for credit. It showed a willingness to be helpful by the manufacturer and dealer.

"This same trend applies in other industries; in clothes; pianos, furniture. The automobile business is cited simply because we know definitely from license registration figures how many of each line have been sold. But the same principles apply in all kinds of merchandise, and will have tremendous influence on radio this season."

Simple for Celebrities



Louis Kaplan (right), president of Newark's Nassau Distributing Company, shows Mayor Meyer Ellenstein how easy it is to tune a set equipped with Teledial. Kelly Kaplan and Jack Newmark (behind the camera) emoted audibly while the picture was taken

Effective American Bosch Displays



Three-panel backgrounds made of heavy board covered with washable wallpaper in several designs help customers visualize the appearance of receivers in the home.

(Insert) Lifesize and near lifesize cutouts of famous movie stars put snap in any dealer's window or floor display.

Space for Quam-Nichols

CHICAGO—Overcrowding due to steady increase in volume has made it necessary for the Quam-Nichols Company, this city, to open a new, ultra-modern radio speaker manufacturing plant at 33rd Place and Cottage Grove Avenue.

Silva With Arvin

COLUMBUS, IND.—A new engineer has been added to the already excellent staff maintained by Noblitt-Sparks industries. He is A. D. Silva, for the past eleven years with Atwater-Kent, in charge of car radio development.

Mallory Returns Light

INDIANAPOLIS—One return for every 1,118 condensers shipped, or .089 per cent, is the enviable record achieved by the P. R. Mallory Company, according to a check-up just made by this manufacturer's engineering department.

FINANCE PLANS PUSHED

Three Companies Announce New Credit Aides

NEW YORK—To *Radio Retailing* comes three news bulletins announcing new credit plans, indicating that time-payment business is looked to for increased volume this season.

The Stewart-Warner Corporation is extending to its radio retailers new nationwide non-recourse and limited recourse plans. Under the new arrangement dealers are relieved of total contingent liability with 100 per cent advance, or relieved of 3 months contingent liability with 100 per cent advance. Says F. A. Hiter, vice-president and general sales manager: "Stewart-Warner thus becomes the first manufacturer to extend such cooperation to radio dealers. This is in line with the plans introduced to our refrigerator dealers last March, well in advance of other manufacturers. Commercial Investment Trust participates in both plans."

Larry King, of the Operadio Manufacturing Company, advises that his company offers a plan for the financing of sound equipment actually sold to the ultimate consumer. Highlights of the plan are: Minimum down-payment, 25 per cent. Minimum monthly payment, \$10. Longest terms, 12 months. Minimum transaction, \$100. Minimum charge to purchaser, \$7.50. If the seller is a dealer he indorses the customer's note, turns it over to the jobber, who again indorses and passes the note along to Operadio. The dealer receives, at once, 100 per cent of the proceeds, less his cost for the merchandise, which is credited to his account. Paper is rediscounted with Bankers Commercial Corporation.

The RCA Manufacturing Company is prepared to finance time purchasing of test equipment. Under the new plan an instrument such as this manufacturer's oscillograph may be purchased, for example, for \$10 down and the balance in twelve monthly \$6.92 payments. The minimum purchase is limited to \$40.

Trick Tradenames to Cease

WASHINGTON—Wielding the big stick, the Federal Trade Commission prohibits

unauthorized use of well-known tradenames and modifications which make such names "seem like what they ain't." Respondents are: Marconi Radio Corporation, Edison Radio Stores, Stuart Radio Corporation, Perfection Radio Stores, Harvard Radio Stores and Post Radio Company, located variously in New York, Boston and other eastern cities.

Names affected are: Edison, Edison-Bell, Edison International, Bell, Marconi, Victor, Brunswick, Bronswick, Majestic, RCA, RSA, RCI and GB.

TELEVISION LICENSE ISSUED IN N. Y.

NEW YORK—The National Television Corporation of 52 Vanderbilt Ave., has just received a temporary license from the FCC to operate on the 23rd floor of the Vanderbilt Avenue building until September 15 from 2,000 to 2,100 kc.

Headed by Chester H. Braselton, who is also president of the Arcturus Radio Tube Company, the station will attempt to transmit experimental television broadcasts 800 miles, as contrasted with the quasi-visual range of ultra-high frequency stations now experimenting here or in other cities.

Manson Territory Enlarged

ROCHESTER—Stanley Manson, direct factory representative for Stromberg-Carlson in western New York, has had his territory enlarged to include Buffalo, Syracuse and adjacent areas where key distributorships have just been set up.

Kaplan With Apollo

NEWARK—Ted Kaplan has been appointed by president Dave Slobodien, president of the Apollo Distributing Co., to head this concern's Crosley washer and ironer sales, together with activity on Eureka and Royal cleaners and Round Oak ranges.

NBC CELEBRATES

Celebrating its Tenth Anniversary, the National Broadcasting Company releases the following figures relative to its growth:

In 1927, 2,171 listeners responded by mail while the 1936 total response is estimated at 6,000,000.

Stations' average power in 1926 was 2,171, is 16,137 today.

Total network power was 41,250 watts ten year ago, now tops 1,678,200. years ago, now tops 1,678,200.

There were 19 stations originally and there are now (June 1) 96.

Sponsors bought 13,745 station hours originally, now use 95,000.

The average client spent \$48,831, today buys \$213,333 worth of time.

Client expenditures reached \$3,760,010 in 1926, today top \$32,000,000.

JOBBER APPOINTMENTS

Fairbanks, Morse—For central Tennessee: *Keith, Simmons Co.*, Nashville. For Rhode Island: *Northeastern Radio, Inc.*, Providence. For New York (radio only): *York Automotive Distributing Co.* (Refrigerators and home laundry equipment still go through Bruno-New York, Inc.) For North Dakota and northwestern Minnesota: *Grant-Dadcy Co.*

RCA-Victor—In Kansas City, Mo: *Earl Goetz* of the Midwest Grunow Co.

Stromberg-Carlson—For the Baltimore area: *Parks and Hull*. Fifty counties of Ohio: *American Sales Co.* of Columbus. Madison, Wisconsin and vicinity: *Hefty Sales Co.* For the entire State of Maine: *Farrar-Brown*, Portland. Eastern half of Michigan: *Graybar Electric Co.*, Detroit. Southwestern Pennsylvania and northern West Virginia: *Graybar Electric Co.*, Pittsburgh. Syracuse area: *Graybar Electric Co.* Area adjacent to Buffalo: *Graybar Electric Company*.

Transformer Corp.—For the States of Washington, Oregon, Idaho, Montana, Utah and British Columbia Province: *Northwestern Agencies*, Third and Vine Sts., Seattle. For California, Arizona, Nevada and New Mexico: *Conrad B. Strassner*, 1425 S. Flower St., Los Angeles. For Maine, Vermont, New Hampshire, Massachusetts, Rhode Island and Connecticut: *H. Gerber*, 94 Portland St., Boston. For West Virginia and the western Pennsylvania as far east and including Altoona: *G. O. Tanner*, 600 Grant St., Pittsburgh.

Sparton—*Lamar-Rankin* of Atlanta now has the state of Georgia and seven adjoining counties in South Carolina. B. P. Humphries is sales manager.

Deal with Horton? The Whole Crowd's Here!



If you buy Horton washers and ironers the bird who sells 'em to you should be identifiable. The outfit's entire crew of distributors and representatives attended a convention at the plant late last month and we shot their pictures



RETAIL \$ **1.05**
Less Batteries

NEW! SMART! MODERN!

Priced for Quick Sale!

THESE ultra-smart Bond "Stylo" Spotlights are modern as anything on the Queen Mary or in Radio City. Styled by a famous industrial designer. *And now* under Bond's improved manufacturing facilities offered in the popular price class.

Each Spotlight finished in a modern, new, two-color design in ivory, maroon or blue, enriched with brilliant chromium-plated bands.

Made with improved positive 3-way safety lock switch—spare bulb carrier—recessed hanger—bulb shock absorbers—octagonal non-rolling lens ring—bevelled plate glass lens—brilliant silver-plated reflector—and the original Bond candle-light feature.

OFFERED IN DISPLAY PACKAGE

No. 600—Less Batteries

Each package contains six No. 602 Bond "Stylo" two-cell Spotlights, in two each of the three "Stylo" finishes packaged in the illustrated eye-catching counter display.

Retail value of Display Package	
No. 600	\$6.30
Dealer's net cost	\$4.20
YOUR PROFIT	\$2.10
Retail each,	
less batteries	\$1.05

BUILD BATTERY SALES

WITH NEW MONO-CELL
"BASKET" DISPLAY

Sell more flashlight batteries by using this new Bond Mono-Cell come-and-get-me "basket" display. Supplied FREE with your order for only 48 Bond Mono-Cells. New merchandising note that keeps battery sales stepping lively. Order NOW.



BOND ELECTRIC CORPORATION
NEW HAVEN CONN.

Get in on the

Westinghouse landslide!

*the right models!
the right features!
the right prices!*



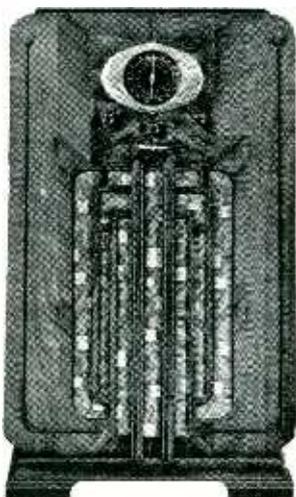
Sound business is like sound politics. You can't win without popular appeal.

A pre-season poll of thousands of prospective radio buyers has already given Westinghouse the popular vote. Based on a nation-wide survey, we *know* that this new line *has what the people want* . . . not just a single "appeal" . . . but all the worthwhile developments of radio science, built into a complete line of good-looking sets, priced at just the right level for profitable sales.

For complete information, call your nearest Westinghouse Radio Distributor or write Merchandising Headquarters, Westinghouse Radio, 150 Varick Street, New York.



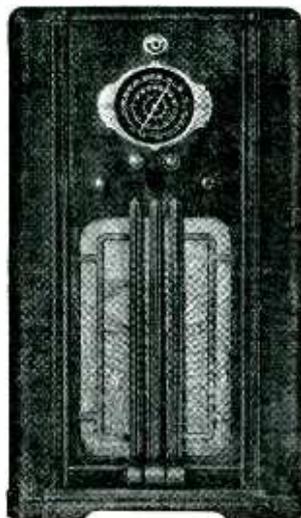
CONSOLE, WR-314. Weather, Police, Foreign and Standard Bands, Precision Tuner, Precision Eye, Precision Hand, Spectrum Dial.



CONSOLE, WR-310. Standard and Police Bands.



TABLE MODEL, WR-102. AC-DC, Standard and Police Bands.



CONSOLE, WR-312. Standard, Foreign and Police Bands, Precision Tuner, Precision Eye and Spot-lite Tuning, Low Volume Bass Compensation.

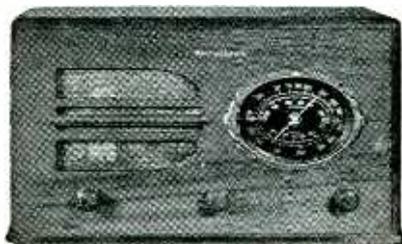


TABLE MODEL, WR-209. Standard and Police Bands, Spot-lite Tuning, Spectrum Dial.

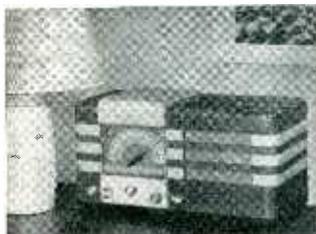
FEATURE PLANKS in the WINNING Westinghouse PROFIT PLATFORM

- PRECISION TUNER
- PRECISION EYE
- PRECISION HAND
- ALL-METAL TUBES
- SPECTRUM DIAL
- SPOT-LITE TUNING
- STATION STABILIZER
- DUAL SELECTOR DRIVE
- AUDITORIUM SPEAKER
- PUSH-PULL OUTPUT
- LOW VOLUME
- BASS COMPENSATION
- THREE-POSITION
- BASS TONE CONTROL
- THREE-POSITION
- TREBLE TONE CONTROL
- HIGH FIDELITY CONTROL
- BEAM POWER AMPLIFIER

Westinghouse

Radio

Preview of New Products

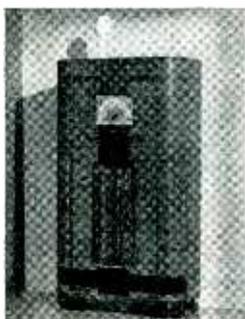


Wilcox-Gay Model A18

WILCOX-GAY Sets

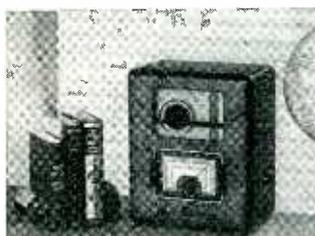
A total of eight new sets is presented by the Wilcox-Gay Corp., Charlotte, Mich., for the 1937 season. Of the super-heterodyne type, they include a choice of both metal and glass tubes.

The table models, A-11 and A-16, containing 5 glass tubes,



Wilcox-Gay Model A19

list at \$19.95 and \$22.50; two six tube models, the A-15 and A-17, use standard glass tubes while the A-18 employs the metal variety. The A-19, \$49.59, A-20, \$69.95, and A-21, \$99.95 are consoles, having 6,



Wilcox-Gay Model A15

8 and 11 tubes respectively. All models have standard pentode output except the A-21, which incorporates the new 6L6 beam power tube.

A new trend in cabinet design can be judged from the photographs which clearly show the modernistic effect that has been obtained in the

rectangular sets, the unusual possibilities provided by a circular model which can be found on page — would lend life and color to any setting. A modern streamlined effect, is offered in the consoles, which are extremely pleasing to the eye by virtue of the fine grained wood cabinet and novel design.—*Radio Retailing*, August, 1936.



Radio Set in Globe

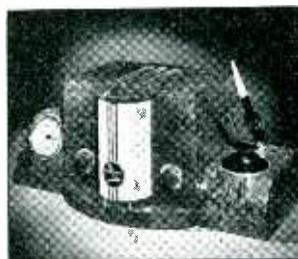
The "Globe Trotter" radio illustrated is tuned by turning the globe. This striking set has wide appeal as it is an ornamental piece for the home and ideal for office, student's den or children's playroom. Also makes a fine store promotion piece.

The globe is very colorful, being a six color job. The sea is a deep black with the countries in colors. The map is up-to-date and authentic, being 10 in. in diameter with full meridian. The metal is chromium finished and buffed.

The radio is a t.r.f. set for ac-dc, uses four tubes (6D6, 6C6, 43, 25Z5) and a full size dynamic speaker. Broadcast range, 175-550 meters. Retail price, \$24.95. Globe Trotter Radio Co., 549 W. Randolph St., Chicago, Ill.—*Radio Retailing*, August, 1936.

Auto Antenna Accessory

Two to three times the performance obtainable from ordinary antenna systems in auto radio installations is now possible by use of a new type of antenna series condenser, according to the Galvin Mfg. Corp., 847 W. Harrison Ave., Chicago, Ill.



Radio Desk Set

One of the most unusual sets yet marketed is the combination radio, clock, writing set and desk lamp—all in one—offered by the Sengbusch Self-Closing Inkstand Co., Milwaukee, Wis. Particularly useful to the business man who wants a set conveniently located for market reports. "Big name" equipment has been chosen to substantiate the quality appeal in selling. The chassis is International Kadette and the clocks (electric or spring wound) are by Waltham, Seth Thomas and Lux.

The writing set includes the Dipaday pen, which fills itself automatically when dipped and keeps moist, ready for instant use. An Airguide temperature and humidity indicator may be substituted for the writing set.

The case is Plaskon or Bakelite in striking colors, only 15 in. long. Retail at a range in price from \$39.50 to \$49.50.—*Radio Retailing*, August, 1936.



Lear-O-Phone

A compact transmitter unit for aircraft use may be obtained from Learradio, 121 W. 17th St., New York City. This transmitter incorporates many improvements developed by Mr. Lear in his private flying.

It operates on any frequency from 2900 to 7000 kc., uses new Beam power amplifier tubes and lists at \$199.50 less crystals and microphone.—*Radio Retailing*, July, 1936.

SENTINEL Farm Radios

Fourteen models comprise the Sentinel Farm Radio Line for 1937, including 2 volt, 6 volt and 32 volt models, ranging in price from \$29.95, complete with batteries, to \$89.95. These sets incorporate all the new features usually found on comparable a.c. receivers, such as "Tel-Eye" tuning, permanent magnet dynamic speakers, multi-colored multi-band airplane dial, etc.

The Sentinel Consolette is an innovation in Farm Radio



Sentinel Consolette

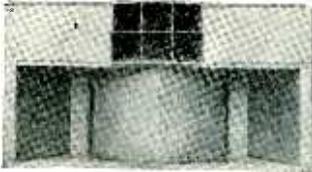
cabinets, being an attractive miniature console, extremely compact, that should prove very acceptable for the small farm home. Two models are offered in this cabinet, a 4-tube, 6-volt model and a 5-tube 2-volt model, both retailing at \$34.95. The Consolette houses all the necessary battery equipment.

In addition to the complete battery radio line consisting of 4, 5, 6, 7 and 8 tube models, Sentinel is offering 2 models of the popular Farm Power gas engine generator \$39.95 and \$49.95.

Sentinel Dealers also have a deal on the De Luxe Win-charger, that enables their customers to purchase this \$44.50 wind driven battery charger for \$15 with a Sentinel set. Sentinel Radio Corp., 2222 Diversey Blvd., Chicago, Ill.—*Radio Retailing*, August, 1936.



Sentinel 66BTE



LANSING Monitor Speaker

Extending its line of speakers for the radio and public address field, Lansing Manufacturing Company, Los Angeles, Calif., is adding the new "Lansing Monitor" designed primarily for program monitoring, high quality speech reinforcement and de luxe radio receiver use.

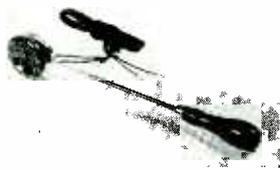
Though the size of the entire Monitor system is only 50 in. wide by 27 in. high by 27 in. deep, its performance, it is said, closely follows the general characteristics of the larger theatre system in so far as size will permit.

Like the Lansing-Shearer theatre system, the new Monitor is equipped with a high and low frequency unit of Lansing make, together with suitable horns and dividing network. — *Radio Retailing*, August, 1936.

Circular Slide Rule

Circular slide rule is being offered by United Transformer Corp., 73 Spring St., New York City.

A few of the electrical and mathematical problems to which it gives direct answers are: Multiplication, division, proportion, reciprocals, squares, voltage drop in resistors, resonance calculation of bias resistors, etc. 25c.—*Radio Retailing*, August, 1936.



BRUSH Headphones

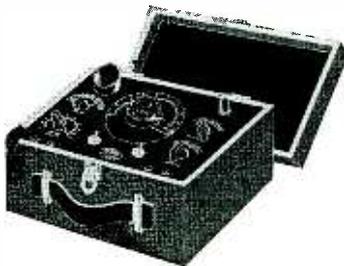
To supplement the Type A 2-phone model headphones, the Brush Development Co., Cleveland, Ohio, has announced the introduction of two new models. The first of these is a single phone instrument with head band. The second is also a single phone instrument, but with phone mounted on a 12-in. lognette handle.—*Radio Retailing*, August, 1936.

TOBE Bridge Analyzer

An a-c bridge and condenser analyzer combination for the radio serviceman may be obtained from the Tobe Deutschmann Corp., Canton, Mass.

In addition to the usual dynamic tests for shorts, opens and intermittent condenser conditions, power factor can be read directly, and capacities measured with greater precision than on ordinary capacity meters, it is stated. It also functions as a resistance bridge.

Built in neon tube for direct condenser check, with 6E5 electric eye null indicator for bridge balance. Also uses one 01A tube. Resistance range: 1 ohm to 1 megohm. Capacity range 10 mmf. to 100 mf.—*Radio Retailing*, August, 1936.



PERM-O-FLUX Speakers

Six Perm-O-Flux permanent magnet dynamic speakers may be obtained from the Continental Motors Corp., Detroit, Mich.

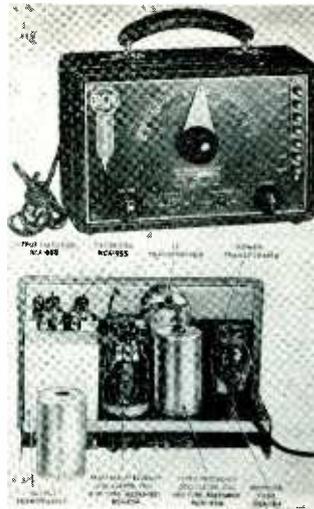
Model 5500-FG is furnished with a metal grille for header type auto installations, on shielding necessary; 5500F is furnished with a standard flange mounting for small radios.

Model 5600-A is a 6½ in. de luxe speaker having high power handling capacity and providing exceptional performance throughout the entire range. 5600-D is a standard model 6½ in. speaker.

Model 5800-A is a de luxe high fidelity 8 in. reproducer having unusual power handling capacity. 5800-B is a standard 8 in. speaker with slightly less power handling capacity.

Model 5600-A and 5800-A may be had with baffle mounting for automobile under-the-dash installation. These two baffles are made from moulded fibre.

Wherever additional speakers are required, Continental offers speaker cabinet 5800AT for the R5800A and R5800B 8 in. speakers. Modernistic design (round) cabinet of walnut veneer. Also suitable for p.a. systems.—*Radio Retailing*, August, 1936.



RCA Beat Oscillator

A variable audio oscillator, operating on the beat frequency principle, and weighing only 10½ lb., has just been placed on the market by the RCA Mfg. Co., Camden, N. J. This oscillator, which is completely self contained, includes such features as a direct-reading dial and a center-tapped output transformer having impedances of 250, 500 and 5000 ohms.

Applications include measuring receiver and audio amplifier fidelity, testing speakers and cabinets for howl and using its output as a sweep frequency on the RCA cathode ray oscillograph for checking unknown frequencies. It has self-biased detector. \$64.50, including five tubes.—*Radio Retailing*, August, 1936.

CETRON Type CE-20

A new photo electric cell, known as the Cetron type CE-20, has been brought out by the Continental Electric Company, St. Charles, Ill. It has been designed especially for use with 16 mm. projectors and other applications where a small but



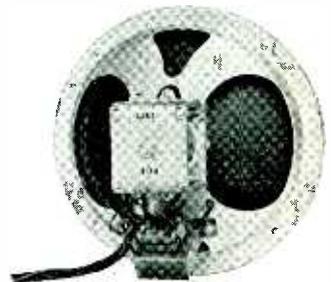
efficient photo cell is required. It is of the caesium-argon type. The dimensions are: 2 in. from bottom of base to top of bulb, width 11/16 in. Base-special 3 prong.—*Radio Retailing*, August, 1936.

PAM AMPLIFIER

A new all-purpose amplifier, PAM 500, may be obtained from the S. H. Couch Company, Inc., North Quincy, Mass.

The design eliminates such additional units as pre-amplifier, pre-amplifier power supply, coupling and matching transformers and field supplies. Such compactness means easy portability and makes for simplicity and economy in permanent and temporary installations. It will operate to full capacity two 14-in. auditorium speakers requiring 30 watts field excitation, three 12-in. auditorium speakers requiring 20 watts field excitation, four 12-in. concert speakers requiring 15 watts or six 8-in. p.m. speakers.

It is mounted on a chrome plated chassis and the steel case is finished in black rubber japan with crystalline surface. This is a four stage, high gain, high fidelity 30-watt class B zero amplifier.—*Radio Retailing*, August, 1936.



REPLACEMENT Speakers

The new Junior Series of radio replacement speakers of the Operadio Mfg. Co., Inc., St. Charles, Ill., are available in the 5, 6, 8, 10 and 12 in. sizes. Mounting holes are interchangeable with any standard speaker. All models are available with universal matching transformers and in standard field coil ratings.—*Radio Retailing*, August, 1936.

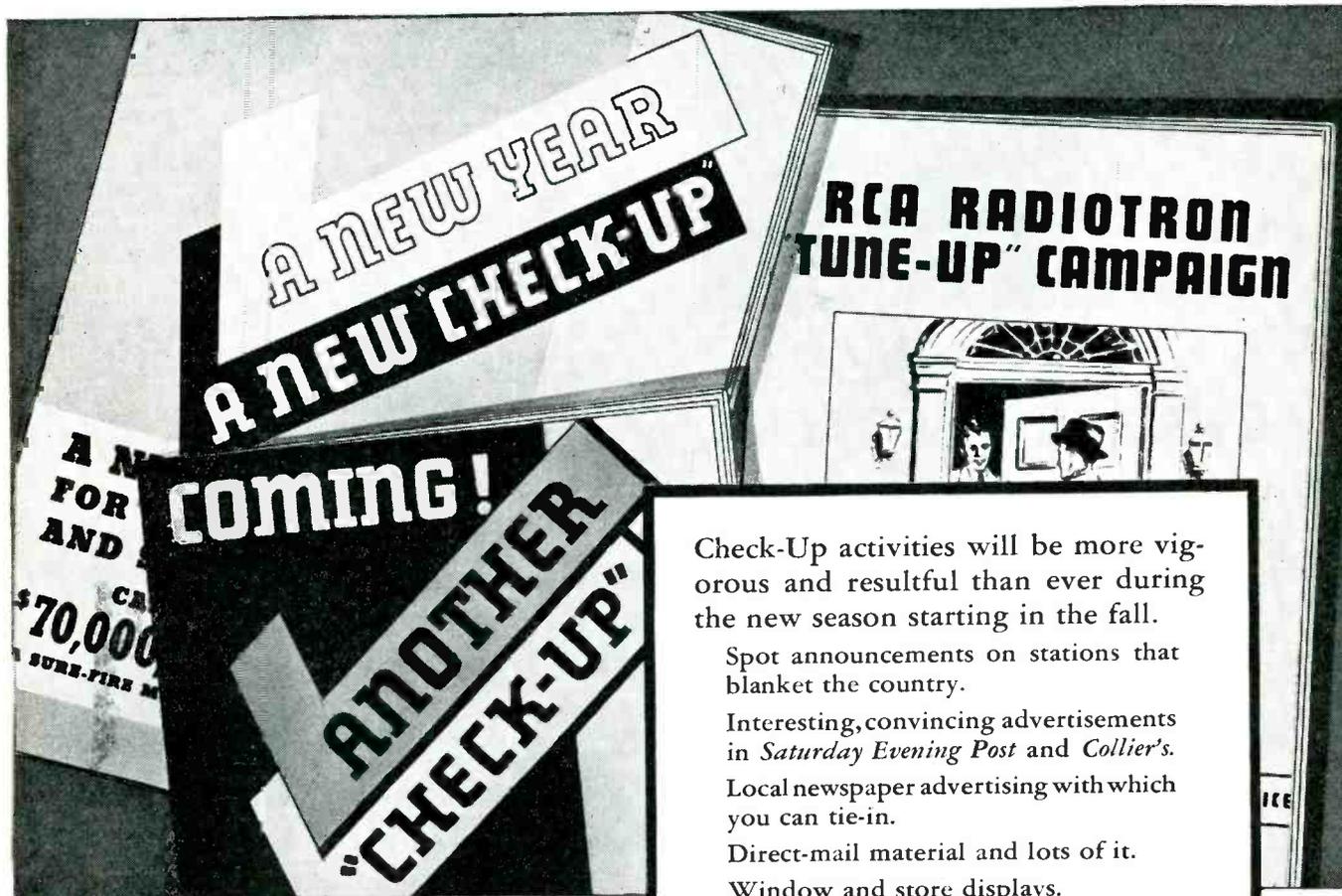
IRC Volume Controls

An unusually compact and modern volume control has just been made available to the radio trade by the International Resistance Co., Philadelphia, Pa. Among the features are the well-known Metallized type resistance coating permanently bonded to a moisture-proof Bakelite base, multi-finger, silver-plated contacts, exceptional stability.

Available either with or without switch making them suitable for automobile radios as well as for general use.—*Radio Retailing*, August, 1936.

3 Profitable Years

for RCA Radio Tube Dealers



Soon the RCA Radio
Check-Up will start
on its third year

Check-Up activities will be more vigorous and resultful than ever during the new season starting in the fall.

Spot announcements on stations that blanket the country.

Interesting, convincing advertisements in *Saturday Evening Post* and *Collier's*.

Local newspaper advertising with which you can tie-in.

Direct-mail material and lots of it.

Window and store displays.

RCA Radio Tubes are the only ones promoted in such an aggressive manner, the only ones backed by a continuous promotion program that brings great benefits to you and your customers. It pays to stock, sell and push RCA Radio Tubes.

RCA MANUFACTURING CO., Inc.
Camden, New Jersey

A Service of Radio Corporation of America



Radiotrons



**300
WATTS
12 VOLTS**

**NEWER • •
BIGGER • BETTER!**

DEALERS: Write or wire at once for full details and discounts on this sensational, low priced power plant. It's hot! The leader of them all—beautifully designed, precision built, practical, **DEPENDable!** Offers the biggest opportunity of the day for immediate profit. Hits a new, tremendous market—farms, camps, trailers, cruisers, outlying filling stations, garages, etc. Perfect tie-up with farm radio sales.

Backed by the great Johnson organization, Johnson dealer co-operation, nation wide Johnson service, and Johnson merchandising and advertising to over 7,000,000 farmers.

Go to town with this winner. Not a feature lacking! And packed with dozens of **EXCLUSIVE** features which make it the ideal power plant for battery charging and lighting. Send at once for complete description!

**JOHNSON
Iron Horse
GENERATOR**

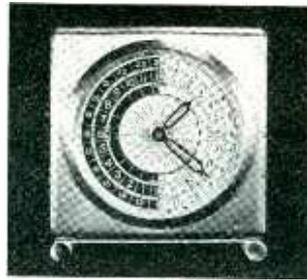
1. 50% to 100% greater capacity.
2. Operates twelve 25-watt lights at once.
3. Permits low-cost installation (lighter wiring).
4. Permits longer lines.
5. Charges 12 volt or 6 volt battery.
6. Variable, controllable charging rate.
7. Governor for safety longer life.
8. Special high grade built-in generator.
9. Positive push-button starting.
10. Powered by the famous Iron Horse—the last word in compact, powerful, smooth running gas engines—used on leading makes of farm washers, power-mowers, pumps, etc.

\$65.00 LIST PRICE
F. O. B. FACTORY

JOHNSON MOTOR CO.

1930 PERSHING ROAD, WAUKEGAN, ILLINOIS
CANADIAN JOHNSON MOTOR CO., LTD., PETERBORO, CANADA

Builders of the famous Sea-Horse Outboard Motors—known 'round the world for **DEPENDability.**



SKY PILOT World Clock

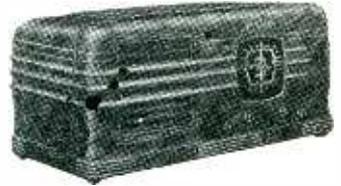
For overseas listening a world-wide clock may be obtained from the Sky Pilot Organization, Radio Park, Pearl River, N. Y. This clock may be set at the time zone in which the user lives and will then automatically and instantly give corresponding time throughout the world.

As the illustration shows, it has a.m. and p.m. designations as well as the 24 hour figures for countries employing 24 hour time. Spring wound model in a brushed brass case of modernistic design—approximately 5½ in. square.

A splendid companion piece for all-wave radios and particularly adaptable to premium or promotion use. \$3.95 retail.—*Radio Retailing*, August, 1936.

FADA Radios

Model 272W, 7-tube universal world-wide super-heterodyne of the Fada Radio & Electric Company, Long Island City, N. Y., comes in a walnut bakelite cabinet of the "laydown" table type. The streamline styling is emphasized by three horizontal bars that offset the grille. This set uses metal tubes. \$39.95. Model 270C console is a



7-tube a.c. all-wave using metal tubes. Has Flash-O-Graph tuning indicator, large edge lighted colored airplane dial, free wheel tuning and comes in a butt walnut cabinet with striped walnut sides. \$79.95.

With over-size, acoustically fitted, super-high fidelity reproducer the price is \$99.95.

With additional wave band, 370 to 145 kc. for long wave and U.S. weather band reception, \$5 extra.—*Radio Retailing*, August, 1936.

De Luxe WINCHARGER

A de luxe wincharger designed for low wind velocity (starts charging in an 8½ mile an hour wind) is the latest addition to the line of Wincharger Corp., 2700 Hawkeye Drive, Sioux City, Iowa.

This model is equipped with centrifugal air brake governor, 6-ft. Albers air-foil propeller, low speed generator, collector ring of the same design used on 32-volt plants, and 5½-ft. rigid angle iron tower all ready for mounting. Furnished with chain to pull tail vane out of the wind. Equipment also includes ammeter, cut-out and panel already wired, \$44.50.—*Radio Retailing*, August, 1936.



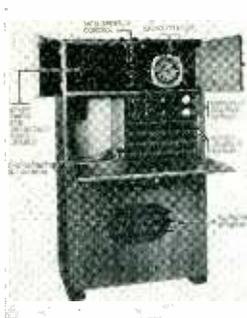
FOX Speaker

Complete elimination of distortion under pressure of range and volume, unbalanced tone, background noises and overheating under forcing are features claimed for the new electro-dynamic unit made by the Fox Sound Equipment Corp., 3120 Monroe St., Toledo, Ohio. Particularly well suited for p.a. and theatre systems. Will stand up under extreme wattage.

This unit is said to be the only one in which the voice coil can be replaced without factory service. A diaphragm replacement can be made in a few minutes by any operator or service man.

It has a power handling capacity of 25 watts and the impedance of the voice coil is 16 ohms. Exciting energy of the field coil must be 6-8 volts at 1½ amp.—*Radio Retailing*, August, 1936.





WEBSTER School System

Sectionalized sound systems for schools, hotels, department stores and other institutions are announced by the Webster Co., 3825 W. Lake Street, Chicago, Ill.

These systems are designed on a section basis, one section taking care of approximately ten rooms. Provision is made in the cabinet to accommodate additional sections, thus permitting an institution to start with one unit and without change to gradually expand the system to as many points as desired.

Incorporated in the system are the following features; radio receiving set, microphone and phonograph; distribution choice of radio program, phonograph or microphone speech; two-way communications from central control to each point; and emergency cut-in-switch to all points.—*Radio Retailing*, August, 1936.

Velocity Microphone

A streamlined velocity microphone has been announced by the Electro-Voice Mfg. Co., 324 E. Colfax Ave., South Bend, Ind., claiming not only smarter appearance but better acoustic properties. Finished in chromium and black, the new Model "K" is a companion to the present "V" series. Three models, complete with 8 ft. cable, dual shock absorber and locking cradle list at \$19.50, \$24.50, \$29.50. High impedance output works direct-to-grid.—*Radio Retailing*, August, 1936.



WESTON Analyzer

A meter, having a sensitivity of 20,000 ohms per volt, is the heart of a new analyzer just introduced by the Weston Electrical Instrument Co., Newark, N. J. Designed for the serviceman and engineer, it is an ultra modern tool which will cope with the ever increasing need for accuracy of measurement in a.v.c., resistance-coupled, television circuits, etc.

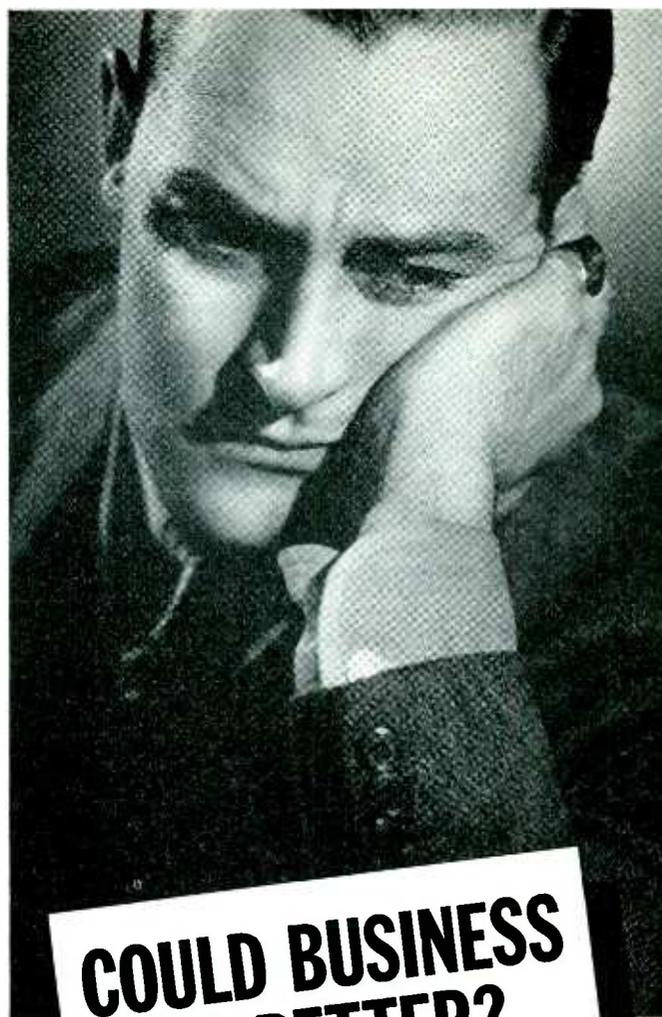
A highly legible 5 in. scale on a 50 microampere instrument accurately measures resistance up to 30 megohms as well as all a.c. and d.c. voltages and currents. A convenient system of pin jacks along with a rotary switch permits a rapid change of range and permits use of the instrument as an output meter.

Completely self contained and furnished in a convenient carrying case which has additional space for the Weston socket selector as well as small servicing tools, it meets today's standards for appearance, sensitivity and service. Available to servicemen at less than \$50.—*Radio Retailing*, August, 1936.



Communication Receiver

An entirely new and unique system of band switching has been incorporated in the new NC-100 communication type receiver recently announced by the National Co., Malden, Mass. Unusually high sensitivity and selectivity resulting from an absolute minimum of losses are credited to this outstanding development. Complete band-spread tuning from 540-30,000 k.c. is an unusual feature, being accomplished in five steps. Twelve all metal tubes, built in power and speaker, supply a.v.c., c.w. beat oscillator, two i.f. stages, biased detector and a full 10 watts of undistorted output make this one of the finest receivers of its type. Four models, available with or without crystal filter range from \$175 to \$235, complete with tubes and speaker.—*Radio Retailing*, August, 1936.



COULD BUSINESS BE BETTER?

YOU CAN MAKE YOUR RADIO TUBE BUSINESS BETTER BY SELLING SYLVANIA TUBES!

• One inferior tube can lose you a customer forever! Why take a chance? Sell Sylvania and be sure your customers will be pleased *every time!* Remember . . . Sylvania quality never changes! Before a Sylvania tube ever reaches your shop . . . *eighty separate tests* have been made for your protection! Here's what the Sylvania policy means to you: Fair list prices, . . . a six-months' guarantee on every tube . . . and valuable technical and sales helps. Sylvania stands ready to make your tube business *pay!*

Put your tube business on a safer, more profitable basis *now!* For complete sales and technical information address the Hygrade Sylvania Corporation, Emporium, Pa.

SYLVANIA

THE SET-TESTED RADIO TUBE



for
 SUMMER COTTAGES
 FARM HOMES
 CAMPS
 WAYSIDE GARAGES
 SOFT DRINK STANDS
 MOTOR CRUISERS
 AUTO TRAILERS
 SAIL BOATS

Tiny-Tim

Radio Battery Charging
 and PORTABLE Power Plant

SEMI-AUTOMATIC!
 ● Automatically
 Shuts Off When
 Battery is Fully Charged!

● Cash in on this demand for new type small, low-cost, portable power plants. Here's something entirely different from big, expensive plants. There's big profit opportunity for you in this simplified, portable power plant with its genuine Red Seal engine and entirely new type of generator. Designed in the Continental laboratories, TINY TIM provides dependable service at a minimum cost. It is the only unit that is semi-automatic—stopping automatically when battery is fully charged. It will operate eighteen to twenty hours on one gallon of gasoline. Will light fourteen 15-watt electric lamps, and will at the same time charge a 6-volt battery. Weighs only 57 pounds. Controlled voltage (your battery will not receive an over-charge due to high voltage—an exclusive feature). TINY TIM will sell and sell big in your territory. Retail price \$55.00. Write for discounts. We also have a new, simplified installation wiring system which can be installed in less than an hour at slight additional cost.

BE SURE TO SEE
CONTINENTAL
 EXHIBIT AT THE
 National Electrical
 and Radio Exposition
 GRAND CENTRAL PALACE,
 N. Y. Sept. 9 to 19th
 BOOTH NO. 38

Continental Motors Corporation

12801 East Jefferson Ave. - Detroit, Michigan



TOBE Flexidon

A new electrolytic condenser design announced by the Tobe Deutschmann Corp., Canton, Mass., features unit or "Flexidon" construction which permits the removal of any single section of a multiple section condenser in case of failure. Obviously, the rest of the condenser is salvaged, with resulting replacement economy. Individual sections have separate positive and negative leads. Made in the usual capacities up to and including 16 microfarads.

A companion item, the replacement section, is known as the "Unidon."—*Radio Retailing*, August, 1936.

AEROVOX Electrolytics

A marked reduction in bulk for a given capacity is achieved in the new line of dwarf units just announced by the Aerovox Corp., 70 Washington St., Brooklyn, N. Y.

Known as the GLS series, these new electrolytics are a uniform 1-in. diameter but vary in height from 2-3/16 in. for the 4 mfd. units to 4 3/4 in. for the 16 mfd. Two voltage ratings are available—the GLS5 or 450 d.c. voltage, 525 surge peak, and the GLS250 or 250 d.c. voltage, 300 surge peak. Capacities of 4, 8, 12 and 16 mfd. are offered.—*Radio Retailing*, August, 1936.



ARCTURUS 6L6-G

Arcturus Radio Tube Company, Newark, N. J., has recently marketed Type 6L6-G beam amplifier tube. Similar in characteristics and pin connections to its metal counterpart, the 6L6-G is in a ST-16 bulb. \$1.70.—*Radio Retailing*, August, 1936.

JEFFERSON Amplifier

A new 20-watt amplifier employing 6B5 tubes in push pull has just been released by the Jefferson Electric Co., Bellwood, Ill. This circuit features a double channel input from low and moderate level sources with gains of 138 or 98 db. Input from either channel is controlled by a single center tapped potentiometer. Flat frequency response and low harmonic distortion contribute to give the amplifier exceptional tone quality at all output levels.

Adaptable to all types of public address and station amplifier work, the output being sufficient for from one to four dynamic speakers.—*Radio Retailing*, August, 1936



ALADDIN Wave Trap

To prevent code interference from commercial ship-to-shore stations, a wave trap has been placed on the market by Aladdin Radio Industries, Inc., 466 W. Superior St., Chicago, Ill. This wave trap differs from other filters in that it is tuned by the movement of the magnetic core of Aladdin Polyiron. The movable core varies the inductance of the coil which in combination with a fixed capacitor tunes to the frequency of the undesired code signals. Particularly effective on five- and six-tube superheterodyne which do not have a radio-frequency stage preceding the converter tube. The retail list price, complete with shield, is \$2.50.—*Radio Retailing*, August, 1936.

UNIVERSAL Playback Disc

A new professional instantaneous recording and playback disc in the 8, 10, 12, 13 1/2, 16 and 17-in. sizes may be obtained from the Universal Microphone Co., Inglewood, Calif.

This Company has also placed on the market a cutting lubricant, preservative and conditioner.—*Radio Retailing*, August, 1936.



READRITE Signal Generator

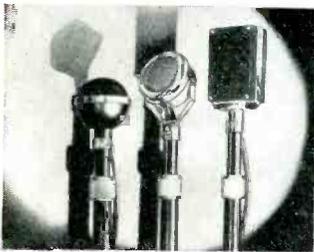
Individually calibrated plug-in type coils are now used with the new Model 557 Ranger-Examiner direct reading all-wave signal generator.

The plug-in coils are supplied for each of the present five frequency bands from 100 to 18,000 kc., all fundamentals. Each is individually calibrated by an exclusive method of peaking with trimmer condensers built as an integral part of each coil. Guaranteed accuracy is within 1% for broadcast and intermediate bands; 3% for shortwave bands. Completely shielded for static and magnetic fields. Dealer's net price \$18.—*Radio Retailing*, August, 1936.

SHURE Wide-Range Mikes

Three new economically priced crystal microphones with response curves closely approaching true high fidelity performances have just been announced by Shure Bros. Co., 215 W. Huron St., Chicago. They will be known as the "Ultra" series.

These mikes have ultra wide-range reproduction from 40 to 10,000 cycles. "Cruciform" crystal mounting, dual-drive high-capacity Grafoil Bimorph crystal, and acoustically-correct, new single high-efficiency Curvilinear diaphragm. \$25 each.—*Radio Retailing*, July, 1936.



DUMONT Oscillograph

A new cathode ray oscillograph, type 154, is announced by the Allen B. DuMont Laboratories, Inc., Upper Montclair, N. J. It has a linear sweep circuit range of 10 to 1,000,000 cycles, using a

condenser discharge circuit, and uses a pentode constant current regulator.

Amplifier has a voltage gain of 100 between 10 and 25,000 cycles, and 25 at 1,000,000 cycles. D.C. or very high frequency patterns may be measured. \$74.50 with tubes.—*Radio Retailing*, June, 1936.

AEROVOX Cabinet

The handling of exact duplicate replacement condensers is greatly simplified with the new cabinet available from the Aerovox Corp., 70 Washington St., Brooklyn, N. Y. This sales aid tells the service man just what he needs for any given set, locates the precise unit called for and takes care of the reordering of another unit of the same number to keep the stock balanced.

It is made of heavy gauge steel, finished in yellow and black. The shelves are labelled alphabetically according to set name, facilitating prompt location of any desired unit.—*Radio Retailing*, August, 1936.



TACO Antenna

A popularly priced self-selecting antenna intended for use in locations where the noise problem is not too severe is offered by the Technical Appliance Corp., 17 E. 16th St., New York City. Among the features is the armored aerial wire. This comprises a special high tension core, weatherproofed, around which copper conductors are grouped. Without adding much weight, this armored type is capable of being stretched exceedingly taut for neatness and maximum average height.

The system also has the Taco self-selecting feature, or separate transformers for standard broadcast and shortwave bands, electrically interconnected and always in circuit.

Matched components and factory pre-wired assembly permit installation in an hour or less. \$4.50.—*Radio Retailing*, August, 1936.

Dirt-Filtered  **Water**
Dust-Filtered  **Air**

and Now



noise-filtered radio

MADE POSSIBLE WITH

NOISE-MASTER
ALL-WAVE ANTENNA

• Static is the undesirable element in radio reception, as dirt and dust are the impurities of water and air. "Man-made" static and other extraneous noises are effectually "strained out" . . . FILTERED is the word . . . by the scientific "NOISE-MASTER" Antenna, which improves reception on both shortwave and broadcast bands. Do your customers a favor; recommend this great aerial system for PURER radio reception.

"NOISE-MASTER" No. 14 \$6.75 list price
Amy, Aceves & King patented. Brings in overseas signals stronger, and eliminates "man-made" static on broadcast as well as shortwave band. For better reception in EVERY location.

"NOISE-MASTER" No. 18 \$3.40 list price
First time at this popular price; licensed Amy, Aceves & King antenna of simple doublet type, SELF-SELECTING, recommended for clarifying shortwave reception.

"NOISE-MASTER" No. 19 \$4.30 list price
SELF-SELECTING doublet type, Amy, Aceves and King licensed, with junction-box in the antenna line. Assures excellent all-wave reception.



This trademark is your guaranty of the very finest in antennas and radio wire products . . . an acknowledged standard in the field.

CORNISH WIRE CO., Inc.
30 Church St. - - New York City

THE 1936 NATIONAL ELECTRICAL and RADIO EXPOSITION

Grand Central Palace,
New York, September
9th to 19th inclusive

CONFIDENT that present markets are unusually receptive and offer more than ordinary sales opportunities, the country's leading electrical and radio manufacturers, distributors and service organizations are cooperating in a mammoth presentation of their products and services to the vast Metropolitan New York Public in "An Exposition Created by the Industry, For the Industry, and the Public it Serves."

The Electrical Association of New York, Inc., sponsors, take pleasure in presenting the following list of the exhibitors:

RADIO

Anslay Radio Corp.
Atwater Kent Mfg. Co.
Continental Motors Corp.
(Speaker Div.)
Crosley Radio Corp.
Emersin Radio & Phon. Corp.
Fada Radio and Electric Co.
Fairbanks, Morse & Co.
General Electric Co.
Halson Radio Mfg. Corp.
Majestic Radio & Tel. Co.
Pierce Airo Inc.
Pilot Radio Corp.
RCA Manufacturing Co., Inc.
Radiobar Company of America
Radio Lamp Co., Inc.
Sparks-Withington Co.
Stewart-Warner Corp.
Stromberg-Carlson Telephone
Mfg. Co.
United American Bosch Corp.
Westinghouse Electric Sy. Co.,
Inc.
Zenith Radio Corp.

RANGES

Rex Cole Inc. (General Electric)
General Electric Co. (Hotpoint)
Kelvinator Corp.
Landers Frary & Clark
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Norge Corp.
Westinghouse Elec. & Mfg. Co.

REFRIGERATION

Apex Rotarex Corp.
Rex Cole Inc. (General Electric)
Crosley Radio Corp.
Fairbanks, Morse & Co.
Frigidaire Corp.
General Electric Co. (Hotpoint)
Kelvinator Corp.
Norge Corp.
Sears, Roebuck and Co.
Sparks-Withington Co.
Stewart-Warner Corp.
Westinghouse Elec. & Mfg. Co.

VACUUM CLEANERS

Apex Rotarex Corp.
Eureka Vacuum Cleaner Co.,
Inc.
General Electric Co.
The Hoover Company
Premier Division, Electric Vacuum
Cleaner Co.
Singer Sewing Machine Co.,
Inc.
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Frigidaire Corp.
Kelvinator Corp.
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Westinghouse Elec. & Mfg. Co.

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Bronx Gas and Electric Com-
pany
Brooklyn Edison Company, Inc.
Bruno-New York, Inc.
(RCA Mfg. Co., Inc.)
(Fairbanks, Morse & Co.)
Bushwick-McPhilben Corp.
(Sparks-Withington Co.)
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Inc.

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(Hurley Machine Co.)
(Landers, Frary & Clark)
McGraw-Hill Publishing Co.
R. H. McMann, Inc. (United
American Bosch Corp.)
The New York Edison Company,
Inc.
New York and Queens Electric
Light and Power Company
Times Appliance Co., Inc.
(Westinghouse Elec. & Mfg.
Co.)
Warren-Norge Company, Inc.
(Norge Corp.)
Wholesale Radio Equipment Co.,
Inc. (Stewart-Warner Corp.)
E. A. Wildermuth (Kelvinator
Corp.-Atwater Kent Mfg. Co.)

LAUNDRY EQUIPMENT

Apex Rotarex Corp.
Crosley Radio Corp.
Fairbanks, Morse & Co.
General Electric Co.
Hurley Machine Co.
Norge Corp.
Westinghouse Elec. & Mfg. Co.

DOMESTIC APPLIANCES

Rex Cole Inc. (General Electric)
The Fay Company
General Electric Co.
General Electric Sy. Corp.
McGraw Electric Co., Waters-
Genter Div. (TOASTMASTER)
National Enameling & Stamping
Co.
Proctor & Schwartz Electric Co.
Silex Company, The
Singer Sewing Machine Co., Inc.
Warren Telechron Company
Westinghouse Elec. & Mfg. Co.
White Sewing Machine Com-
pany



MASTER Multitester

A new design in a multiple metering system is embodied in the new Master Multitester Model 410, developed by Radio City Products Co., 88 Park Place, New York City. Serves as 41 different instruments, such as measuring resistance from a fraction of an ohm to 40 megohms in 6 ranges, capacity from .0001 mfd to 300 mfd in 5 ranges, a.c. and d.c. voltages 0-1000 v. also in five ranges each. Current measurement is made in six ranges from 10 microamperes to 2.5 amperes, both a.c. and d.c. Power level (decibels) and inductance measurement can be made from -15 D.B. to +40 D.B., and from 25 millihenries to 10,000 henries. It is housed in a portable case, 11½x10¼x5½ in., and comes complete, ready to use at \$31.50. — *Radio Retailing*, August, 1936.

CONTINENTAL Tiny Tim

Fifteen to sixteen hours on one gallon of gasoline, sufficient current to light fourteen 15-watt electric lamps and at the same time charge a 6 v. battery are the claims for the new "Tiny Tim" portable power plant manufactured by the Continental Motors Corp., 12801 E. Jefferson Ave., Detroit, Mich.

Weighing only 57 lb. and equipped with convenience handle, it can be carried from place to place or used as a permanent installation. Supplied in 6 or 12 v. models, a push button starts the unit when a battery is connected across the line. Price \$55 for the 6 v. model and \$57.50 for the 12 v. unit.—*Radio Retailing*, August, 1936.

CLARION Amplifier

A commercial type, 15-watt amplifier employing six tubes in a high gain four stage circuit has been brought out by the Transformer Corporation of America, 69 Wooster St., New York City. Peak power

output, 20 watts; overall gain, 125 db. Frequency response within 2 db. from 50 to 10,000 cycles. Mixing and fading facilities for one high gain and two low gain input circuits. Sixteen watts of field supply current. Eleven output impedances. Models available for 115, 220, 240, 250 volts, 25 or 50-60 cycles a.c. \$51.50.—*Radio Retailing*, August, 1936.

C-D Transmitting Condenser

The Cornell-Dubilier Type TJ high voltage transmitting capacitor just introduced to broadcast and amateur fields has won wide acclaim among both engineers and amateurs. Extremely compact (measuring 2½ in. high for 1 mfd.) and filled with Dykanol "A," a special non-inflammable impregnating medium of exceptionally high dielectric constant and strength. Available from Cornell Dubilier Corp., 4377 Bronx Boulevard, New York City, in all capacity ranges and voltages up to 6000 volts.—*Radio Retailing*, August, 1936.



Speaker Trumpet

An all metal cone speaker trumpet for use with 5 in. and 6 in. dynamic speakers is now available from the General Illuminating Corp., 16 Calendar St., Providence, R. I. Offering unlimited possibilities in the p.a. field, providing wide range coverage, directional throw and excellent tone quality the use of these horns will lower installation costs due to low prices of 5 in. and 6 in. speakers in comparison to the regular trumpet type of unit. Constructed of heavy gauge aluminum, they are absolutely weatherproof and suitable for indoor or outdoor use. In two sizes 36 in. length, 21 in. bell —\$25; 42 in. length 32 in. bell — \$35. — *Radio Retailing*, August, 1936.

NEW
SUBSCRIPTION

330 W. 42nd St.

RADIO RETAILING

New York, N. Y.

● Kindly send *Radio Retailing* for three years (36 issues)—beginning with the September number. The “Cash-with order” price of \$2 is attached. ●

Check here and attach \$1 if you prefer only 1 year.

Name _____ Position _____

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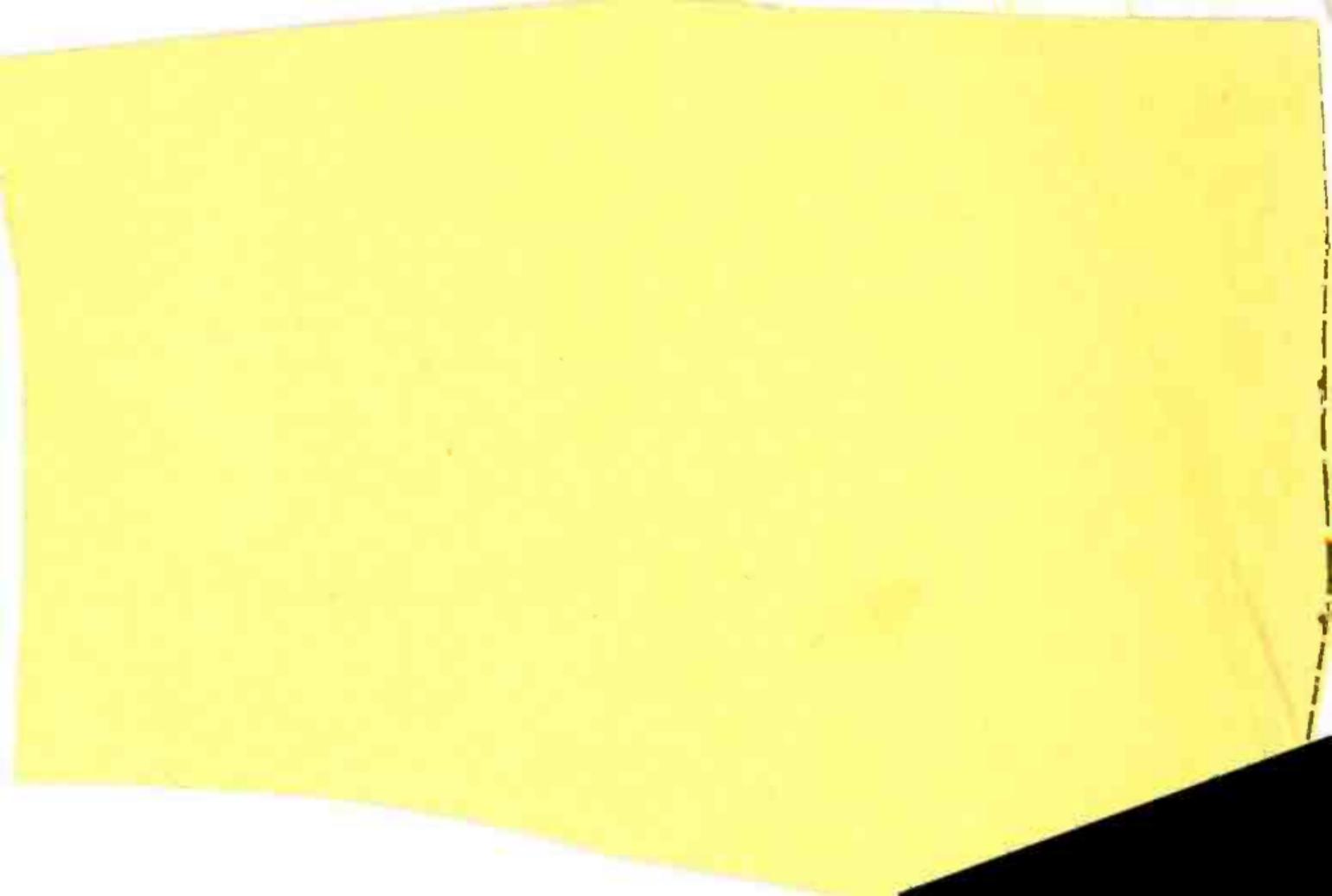
Company Name _____

Kind of Business _____

*Above rates apply in U. S., Canada,
Central and South America only.*

FOREIGN RATES:
1 year \$2; 3 years \$5

SCRIPTION ORDER CARD



MAGNAVOX Speaker

Anticipating the need for heavy duty speakers capable of handling the power output developed by the 6L6 output tube, the Magnavox Co., Fort Wayne, Ind., announces its Model 305, 15-in. dynamic speaker.

The increased cone area afforded by the 15-in. diaphragm makes possible cone resonances below 40 cycles and results in a pronounced improvement in low frequency response characteristics. Frequency range 40 to 6,000 cycles. \$30.—*Radio Retailing*, August, 1936.

HORTON

Washers and Ironers

The jeweled mechanism and machined cut steel gears in the wringer gear box, together with the octagonal cabinet, make the de luxe model 100 washer of the Horton Mfg. Co., Ft. Wayne, Ind., a particularly striking machine. It



Horton Ironer with Hamper Top

is finished in two-tone gray. Has time switch and tub flood light.

Model 80 has the same jeweled mechanism gear box and steel cut wringer gears



Horton Model 80 Washer

and a newly designed lid. This is also true of No. 100 Washer.

Models 70, 60 and 50 are all streamlined and finished in a mottled gray.

All Horton washers have 23 in. tub clamped in rubber to the chassis of machine with no bolts through the tub.

The electric machines are

powered by GE motors and the gas engine is equipped with a Briggs & Stratton motor.

A line of six ironers is also ready. Each unit is enameled to match the line of washers and also powered by GE motors.—*Radio Retailing*, August, 1936.



G-E Electric Range

A new apartment house electric range, "The Mate," has been announced by the Appliance and Merchandise Department of the General Electric Co., Cleveland, Ohio. It is an ideal size for the small apartment. Oven is equipped with two sliding shelves and hydraulic type oven temperature control. Standard equipment includes three Hi-Speed Calrod units.—*Radio Retailing*, August, 1936.

SPRAGUE Condensers

The standard 450-volt and "600" line of condensers of the Sprague Products Co., North Adams, may now be had in convenient square size and 2½ in. uniform length so that they may be easily strapped together with the new Sprague ST mounting strap to form any replacement combination.

Where mounting is a problem, the new Sprague Universal Mounting Flange may also be employed, thus enabling the serviceman to make a quick, easy replacement to match the original holes in any chassis.—*Radio Retailing*, August, 1936

Baffles

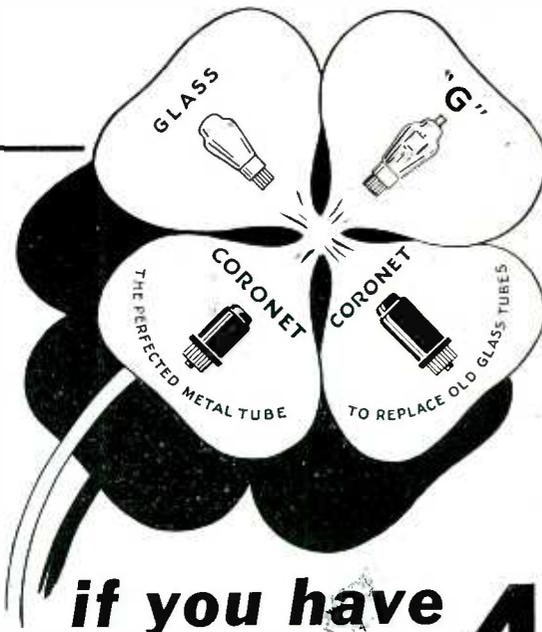
Demountable flare and directional baffles may be obtained from the De Luxe Sound Co., 123 South St., Bogota, N. J.

Model AF has a bell opening 30x18x14 in. Made for 7, 8, 9, 10 and 11-in. cones. \$6.75.

Model AD has a bell opening 22x22x25 in. For same size cones. \$9.25.

A demountable speaker housing which may be attached to either of the above horn baffles is \$4.75.—*Radio Retailing*, August, 1936.

YOU'RE IN LUCK



if you have ALL 4

The Dealer or Serviceman who carries the ARCTURUS Line is lucky. He doesn't have to pass up sales! For he has the FOUR different classes of tubes the public demands today:

1. GLASS
2. "G"
3. CORONET—"the Perfected Metal Tube"
4. the NEW CORONET for modernizing old glass-tube sets

Only in ARCTURUS is this FOUR-WAY LINE available. Thousands of dealers and servicemen are cashing in on this FOUR-FOLD profit builder. 1936 is a good tube year. Make the most of it.

For full details of the 4-way Arcturus line write:

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



**ARCTURUS
GLASS—"G"
CORONET — THE PERFECTED METAL
RADIO TUBES**

ONLY Clarion OFFERS THIS
NEW "year ahead"
P.A. LINE

If you are interested in a completely different line of Public Address amplifiers—if you believe that "year-ahead" features and unusual quality can bring you substantial PROFITS—then investigate the CLARION line. Ask your distributor for facts that prove themselves, or write direct to Dept.

RATED OUTPUT
15 WATTS

2 ELECTRO DYNAMIC SPEAKERS

A SMART LUGGAGE CASE

USES ANY MODERN MIKE

PORTABLE SOUND SYSTEM Model C-17



AMPLIFIERS BY
Clarion
TRANSFORMER CORP. OF AMERICA
 67 WOOSTER ST. . . NEW YORK . . N. Y.

NEW! PIONEER Gas-Electric Power Plants

for only

\$44.95
 List

- * Superior Quality!
- * Unmatched Value!
- * Long Profit!
- * Complete Line!



THE "CUB" ends the nuisance of lugging radio batteries into town forever! It brings electric light to unwired farm homes! It operates any kind of small machinery about the farm. The Pioneer "Cub" brings NEW PROFITS to DEALERS AND DISTRIBUTORS. Pioneer manufactures a complete line of gas-engine power plants from 6 volts 150 watts to 110 volts 1500 watts, either AC or DC! Mail coupon for full details today!

Pioneer Gen-E-Motor Corp.
 464-T West Superior Street, Chicago, Ill.

Mail This Coupon Today!

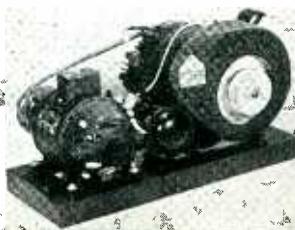
Pioneer Gen-E-Motor Corp., Chicago, Ill.
 464-T West Superior St., Chicago, Ill.
 RUSH FULL DETAILS

- Gas Electric Power Plants
- Converters
- Dynamotors
- Gen-E-Motors

Name

Address

City State



"BLUE DIAMOND" 110 volts 300 watts! A real "city" light plant with plenty of current for most farm needs! Ideal for P. A. work. Also has 6 volt DC winding for charging radio batteries. Price only \$79.95 list Chicago

SELLING SOUND EQUIPMENT

(Continued from page 19)

tracting attention. Day by day, we continue to sell ourselves to friends, business associates. The only difference between most of us and the so-called super-salesmen is that we just sell our product by enthusing about it without a studied attempt to close, while he makes a conscious effort not only to sell his product, but sell himself as well.

"Well, there surely is more to selling than appears on the surface," I said, "but I see now, that like servicing it can be learned."

"You're quite correct. It can be learned. Now, let's see just what steps our serviceman has taken that will build our plan for selling any sound equipment to any customer.

"In the first place, he made up his mind to sell sound systems and prepared his show. He knew that the game of a sale is made up of several plays, each of which give him just a little more advantage over his 'opponent prospect.' The entrance play is used first and consists of research, show, appearance, confidence, and attitude. You should follow the lead of the coal yard story.

"Clear, straightforward speech, coupled with consideration for the prospect, turns the sale your way.

"The interest play, desire play and the final push across the goal of a sale are subjects that require just as much consideration, but we'll leave them until the next time you come in to see us.

WORLD SATURATION

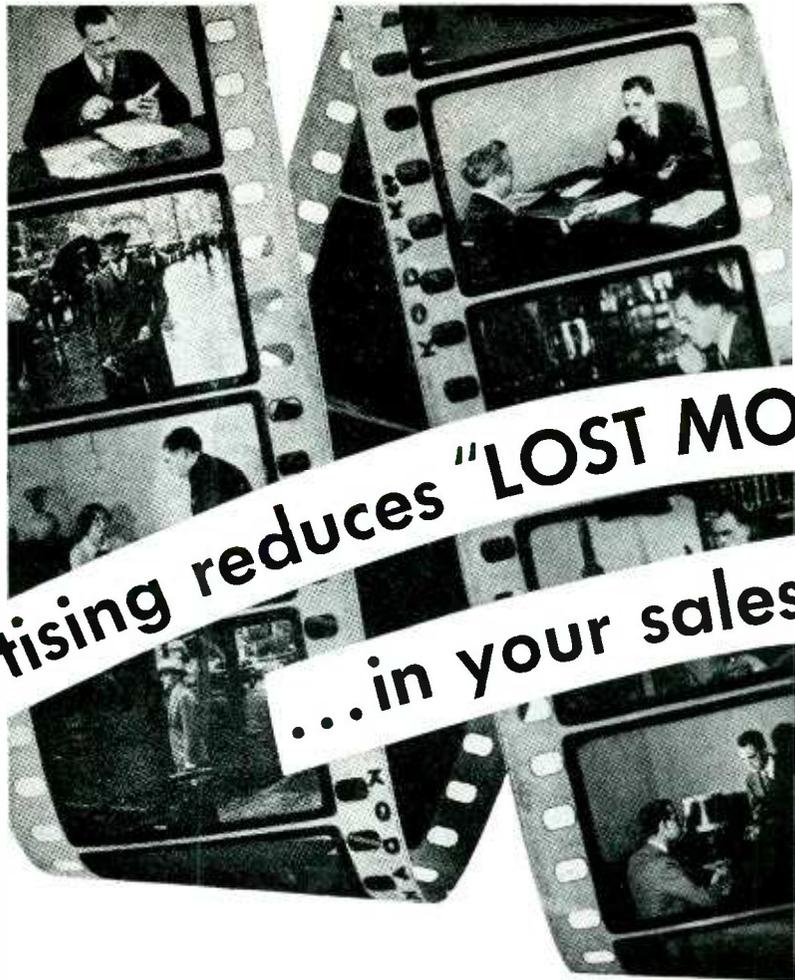
From the Department of Commerce the following figures concern number of radios in use as of January, 1936, all continents, are obtained: North America (850 broadcast stations, 32 shortwave stations), 26,579,696 receivers. South America (218 broadcast stations, 54 shortwave stations), 1,161,142 sets. Europe, including Asiatic Russia and Asiatic Turkey, (49 longwave stations, 314 broadcast stations, 77 shortwave stations), 28,761,378. Asia, excluding Asiatic Russia and Asiatic Turkey, (154 broadcast stations, 25 shortwave stations), 2,436,608. Oceania (133 broadcast stations, 2 shortwave stations), 929,949. Africa (14 broadcast stations, 5 shortwave stations), 262,836.

Total number of sets in use, the whole world, (49 longwave stations, 1,683 broadcast stations, 196 shortwave stations), 58,131,609.



"There's something wrong with it. I get bedtime stories at noon!"

—Hearst



**Advertising reduces "LOST MOTION"
...in your sales work**

SUPPOSE a "time-and-motion study" expert were to analyze the typical day of a salesman.

How much time would he find lost in reception rooms of prospects? How many lost motions in "missionary calls"? How many fruitless efforts trying to interview men who ordinarily "don't see salesmen"? How many repetitions of elementary explanations to prospects who don't know your company or its products?

The expert's report would say . . . "Too many man-hours wasted! Too many lost motions! Let's find a mass production method of doing this preliminary work."

Advertising is a mass-production sales tool. It makes calls regularly on all prospects, at about one cent a call. It helps the salesman use his time more effectively to make more sales, and so make more money for himself and for his company.

McGRAW-HILL PUBLICATIONS

McGraw-Hill Publishing Company, Inc., 330 West 42nd Street, New York, N. Y.

American Machinist
Aviation
Bus Transportation
Business Week
Coal Age

Chemical and Metallurgical
Engineering
Construction Methods
Electrical Contracting
Electrical Merchandising

Electrical West
Electrical Wholesaling
Electrical World
Electronics
Engineering and Mining
Journal

Engineering News-Record
Factory Management and
Maintenance
Food Industries
Metal and Mineral Markets

Mill Supplies
Power
Product Engineering
Radio Retailing
Textile World
Transit Journal



New—A Two-Way Communicating System That You Can Sell to Every Type of Business

Here is a two-way inter-communicating system that every business institution, large or small, can use to great advantage. And you can sell it at a good profit. It offers a wider market than any other item you are now selling. It is compact, good looking, has high tone fidelity, easy to install, and is priced far lower than the conventional type of communicating system.



This new unit is built to precise Webster Electric Standards of quality—not down to a price.

The unit is attractive—it is housed in a hand rubbed walnut cabinet. Each cabinet of the system measures only 6"x10"x12". It is extremely simple to operate. Merely press the control lever downward to speak, then release to listen. Its use requires no extra units, no separate microphone. It is completely self-contained. The jewel pilot light shows when the unit is ready for use.

This two-way communicating system is suitable for either AC or DC; is absolutely hum-free; has a variable volume control; and unusually faithful voice reproduction. Although non-selective, as many as six stations may be operated on a single system. A demonstration means a sale.

Get in touch with your jobber today. If he is not now handling this new two-way communicating system, write direct for complete information. *Be sure and address your communication to WEBSTER ELECTRIC COMPANY, Racine, Wisconsin. Export Department, 100 Varick Street, New York City.*

Webster Electric Sound Systems are licensed by agreement with Electrical Research Products Inc., under patents owned by Western Electric Company, Inc. and American Telephone and Telegraph Company.

WEBSTER ELECTRIC

Inter-Communicating Systems

SERVICE

DESIGN • REPAIRS • INSTALLATION

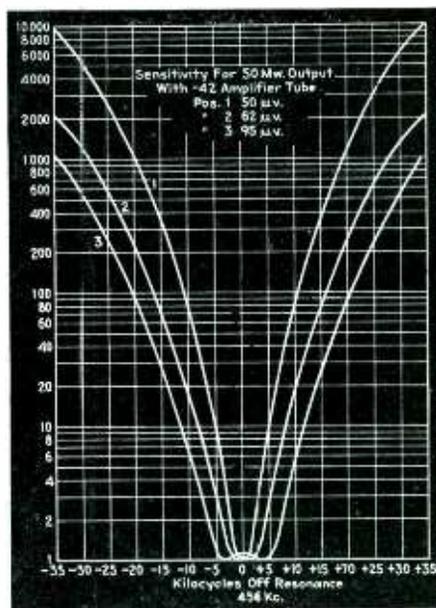
NEW CIRCUITS

Iron-Core Replacement Coils

While iron-core transformers have become standard in the i.f. and antenna circuits of many factory-built receivers and are found in a large number of recently home-constructed amateur receivers, coils utilizing such cores have not yet been used by servicemen in any great quantity for replacement. This, we feel, is due largely to their maker's preoccupation with set business and scarcity of application information. The following data concerning Ferrocarter-core devices, obtained from the Meissner Manufacturing Company, should therefore be of interest.

Figure 2 shows construction of a new antenna coil. This device may be used to replace existing inductances, improving signal-to-noise ratio. The iron core of the device travels into the 2 pi section when the adjustment screw is turned, permitting the self inductance of the coil to be varied by the serviceman until the repaired or improved receiver once again tracks. Figure 1 indicates that the "Q" of the circuit so tuned varies less than three per cent over an inductance variation

of the order of twenty per cent. A wave-trap constructed along simi-



lar lines is available and should be useful for insertion in the antenna lead of receivers troubled by images. The core of this device may be moved axially in the field of the coil, permitting variation over a considerable area about the intermediate frequency of the receiver. Greater attenuation of undesired signals to which the trap is tuned is achieved because core efficiency permits a given amount of inductance to be obtained with less wire turns, reducing r.f. resistance and minimizing distributed capacity.

Figure 3 illustrates the use of a band-expanding intermediate frequency transformer. The mutual between primary and secondary may be varied in three steps by switching in corresponding portions of a tertiary. Position 1 gives maximum selectivity. Position 2 increases the mutual and gives performance intermediate between maximum selectivity and maximum fidelity. Position 3 overcouples the transformer, produces a broad-nosed resonance curve. Frequency response in the three posi-

LOOK FORWARD . . .

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How to Sell Sound	page 18
Phonebook Ad Tips	page 25
Master Antennas	page 31
Why It Pays To Test Tubes	page 33
New Testers and Parts	page 47

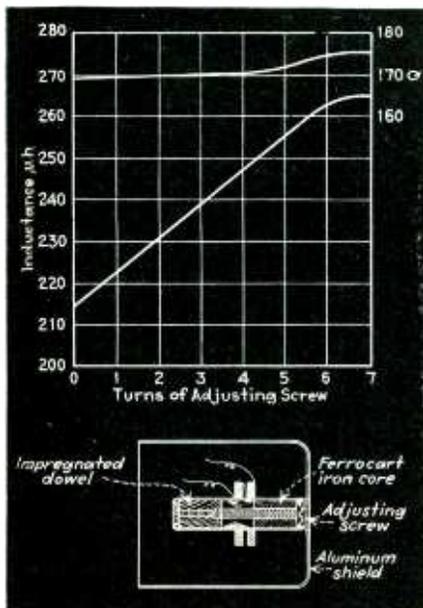
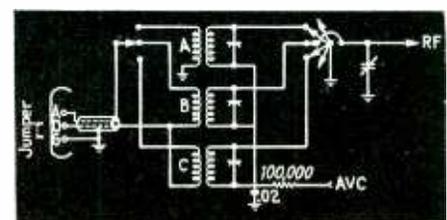
tions described, is shown in the diagram.

The gain of the transformer is varied somewhat by switching in of the tertiary. But we are told that there is no de-tuning of the circuit. It is important, however, that the transformer be aligned to the proper peak frequency with the selector switch set in position 1.

Antenna Switching

The accompanying diagram illustrates the antenna switching system used in the new Arvin Models 617 and 627. When an ordinary antenna is used the jumper is placed from D to G, the antenna hooked to A and a ground to G. When a doublet is used the jumper is removed, the two leads of the transmission line connected at A and D.

Note that irrespective of the type of antenna used band A (broadcast) always functions with a straight antenna and single-wire lead-in. Last season's receivers utilized a doublet, when one was available, on all bands but we are told by Fred Wolcott of the engineering department that there were practically no complaints of noise on the A bands even when ordinary antennas were used



20,000

THE NEW WESTON
MODEL 772
Super-sensitive analyzer...

PRICE
\$46⁵⁰ NET
TO DEALERS IN U. S. A.
(carrying case included)



Model 772 is furnished mounted in a durable, brown leatherette carrying case, with plenty of room for tools and accessories.

Remember . . . YOU CAN'T SERVICE TELEVISION

ohms per Volt!

... with

SENSITIVITY OF 20,000 OHMS PER VOLT

PLUS RESISTANCE RANGES READABLE UP TO 30 MEGOHMS

PLUS CURRENT INDICATIONS AS LOW AS .5 MICROAMPERE

Unequaled for radio testing... essential when television comes!

Check all these features of Model 772

... then make your own comparison:

1. SENSITIVITY... 20,000 OHMS PER VOLT!

... for the first time, WESTON gives you the sensitivity you must have to best analyze any receiver circuit, old or new... especially those involving A.V.C., noise suppressor circuits, tone fidelity control, etc.

2. A BIG, ULTRA-SENSITIVE WESTON METER!

... a big, standard WESTON super-sensitive meter, with a large, easy-to-read scale with widely spaced markings. Big value alone in the meter!

3. TRUE VOLTAGE READINGS

... with this ultra-sensitive meter, plate voltages in resistance coupled circuits, grid bias and other DC voltage measurements can be made with certainty... for so little current is drawn by the meter that readings will not be greatly in error as is the case with less sensitive instruments.

4. THE ULTIMATE IN CURRENT MEASUREMENT!

... with Model 772, you can measure current far below present limitations. Currents of 10 or even 5 microamperes coming from the diodes can be accurately measured. Also cathode ray tube and photo-cell currents.

5. RESISTANCE MEASUREMENTS MADE EASY

... Model 772 provides a readable deflection as high as 30 megohms, with the high resistance values above 1 megohm sufficiently spaced out to permit an accurate check on all resistors in common use. The increased deflection at high resistance values gives a more critical check for condenser leakage.

6. DESIGNED FOR RAPID USE

... a convenient system of pin-jacks, along with a rotary switch, permits rapid changes of range and function for AC and DC measurements, and for use as a sensitive output meter. Separate jacks for the 1 M.A. and 100 microampere ranges protect the instruments from accidental damage. Can be used with WESTON Socket Selectors. Precision resistors used throughout. Built to WESTON'S unequalled standards of quality and workmanship.

7. WIDER RANGE OF USEFULNESS... INCLUDING TELEVISION

... with Model 772 you will also be equipped for servicing sound movies, amplifiers, photo-cell circuits and any circuit where current is small, even down to 1/2 microampere—as well as for television. WESTON has already built the instruments for television broadcasting, so Model 772 was designed to include television servicing.

8. PRICE \$46.50 net... INCLUDING CARRYING CASE

... never before, has value of this kind been offered to the serviceman. WESTON provides it because of their large production on sensitive, quality instruments which are universally used by laboratories, and throughout industry. Investigate Model 772 today... before you buy any analyzer. See it at your jobber's... or, return coupon for complete data.

WESTON
Radio Instruments

WITHOUT 20,000 OHMS PER VOLT!

MAIL THIS COUPON TODAY

WESTON ELECTRICAL
INSTRUMENT CORP.,
581 Frelinghuysen Ave.
Newark, N. J.

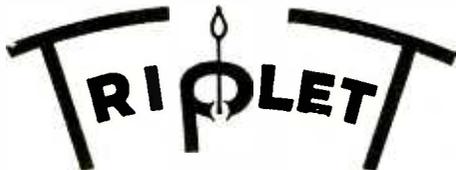
Rush me complete data on the
new Model 772 Super Sensitive Analyzer.

NAME _____

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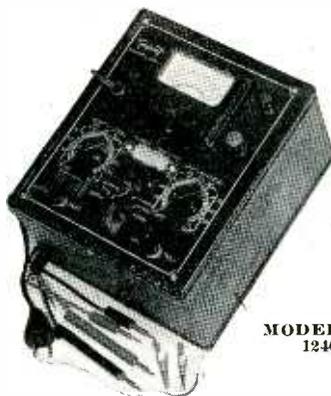
Model

Name

Address

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MODEL
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Checks all types condensers. Paper, Mica or Electrolytic from .0001 to 10 microfarads. Detects internal shorts, opens or high resistance leakages. A.C. and D.C. voltages for breakdown tests available in steps to 1,000 volts. Easily read meter scale. Dealer Price\$24.85

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VACUUM TUBE VOLTMETER



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Similar to Model 1200-A but with copper oxide A. C. Dealer Price.....\$26.67

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Model 1231 D.C. Similar to 1232 but self-contained battery operation. . . . Dealer Price, \$23.33.

Free Point Tester, Model 1220-A. Used with Volt-Ohm-Milliammeter for set testing. Makes all series and parallel instrument connections through five sockets. . . . Dealer Price, \$10.00.

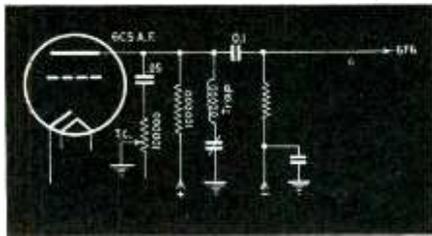


and that this change was therefore made to achieve greater gain in the broadcast band through elimination of transmission line losses.

10 Kc. Audio Trap

When the Fairbanks-Morse Model 100 or 110 chassis are operated "wide open" in the high-fidelity position a series tuned trap in the plate circuit of the first audio 6C5 reduces the possibility of interference in the form of a high-pitched whistle where a station on an adjoining frequency is heterodyned.

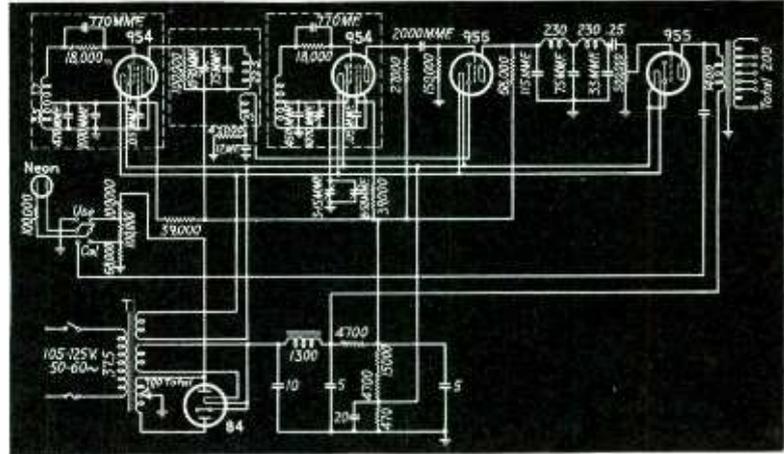
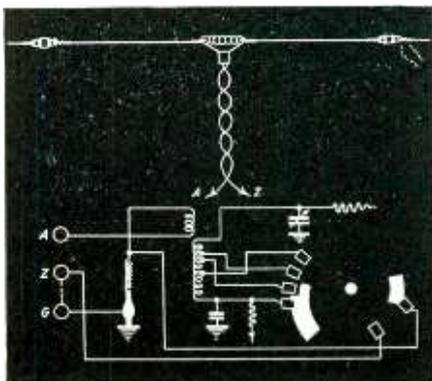
The trap is adjusted by switching the receiver to "3rd dimension" position and tuning right between two distant stations operating on adjacent channels, or to the point between the two signals where the interfering whistle is at maximum.



Antenna Tuning

Built-in antenna tuning presents definite advantages, particularly at shortwaves and there is a growing trend toward such design. The accompanying circuit shows the input section of a Zenith receiver which works the antenna as a doublet on shortwaves, converts it into a standard system on broadcast. The switch is shown in the broadcast position.

The principle involves coupling of the antenna directly to the tuned circuit rather than through an external doublet coupling transformer. Efficiency, according to the factory, is increased as much as 25 per cent.



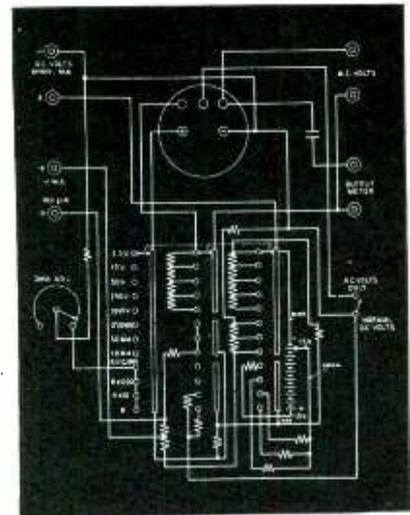
Beat Frequency Oscillator

Here is the complete circuit of RCA's Model 9633 beat-frequency oscillator tuning from 30 to 15,000 cycles, useful when measuring receiver or audio amplifier fidelity, checking frequency characteristics of transformers and filters, making stroboscopic speed measurements, testing speakers and cabinets for resonant rattles or howls.

The device uses two acorn pentodes hooked up as electron-coupled oscillators. One is fixed at 350 kc. while the other may be varied from 335 to 350. The beat between the two is fed to an acorn triode detector (one oscillator works into the 955 grid while the other couples to its cathode) which extracts the difference frequency and rejects any r.f. frequencies present. Output is fed from the detector through a filter to a final fixed-biased acorn triode audio amplifier and then into the output transformer.

A neon lamp serves as both pilot and calibrator. By setting the oscillator at the power supply line frequency (or a harmonic) and varying a control knob and switch oscillator output frequency may be compared with 60, 120 or 180 cycles.

microamperes to 0-250 milliamperes also in five steps, resistance measurement being made from 1 ohm to 30 megohms



20,000 Ohm Per Volt Analyzer

Heretofore it has been impossible to make accurate measurements in high resistance, low current circuits with equipment available to the serviceman. The voltage on a resistance coupled amplifier or the minute rectifier current of a diode detector were known only to the man with a laboratory filled with equipment. Now with the announcement of a 20,000 ohm per volt analyzer by Weston, the circuit of which is shown above, any one can make these measurements, simply, easily and accurately.

Only 50 microamperes is required to energize the movement to full scale on voltages from 0-1000 v. A.C. and D.C. in five steps. Current ranges from 0-100

is extremely useful for checking leakage of all types and sizes of condensers as well as all resistors in common use. Provision is also included for use as an A.C. output meter.

An interesting system of pinjacks, along with a rotary switch, permits a wide range of application. Separate jacks on the low current ranges protect the instrument from accidental damage.

6G5 for 6E5

The 6G5 tuning indicator incorporating a variable-mu triode can be used to replace the 6E5 in nearly all present applications where difficulty has been experienced due to complete closing of the shadow, according to Hygrade Sylvania's engineering staff. Where no difficulty exists due to complete closing of the shadow increased weak signal indication can be obtained if only a portion of the total available avc voltage is used in the original circuit design. Apply the total avc voltage and substitute a 6G5.

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The illustration will give you some idea of its advanced construction. Note that there is just one long, clear scale visible—the 8 V. DC scale at which the range selector switch is set. But now move the selector to any one of its twelve ranges, and a corresponding scale, equally simple, equally legible, will automatically come into view as the proper circuit is cut in by the selector.

Gone is the complicated scale, the necessity for multiplying and dividing, the difficulty in reading, the need for cramped calibrations,



Other Simpson products include panel meters as illustrated opposite—D. C. Meters, A. C. Meters, Rectifier-type meters, and Thermo-couple meters.

the possibility of errors. This ingenious patented roto-dial with a complete range of independent scales, eliminates the necessity for observing metric relationship in calibrating the scales. Therefore every scale has an ideal, practical, *usable* range . . . and that means faster and better analysis.

A study of the ranges around the selector switch explains this clearly to experienced service men. A typical case is the 100 ohm scale in which the calibrations for the first five ohms occupy half of the scale length. Readings fine enough to detect faulty soldering on low resistance circuits can be made on this scale, and this is merely representative of the closer readings that can be made on many of the scales.

Beyond these outward evidences of advanced engineering are many other revolutionary improvements. The basic movement (patented) . . . the heart of an analyzer . . . is the result of long and patient development combined with advanced manufacturing methods guided by unsurpassed knowledge of electrical instrument design.

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Tips On The Care and Maintenance Of Radio Test Instruments

By F. E. Wenger

The Triplett Electrical Instrument Co.

THE care your instruments receive is one of the most important factors in reliable radio servicing. Today, instruments are being used for more purposes than ever before. Misuse and rough handling cannot be tolerated if the best results are to be obtained. The length of time an instrument retains its original accuracy depends entirely upon the care it receives. Servicemen realize the importance of precision testing, but often they overlook the fact that careful handling of equipment may minimize inaccuracy in readings.

An instrument is a relatively simple device, following known electrical laws. Moving coil or D'Arsonval type instruments consist of a coil wound on an aluminum frame which rotates in an intense magnetic field. This field is produced by a permanent magnet, its size depending upon the design and make of the particular instrument. The aluminum coil frame is used for damping purposes and as a support for the coil and pivots. These pivots are specially treated steel rods, ground and polished to the proper point and taper. The pivots fit into sapphire jewel bearings, designed with the proper pitch, and thoroughly polished.

Fastened to the coil are also the pointer and the hair springs. The pointer moves across a calibrated scale in direct relation to the position the armature assumes in the magnetic field. The springs are used to feed the current to the armature, or moving coil, and also are responsible for a large part of the mechanical torque. The balance weights are fastened to the armature on the same side, below the pointer. They are adjusted so the pointer will always be in balance, and stay at the same position, regardless of instrument angle.

Knowing the functions of the different calibrated parts, let's study the effects of misuse on the accuracy of instruments:

MAGNET—There is not much chance of injuring a properly designed magnet. In abnormal use other parts of the instrument would be damaged before magnetic strength would change.

COIL FRAME—A coil frame that has been shifted in its field, or bent by tampering or severe jars will no longer be accurate, and the only remedy is to repair the instrument.

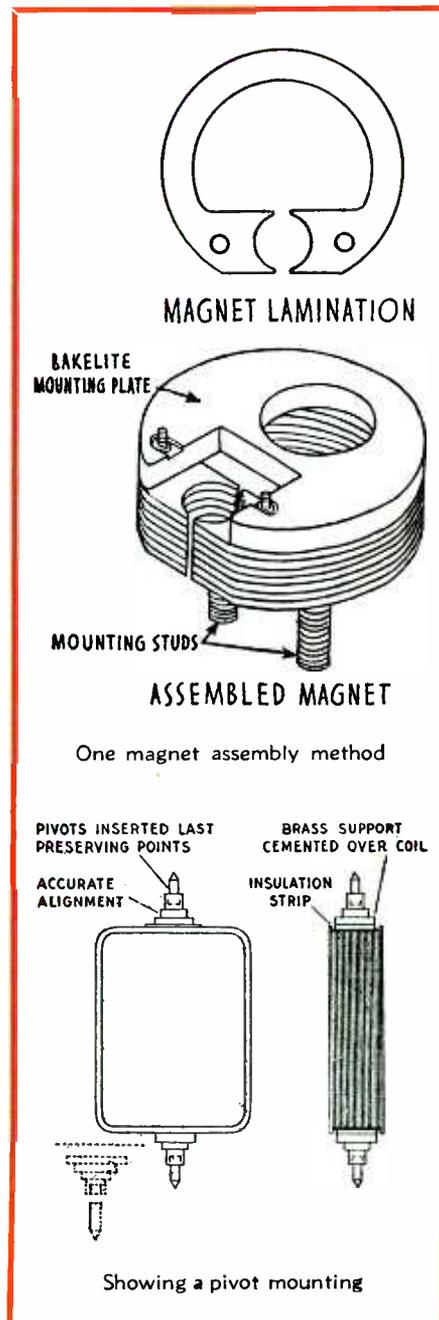
PIVOTS—These seemingly insignificant parts are a very important factor in the action of the instrument. They must be finely polished, and with the proper radii on the points. Some of the misuses of instruments that damage pivots are: tampering, dropping, overloading, and rough handling. The remedy for the above is obvious.

JEWELS—What was said for pivots can be repeated for jewels. Pivots or jewels that are not correct will cause stickiness and lag in pointer movement—the result of excessive friction.

SPRINGS—Perhaps no single part is as important in maintaining the accuracy of an instrument as the springs. The current is fed to the armature through the springs. The springs also supply the mechanical torque the manufacturer desires to maintain. Any difference in instrument torque will cause an error in readings.

We can destroy or change the mechanical torque on an instrument. The most common way to change the torque is by plain overload. This is also the hardest to detect because, as a rule, no lagging or stickiness accompanies a change of torque. If the spring has been seriously overloaded, some of the temper will have been removed, which will decrease the torque and make the instrument more sensitive, consequently inaccurate.

If the torque is reduced, the action of the pointer will not be normal. Another error creeps in from soft springs which sag, causing uneven torque and a variation in pointer position at zero. Another error can be caused on ammeters where armature and springs are shunted, by having turns of the springs touching (cutting out some of the series resistance) and causing errors.



BALANCE WEIGHTS—When an instrument leaves the factory it is balanced for use in any position. If the balance weights are shifted from either overloading or mechanical shock, the instrument will no longer read correctly. The same is true if the pointer is bent. Summing up the foregoing:

When an instrument leaves the factory it is mechanically and electrically correct. How long the instrument maintains this accuracy in use depends upon the care it receives.

There are three DON'TS to be observed:

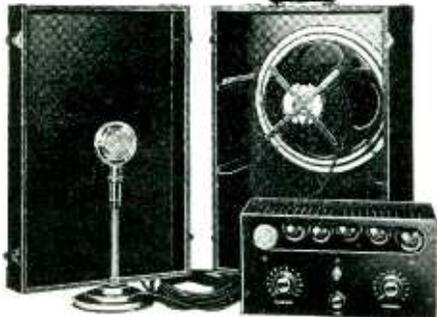
- DON'T DROP THE INSTRUMENT.
- DON'T OVERLOAD THE INSTRUMENT (When in doubt use the highest range.)
- DON'T ATTEMPT TO REPAIR OR ADJUST.

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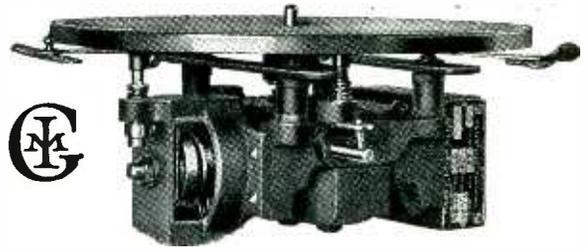
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Wheel and Tire Static

From Galvin, maker of Motorola auto radios, comes the following useful data about a frequently encountered but rarely publicized trouble:

The sounds developed in a radio from wheel or tire static may be an intermittent rasping or clicking, with the time intervals varying with the speed of the car, or, may be a steady hissing developed after the car reaches a given speed and will change only on the conditions about to be described.

Wheel and tire static occur only with the auto in motion along the road and will occur whether the ignition is turned on or off. It will be most pronounced on asphalt or cement pavement but may be noticed in some cases on brick pavement or on a dry gravey road. During periods of high humidity, or if the pavement or wheels become wet from water or rain, the noise will cease until they again become dry. To drive off of the pavement onto the dirt shoulders or dirt side roads will stop the noise.

Friction, then, between the dry pavement and the rubber tires of the auto apparently generates static electricity which collects on isolated conductive substances in the tires or on the metal wheels which may be isolated from the body of the auto by grease and oil; then discharges to the car body or roadbed, depending upon the potential developed and the distance, to either. The (usual) distinguishing symptom between wheel and tire static is that if on application of brakes the noise disappears, the noise is attributed to wheel static; if not, to tire static.

Wheel static, we shall say, is static occurring on the insulated metal wheels and discharging to the stationary axle and may happen in either front or rear wheels. It seems then that the logical thing to do would be to make constant contact between the movable wheel and the stationary axle, to prevent potential differences from developing between the two.

This is done in front wheels by removing the large decorative outer hub caps, then prying off the grease caps, which are connected to the movable wheel and we shall then have exposed the stationary axle end. Insert in the grease cap a circular cone brass spring with the large turns into the cap. When the grease cap is pressed back into position the point then will ride on the axle end, thereby giving the necessary contact between moving wheel and axle. Do this in both front wheels. This condition, if occurring in the rear wheels, may be removed by taking off these wheels and placing around the axle two

turns of heavy spring brass wire to make contact between stationary brake housing and movable wheel.

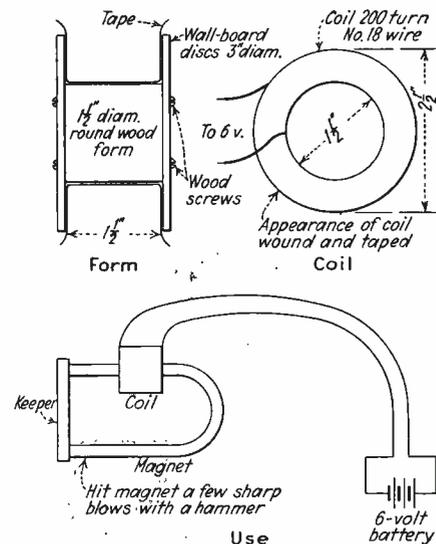
Metal slivers protruding from metal based brake lining and loose metal rivets holding brake shoes in place that might intermittently contact the metal moving wheel may cause wheel static, so it would be well to check for these conditions while the wheels are removed.

Tire static we have said is caused by friction of tires to dry road bed creating a static charge which collects on conductive isolated substances within the tires. The greatest percentage of cases have been caused by the use of metallic (zinc oxide) balances in the bottom of the casing by some manufacturers as a valve stem balance. (Other means are now employed as a balance in tires). Where this occurs it may be corrected by removing the casings and buffing out the inside with a wire brush and then wiping the casing thoroughly with benzine and a cloth. Sometimes this may be reduced to a negligible amount by changing the tires about from wheel to wheel.

Vulcanized spots or patches with a metallic glue base on tube or casing will also cause this condition. In some few cases the metallic bead in either clincher or the casing will collect static charges. This may be corrected by inserting through the clincher into the metal bead a brass screw with enough of the screw protruding to make contact to the rim when the tire is again placed on the wheel. Metal valve stems from the tubes that are insulated from the rim of the wheel have in some extreme cases caused this condition and have been bonded to the rim of the wheel to correct the trouble.

Removable metal rims insulated from the rest of the wheel by paint and rust which are, of course, good insulators at extremely high frequency have been known to cause noise of the type described, but may be easily remedied by insuring good contact to the rest of the wheel.

at "a." Place two or three lengths of tape as shown and wind on one layer of No. 18 d.c.c. magnet wire. Now place a covering of empire cloth or insulating paper over the first winding and then



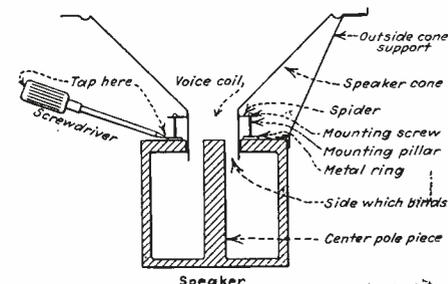
wind on the second layer. The process is continued until approximately 200 turns of wire has been wound on the form. Fasten the ends of the tape so that the winding will stay in place and remove the coil from the form. The coil is now well taped and the leads are brought out for connection to the battery.

The method of using the coil and battery is shown at "c." A soft iron bar should be placed across the poles of the magnet before connecting the battery. About 1 minute is required for the process if the magnet is struck a few sharp blows with a hammer.

Centering Cones With Outside Spiders

By John M. Thompson

On many of the dynamic speakers using outside spiders, especially the



Remagnetizing PM Speakers

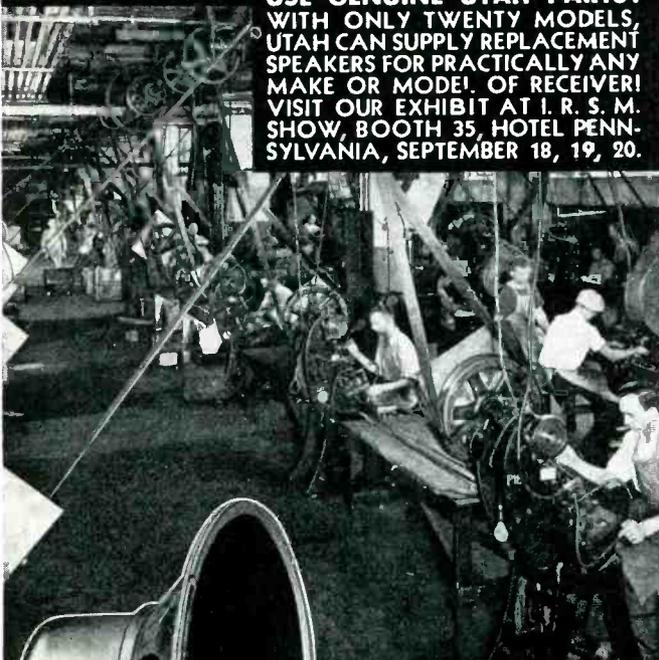
By Harry D. Hooton

The most common cause of poor quality and low volume in old permanent magnet speakers is weak magnets. The process of remagnetizing is very simple and the only equipment needed is a 6 volt storage battery and a coil of No. 18 wire as described below.

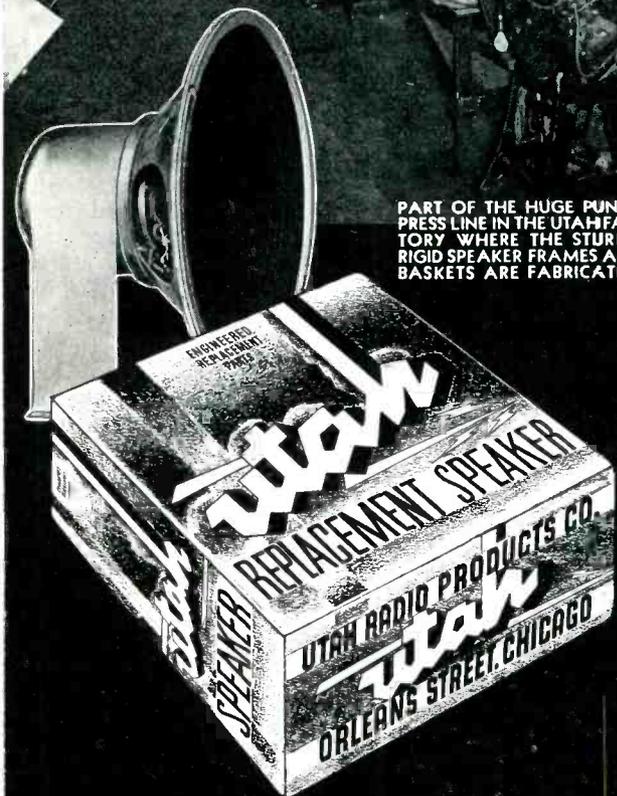
First make a form as shown in Fig. 1

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Mica Tuned Units..... List \$3.00
Align-Aire Units..... List \$5.50

Variable Tuned Wave Trap

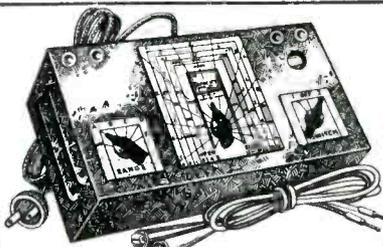
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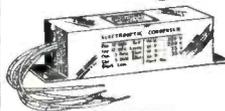
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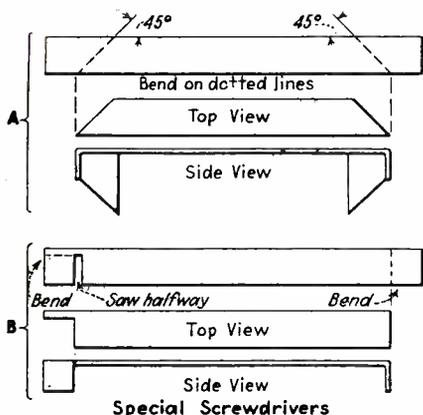
CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS CHICAGO

older Magnavox with removable head, the following repair for off center voice-coils has been used with considerable success.

The mounting pillars, to which the outside spider ears are secured, are usually fastened to a metal ring which surrounds the center pole piece. Check with shim between voice coil and pole piece to locate point where voice coil binds. Then place the point of a drift or screwdriver against the outer edge of metal ring, on side *opposite* to binding point and tap handle sharply but lightly with hammer, toward the side which binds. Then check clearance with shim or gauge and repeat process until satisfactory clearance has been secured. Note that shims are not used in usual manner but only to check clearance.

Where above method is not applicable, the screws which secure spider to mounting pillars can be loosened with an offset screwdriver for round head machine screws or an open end wrench for cap screws. It may be necessary to clean slot in screw before screwdriver can be used, as the manufacturers sometimes use a seal or glue on screw head as a lock. When spider is loose, slide centering shims between voice coil and pole piece in usual manner, tighten spider screws, remove shims and check for clearance and if okeh, smear a drop of DuPont's cement on the head of each screw to act as a lock against vibration.

If a standard offset screwdriver will not do the trick the following type will. To make these two handy little fellows you will need several pieces of steel about $\frac{1}{8}$ "x $\frac{1}{2}$ "x4". Tool steel would be



preferable. Heat tips and, securing the end in a vise on a 45° angle to main piece and about $\frac{1}{4}$ in. from end, bend main piece sharply to form a right angle. Other end of this screwdriver should be bent in same manner but head should be in opposite direction.

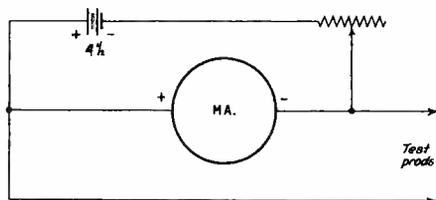
File off screwdriver tips formed, so that they are about $\frac{1}{8}$ in. long and faces are parallel to main piece or handle. Temper and harden the same as regular

screwdriver. The mate to this screwdriver is similar but instead of bending at a 45° angle, one end has blade bent over to form a right angle and opposite end has a parallel blade. To form the blade paralleling the handle cut a slot about half way across main piece.

Low-Range Ohmmeter

By Marion L. Rhodes

To check resistors of values less than 100 ohms I use the diagrammed circuit. The meter is a 0-1 mil affair. Other



parts needed are a 5,000 ohm volume control, a 4 $\frac{1}{2}$ volt battery and a pair of test prods.

The scale of the meter will read from left to right instead of from right to left. With an infinite resistance across the test prods full scale reading will be obtained. When the resistance across the test prods is equal to that of the meter half-scale deflection will occur, since in an equally divided parallel circuit of this type the current is equally divided.

The formula for calibrating the meter scale in ohms is:

$$X = \frac{ra}{100-a}$$

Where X is the unknown resistance, (r) is the meter resistance and (a) is current through the meter expressed in per cent of total scale deflection. If meter reads .5 ma. this is 50 per cent, if reading is .2 ma. this is 20 per cent, etc.

We can work out the example of a half-scale reading as mentioned above in the following manner:

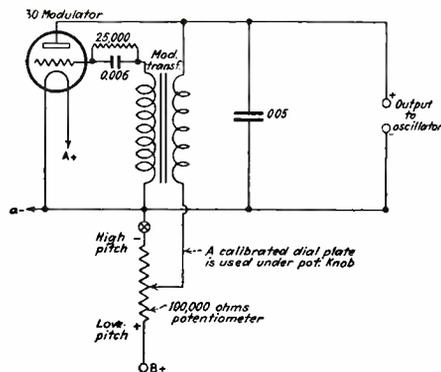
$$X = \frac{35 \times 50}{100 - 50} = 35 \text{ ohms}$$

The meter, battery and volume control can be mounted in a single case, making a convenient and portable test unit.

Varying Modulated Oscillator Audio Pitch

By Harry D. Hooton

Many test oscillators are designed for 400 cycle modulation as this frequency



has become more or less standard. However, it is desirable on many service jobs to have a higher or lower pitch available. It is a simple matter to vary the pitch of the modulation frequency over nearly two octaves of the musical scale by simply adjusting the plate voltage of the modulator tube as shown.

In some test oscillators such as the author's RCA Victor Model 97B, it is necessary to cut the B plus lead from the oscillator section and insert a paper condenser of about 2 mfd. capacity in this line. The oscillator tube is then fed plate current through a resistor of about 10,000 ohms or higher. This arrangement is to prevent changes in oscillator frequency when varying the modulator plate voltage.

The less voltage applied to the modulator, the higher the pitch; a 100 cycle note is produced with about 45 volts on the tube.

Cleaner for Waveband Switches

By H. H. Beech

The ordinary typist's eraser is very good for cleaning the contact surfaces of waveband switches. Merely erase dirt accumulations and then brush away particles.

Where contacts are tarnished or discolored a little silver polish can be used.

How to Solder Aluminum

By Paul E. Grivet

Coil shields must frequently be soldered to chassis where intermittent noise occurs as simply tightening the fastening screws or bolts does not always effect a permanent cure. To solder shields made of aluminum put one drop of lard oil on the spot to be soldered and then proceed as usual with rosin core solder.

Lard oil contains stearic acid which acts as a flux, readily mixing with hot melted rosin. Be sure to wipe off all excess oil carefully when the job has been completed.

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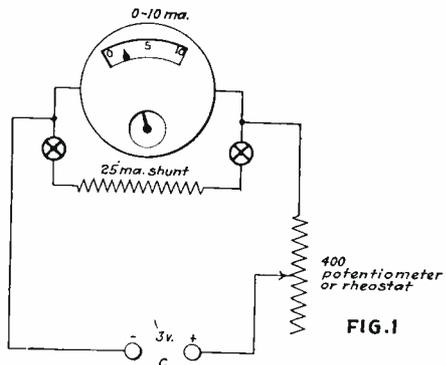
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Making Meter Shunts

By Harry D. Hooton

No doubt, like the author, there are many radio service men who have meters with odd ranges gathering dust in some obscure corner of the shop. Some of these meters are quite valua-



ble and can be used in modern service work if the proper shunts and multipliers can be found.

The author had a set of Jewell instruments. Therefore, it was decided to make the necessary shunts right in the shop. The method of shunt making is outlined here and can be used with any meter whether standard or not.

The materials necessary are a supply of shunt-metal strip or wire (can be obtained from any radio supply house), a 400 ohm rheostat or potentiometer and a 3 volt "C" battery. Fig. 1 shows the circuit used, a 0-10 ma. meter being shown for illustration.

The actual process of determining the value of the shunt is very simple. Suppose that we wish to extend the range of the 10 ma. meter so that currents up to 25 ma. can be measured. This means that the value of the shunt must be adjusted in such a manner that all the original readings on the meter scale will be multiplied by $2\frac{1}{2}$ in order to read the correct current with the shunt in place. The first step is to connect the battery and the 400 ohm variable resistor as shown in Fig. 1, and then adjust the rheostat until the meter reads exactly full-scale or 10 ma. The shunt is now placed across the terminals of the meter, as shown, and its resistance altered by filing or scraping until the pointer indicates $\frac{3}{5}$ of the original full-scale or 4 ma. If the shunt resistance is carefully adjusted, all readings from 0 to 10 when multiplied by $2\frac{1}{2}$ will indicate the true value of the current flowing and the accuracy will be as good as when the lower range is used.

When making shunts for the larger current ranges, it is best to arrange the circuit so that the shunts are paralleled, i.e., the 25 ma. shunt is left in the circuit when extending the range to 100,500 or 1,000 ma. or higher. The

chief objection to this practice is that if a small error is made in adjusting the low range shunt, a considerable inaccuracy will result on the higher ranges. However, this method simplifies the construction and if the first shunts are carefully adjusted, no appreciable error will be introduced.

When the temporary connections of the shunt are made, do not use copper wire leads; connect the shunt directly on the meter in exactly the same way it is to be permanently mounted. This is especially true on the higher ranges where the required shunt may be only a fraction of an ohm and even a very short lead or a poor connection will cause a considerable error. It is best to solder all joints carefully and clean them with alcohol in order to prevent corrosion.

Determining Unknown I. F. Frequencies

By Harry D. Hooton

A large number of receivers sold by "bargain" houses present considerable difficulty when it comes to servicing. In the first place, no service data is to be found in the standard service manuals and much of the alignment must be carried out by guesswork. The i.f. frequency is usually difficult to determine and the author has worked out the following method of finding the exact frequency to which the transformers are tuned. It is often easier to make this simple test than to thumb through pages of data, hunting for intermediate frequency listings.

Tune the receiver to some short wave band (if it is an all-wave receiver) and adjust the test oscillator to resonance with it. Determine the frequency of the oscillator as accurately as possible and mark it down for future reference. Now increase the oscillator frequency until the signal is heard again and once more determine the frequency at which the oscillator is operating. The difference between the first frequency setting and the second or "image frequency" setting divided by 2 will give the frequency to which the i.f. stages are tuned. Thus if the first setting is read 9,500 Kcs. and the second is found to be 10,412 Kcs., the i.f. frequency is $\frac{10,412 - 9,500}{2} = \frac{912}{2}$, or 456 Kcs.

If the i.f. transformers are very much out of alignment, more than one image frequency spot may be obtained. This is also true of receivers using i.f. transformers having a flat-top or wide frequency response (such as high-fidelity receivers). However, most of the receivers encountered are merely of the ordinary "peaked" type, the better quality sets being listed in the standard service manuals.

Re-Vamping Dynatrons

By Gerald Evans

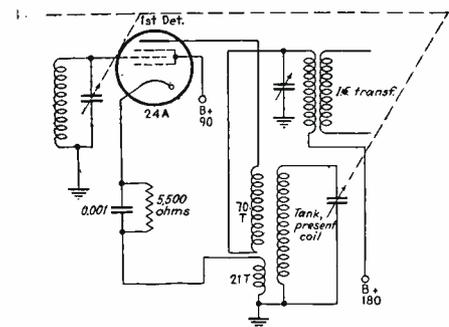
The Crosley 122 still turns up occasionally with a dead oscillator, and most of the time they remain in that condition due to the type of 24 tubes that have to be used for replacement.

The best solution to the problem I have seen is to change the first detector into a composite detector-oscillator. This requires no change in tubes, very little change in coil, and makes an oscillator that is dependable.

Remove the oscillator coil from the can, and remove the present six turn pickup coil, disconnect the tap on the tank circuit, cementing a piece of paper over disconnected tap to hold it down. Wrap thin cardboard $\frac{1}{4}$ in. longer than the entire tank coil around the tank winding until the cardboard layer is at least $\frac{1}{8}$ in. thick. This is to remove capacity effects between windings, and is the most important part of the whole procedure.

Wind all coils in the same direction as the tank coil. For the pickup wind 21 turns of No. 30 wire over the low end of the tank, and for the plate coil, space $\frac{1}{4}$ in. from the pickup and wind 70 turns No. 34 wire over the high end of the tank coil. The first turn of the pickup should be directly over the first turn of the tank winding.

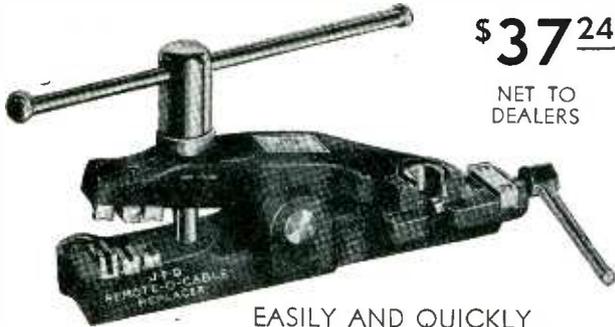
Connect the top end of the plate coil to the plate of the first detector tube, the bottom to the primary of the IF transformer. This appears to be unusual, but note that the IF trimmer has one of its plates grounded, and this manner of connection is imperative. Connect the top end of the pickup coil to the condenser resistor combination in the cathode circuit.



Remove all except filament wiring from the old dynatron oscillator socket, but leave the tube in that socket. Most customers have a nightmare at the first sign of tube removal.

Change the second detector cathode resistor from 3500 to 15000 ohms, and the tone will be improved, with a slight increase in gain.

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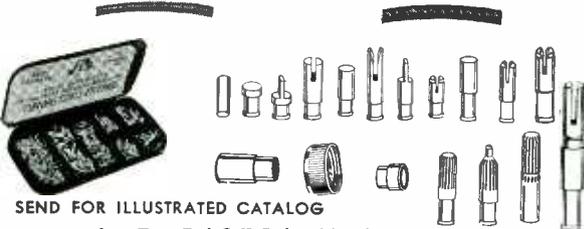


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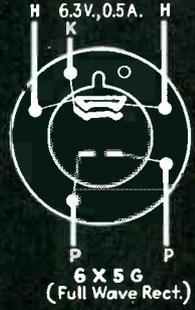
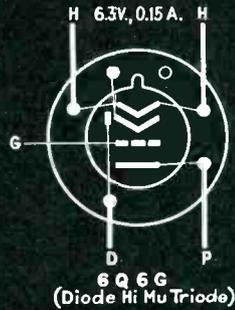
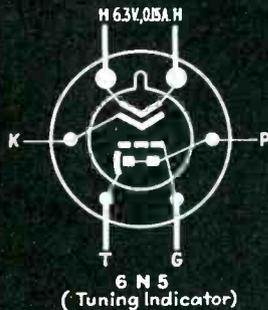
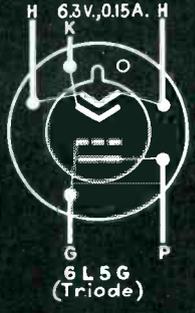
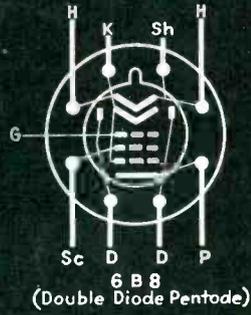
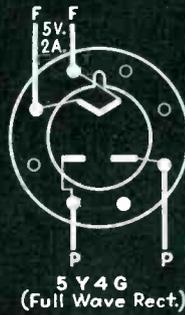
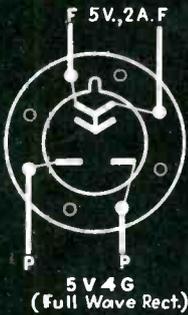
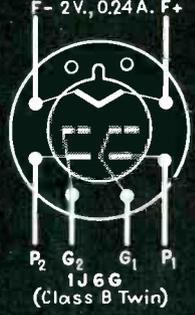
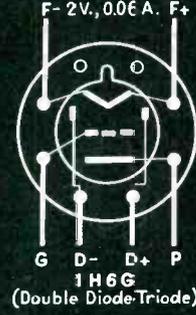
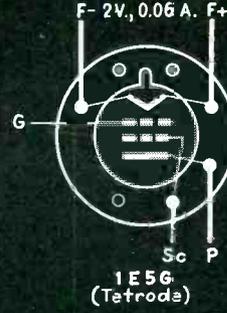
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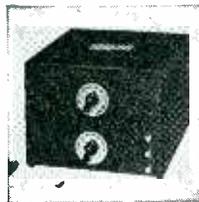


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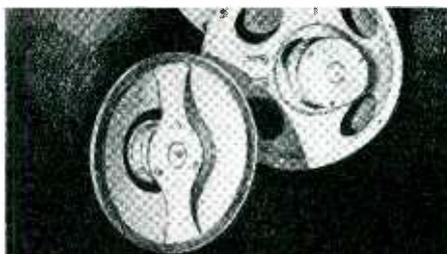
Set dead or very scratchy . . . Look for failure of special audio input transformer primary. Replace with same device or substitute resistance coupling. Tone will suffer if ordinary transformer is used for replacement due to special characteristics of original.

CROSLEY 143

Neon pilot lights when set switch is in Off position . . . Replace leaky 8 mike, 150 volt condenser.

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Most common faults, in order of occurrence . . . Burned out 6-ohm resistor; faulty 0.5 condenser; tuning control cord frozen. Cords may frequently be freed and rinsed and re-used if handled carefully.



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PONTIAC 544267

Failure of oscillator to tune over entire range, especially at low frequencies . . . Due to change in capacity of the fixed padding condenser used in oscillator circuit. Replace with identical condenser obtained from United Motors Service as the size is quite critical.

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McGRAW-HILL PUBLISHING COMPANY, INC., 330 West 42d Street, New York, N. Y. Branch offices: 520 North Michigan Ave., Chicago; 883 Mission St., San Francisco; Aldwych House, Aldwych, London, W. C. 2; Washington; Philadelphia; Cleveland; Detroit; St. Louis; Boston; Atlanta, Ga.

SEARCHLIGHT SECTION

EMPLOYMENT and BUSINESS OPPORTUNITIES—SURPLUS STOCKS—DISCONTINUED MODELS

UNDISPLAYED—RATE PER WORD:
 Positions Vacant and all other classifications. 15 cents a word, minimum charge \$3.00.
 Positions Wanted (full or part-time salaried employment only) ½ the above rates, payable in advance.
 (See ¶ on Box Numbers.)
 Proposals, 50 cents a line an insertion.

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

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



Get on the List FOR THESE CATALOGS

Here are the four big catalogs sent to every Burstein-Applebee customer this year. Each catalog is brim full of latest information and lowest wholesale prices on Radio, Electrical and Refrigeration Equipment. Write today—get on the list.

BURSTEIN-APPLEBEE CO.
 1012-14 McGee St., Kansas City, Mo.

SELLING OPPORTUNITIES

OFFERED—WANTED
 Selling Agencies—Sales Executives
 Salesmen—Additional Lines

OPPORTUNITY OFFERED

One of the foremost producers of compact and table model radio sets is expanding distribution. Many territories available for capable, experienced men with following among large retailers and distributors. Commission basis. Write in detail stating experience and references. RW-207, Radio Retailing, 330 West 42nd Street, New York City.

CHICAGO REPRESENTATIVE

ADVERTISER RA-205 July issue Radio Retailing—please communicate with R. F. Primrose, 28th floor, 330 W. 42nd St., New York City.

* WANTED * Representatives

To Represent Manufacturer of Nationally and Internationally Known Refrigerators Manufactured for Last Six Years.

ALL SIZES 4-5-6-7-8-12 AND 14 CUBIC FEET.

Will Supply Private Brands Fully Protected by Patents Owned by Chief Engineer.
 Only Men of High Standing and Proven Ability Need Answer.

R. W. 204, Radio Retailing,
 520 No. Michigan Ave., Chicago, Ill. *

New "SEARCHLIGHT" Advertisements

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

FOR SALE Old Established

Public Address Business
 In one of the largest cities in the South. Large rental business. Sales and distribution for one of the old established lines. Wonderful opportunity for anyone that knows the business and has the capital.

BO-206, Radio Retailing,
 520 N. Michigan Ave., Chicago, Ill.



SOUND - ON - FILM EQUIPMENT

New — Used — Rebuilt
 16 mm and 35 mm

Startling low prices on projectors, screens, sound heads, amplifiers, microphones, portable projectors, arc lamps, rectifiers, generators, etc.

Write for details

S. O. S. CORP., 1600 Broadway, New York

Genuine PHILCO

PARTS and TUBES

Wholesale Catalog sent FREE on request.

WILLIAMS PHILCO., INC.
 800 S. Adams St., Peoria, Illinois

SEARCHLIGHT SECTION

Covers the Advertising of

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- Auction Notices
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- Patents for Sale
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- Wanted
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- Tutoring
- Miscellaneous For Sale, For Rent and Wanted

Address

Departmental Advertising
 Staff

McGraw-Hill Publications
 330 West 42d St., New York

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 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 4 to 17 tubes—AC, battery, 32 volt, 6 volt and auto sets; latest Public Address systems—America's most reliable Windcharger and FarmPower units—tubes, batteries, accessories, etc. You can fill every service need from this great new ALLIED Catalog, at lowest prices.

FAST, RELIABLE SERVICE

YOUR SERVICE DEPT. NEEDS IT

SEND COUPON

ALLIED RADIO

833 W. Jackson Blvd. Dept. 18-H
 Chicago, Ill.

Send us your new 1937 Catalog (Free).

Name

Address

City State

LETTERS

Would Charge For Tube Tests

Who started this "Your Tubes Tested Free" game that is perpetuated by every radio dealer and service shop throughout the country? In fairness to the dealer and the customer isn't it about time that this practice was corrected?

Why should the dealer spend from fifty to two hundred dollars for an instrument to be donated to the customer? Why should the dealer spend his valuable time testing a dozen tubes and when none show up defective make no charge? Most customers express surprise, and why shouldn't they! With twenty minutes of his time gone and not even one 59 cent tube sold, can't you just see the dealer resolving that next time there will be at least a few defective? A good many tubes have been sold just that way.

Why does the dealer give away his services? Because under the present setup the tube manufacturer himself uses national networks and newspaper space to tell the dear public that tubes are tested free everywhere. What can the dealer do?

Radio tubes are package goods and should be sold as such over the counter, without any gratis service.

SANGER, CALIF. HOWARD A. FAST

We may be wrong, but we feel that this is one of the few services that should be rendered free, where tubes are brought to the store. It sells tubes, and increases store traffic. And store traffic is one of the retail radio field's most difficult problems.
EDITOR.

Troublesome Trade-Ins

The radio trade should stop kidding itself about trade-in allowances, discussed in your July issue. Ten per cent of the new set purchase price toward the old radio is the maximum that we or any other dealer can afford. This is our rule and we stick to it. We lose a little business but make it up in the net profit.

Special trade-in allowance deals are all wrong. It is up to manufacturers and distributors to put an end to this. It raises hob with the public's sense of radio values and is putting many dealers in the red.

BINGHAMTON, N. Y. H. J. DARCH
Weeks & Dickinson, Inc.

Flowers Gracefully Accepted

(The following letter, received by Isadore Goldberg, president of the Pilot Radio Corporation, was forwarded by Mr. Goldberg to *Radio Retailing*.)

There is one point in connection with your publicity to which we attach great

importance and which we have mentioned on several occasions in our general correspondence with the factory but unfortunately without result. We refer to the advisability of your taking a full page advertisement periodically in the publication "Radio Retailing."

This magazine is subscribed to by all our dealers and, we feel sure, by the majority of Pilot dealers throughout the world. It is generally considered to be the mouthpiece of all important radio manufacturers and the medium by which all distributors and retailers keep in touch with the latest developments in radio. It is undoubtedly the best magazine for publicity and for giving prestige to a brand.

We recommend very strongly a Pilot advertisement in "Radio Retailing" at least every quarter, the advertisement to be a full page one near the front and to contain illustrations of your various models. We suggest starting with an advertisement in the near future when you are ready to commence shipping your new models. Please, give this matter your consideration.

S. H. E. COCKS
Watson, Phillips & Cia.

APARTADO POSTAL 67, MEXICO D.F.

Not In This Trade Journal

I am one dealer that has all Winchargers going 100 per cent and I have to laugh at the discussion going on in the trade journals as to such devices giving poor results, etc.

We don't put them up for nothing either.
WATERTOWN, WIS. BEN C. SCHMUTZLER

Advertisers, Please Copy

You are, no doubt, familiar with the writer, inasmuch as we have been in business on the West Coast for many years and subscribe to all of your electrical and radio magazines. We wrote to your company some time ago regarding a line of electric vacuums and as a consequence took on the Clements Mfg. Co. of Chicago and have sold machines in increasing quantity each year. We also have a line of refrigerators, washers and ironers.

Now, we want to add a line of radio receivers, preferably a complete one including everything from 4 tube midgets up to 10 or 12 tube consoles, also radio-phonograph combinations and auto-radios. We prefer a low priced line as this is the type of merchandise on which we have been able to show a large volume. The line must be approved by the underwriters for sale in large Pacific Coast cities. We could, incidentally, use several hundred auto-

radios right away, at a price. These need not be late models. We could use several hundred midgets obtained reasonably, approved or unapproved.

Please let us have your advice.

SAN FRANCISCO R. A. WHITEHURST
Allied Manufacturers, Ltd.

Leaders Wanted

Can you give me the name and address of a few radio factories making cheaper models of radio receivers?

BUTLER, PENNA. CAPERS ELECTRIC SERV.

All In Our July Number

As subscribers to your magazine we find many latest articles and news of immense value to us and we are therefore asking you to kindly renew our subscription, when due, to two years more, and send us bill so that we can instruct our American friends to pay you or we can remit you direct.

In this connection we shall be glad if you could kindly send us direct the latest data and characteristics on all the new types of metal tubes as are being announced almost every month and also all tables and information and complete data on windings of power, filament and output transformers, chokes, etc., for all voltages and ohmages.

We are also interested to receive from you advance information, schematic diagrams, blue prints and specifications of the latest 1937 models of allwave receivers released by large manufacturers. Such information will be of value to radio importers, distributors and dealers here.

SINGAPORE, INDIA KHOO HENG PHO & Co.

Specifications appeared in our July number; data on new sales features appeared in the same issue. We print all data relative to new tubes immediately upon receipt of such information. EDITOR.

We Stand Corrected

So rarely do I find an error in "Radio Retailing" that I am leaping upon the "Washington Flash" item appearing on page 28 of your July issue. It is not correct because no changes in our proposed rules have been submitted to us or to any manufacturer. Some changes are under consideration and I hope we will get some action in the next few weeks, but it tickles me to at last, after months and months, find even a slight inaccuracy in your columns.

WASHINGTON BOND GEDDES
Radio Manufacturers Ass'n.

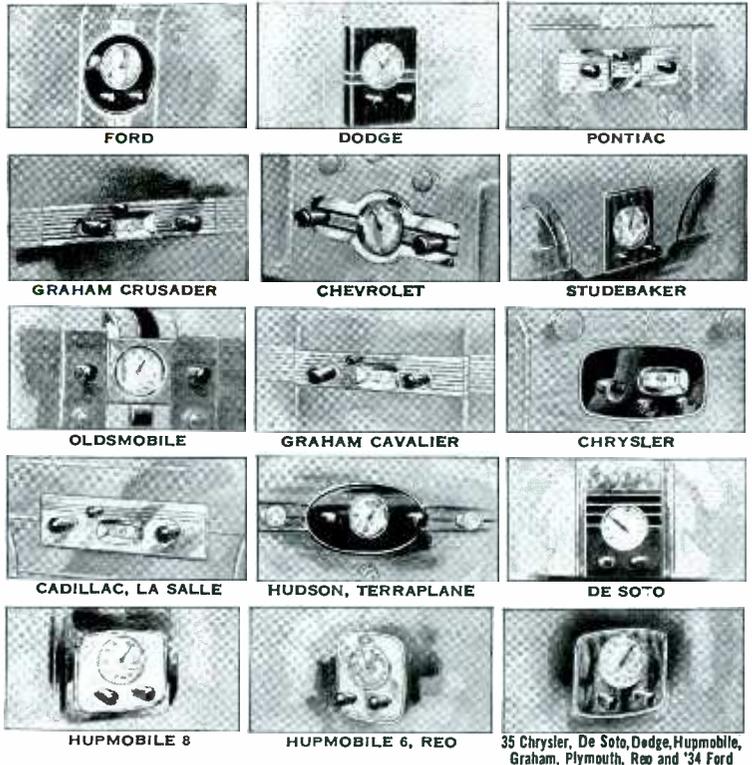
A Custom-Built ROAMIO

for every car!

The passenger car registrations are about 22,640,000. Only about 10% of these cars have radios. Almost 90% of the automobile radio market is still wide open to the right radio receiver and the right kind of merchandising effort.

Crosley crashes this market with two brand-new Roamios and with custom-built controls for all modern cars. These Roamios represent the kind of performance that automobile drivers have been looking for—the kind of value that means quick sales, large volume.

Study the specifications, look over the new controls, compare the value . . . and you'll realize that here's your chance to get more than your share of the automobile radio business in your territory.



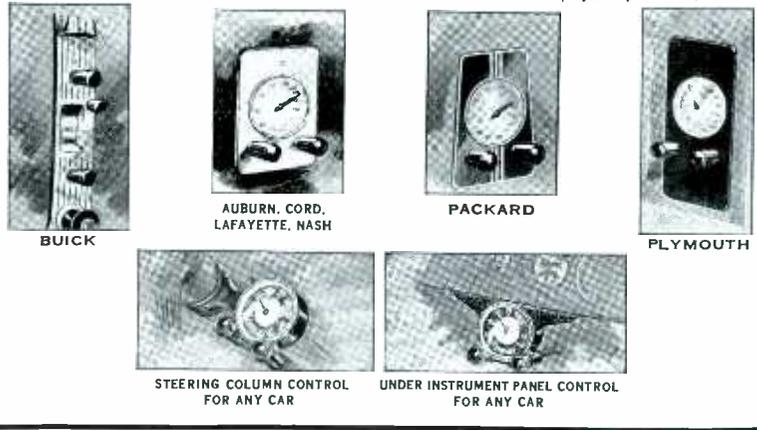
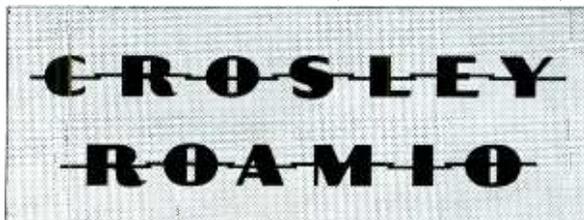
CROSLEY ROAMIO A-266



Six-tube superheterodyne automobile receiver with eight-tube effectiveness . . . no spark plug suppressors . . . balanced antenna tuning system . . . seven tuned circuits . . . full wave interruptor type vibrator . . . newly developed automatic volume control . . . automatic setting of dial logging . . . three gang tuning condenser . . . single housing . . . full floating moving coil electro-dynamic speaker . . . custom-built remote control with illuminated airplane type dial. Instrument panel controls that match the dash of any car are available. If preferred, however, steering column or under-dash controls are available.

\$39.95

(Prices slightly higher in Florida, Rocky Mountain States and west.)



CROSLEY ROAMIO A-366



Six-tube superheterodyne automobile receiver with nine-tube effectiveness . . . no spark plug suppressors . . . balanced antenna tuning system . . . seven tuned circuits . . . full wave synchronous type vibrator . . . newly developed noise reducing automatic volume control . . . bass compensation on volume control . . . automatic bass booster . . . push-pull amplification in output stage . . . full variable tone control . . . automatic setting of dial logging . . . three gang tuning condenser . . . full floating moving coil electro-dynamic speaker . . . adaptable to either header or under-dash speaker or combination of both . . . custom-built remote control with illuminated airplane type dial. Prices include choice of remote control.

\$54.95

With matched dual speakers \$64.95

THE CROSLEY RADIO CORPORATION, CINCINNATI POWEL CROSLEY, Jr., President



Focused Tone

IS "THE SALESMAN'S LINE"

Step-up Values That Make It Easier For Salesmen To Step Up In Price

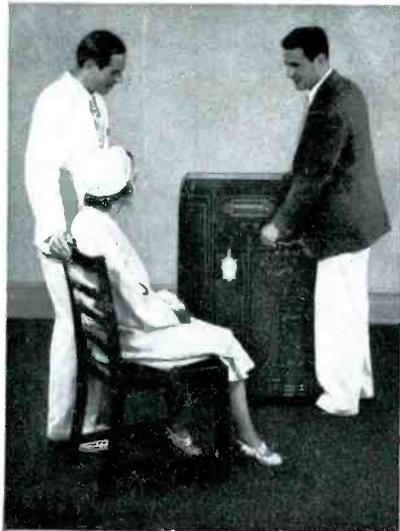
There are EXTRA and BIGGER PROFITS in store for you when you go after the "sell up" business with General Electric Focused Tone Radio. Every step up in price is fully justified by a step up in demonstrable values. Features that the buying public can understand and appreciate. Features that are really "hot" with reason-why selling arguments. Features that fit every price bracket and meet the standard of performance demanded by every type of customer. Features your salesmen CAN show and demonstrate. It's a matter of simple salesmanship to break sales records and cash in on this "trade-up", profit-making opportunity.

See Your G-E Radio Distributor For Complete Information On
General Electric's "STEP UP" Selling Plan.

FEATURES THAT HELP YOU

"SELL UP" FOR PROFITS

- G-E Colorama Dial—automatically flashes from red to green when the receiver is in perfect tune.
- G-E Automatic Frequency Control—instantly and automatically lines up the receiver on peak of resonance with the incoming signal.
- G-E Local Station Personalizer—a "custom-made" scale that flashes the station's call letters as you tune in.
- G-E Silent Tuning—eliminates all noise while tuning between stations.
- G-E Metal Tubes — for stabilized performance.
- G-E Sentry Box — directs and controls reception.
- G-E Sliding-rule Tuning Scale—lists all stations in a straight line, using a separate scale for each band. It's "as easy to read as a ruler."



GENERAL ELECTRIC

Focused Tone Radio

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

