

DECEMBER • 1939

RADIO *and* *Television* RETAILING



In This Issue

NAB-RMA-RSA CO-OP
REPORT

BEST SETS MONEY CAN BUY

SHOULD ALL STORES
SERVICE

EXPORTS SINCE SEPTEMBER

MODERN MANAGEMENT
METHODS

REFRIGERATION SALES
IDEAS

MOVING MORE RECORDINGS

SELLING SOUND TO CARNYS

STABILIZING PAYROLLS

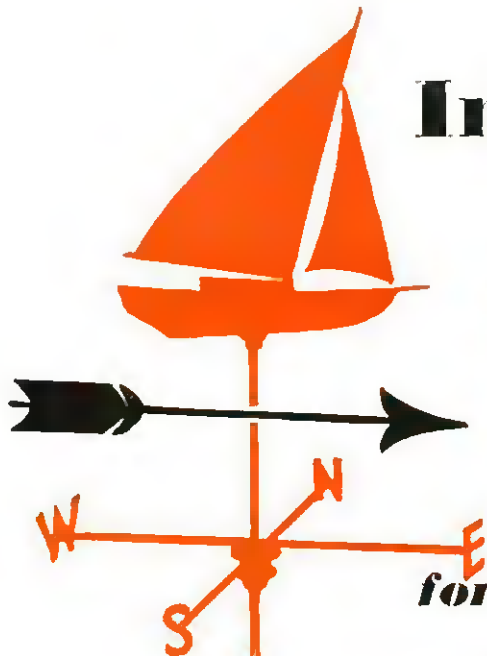
MODEL SERVICE BENCHES

AFTER SIGNAL TRACING

and other features

ENTERTAINMENT and EDUCATION Follows Every New Radio Home

A
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Price 25c



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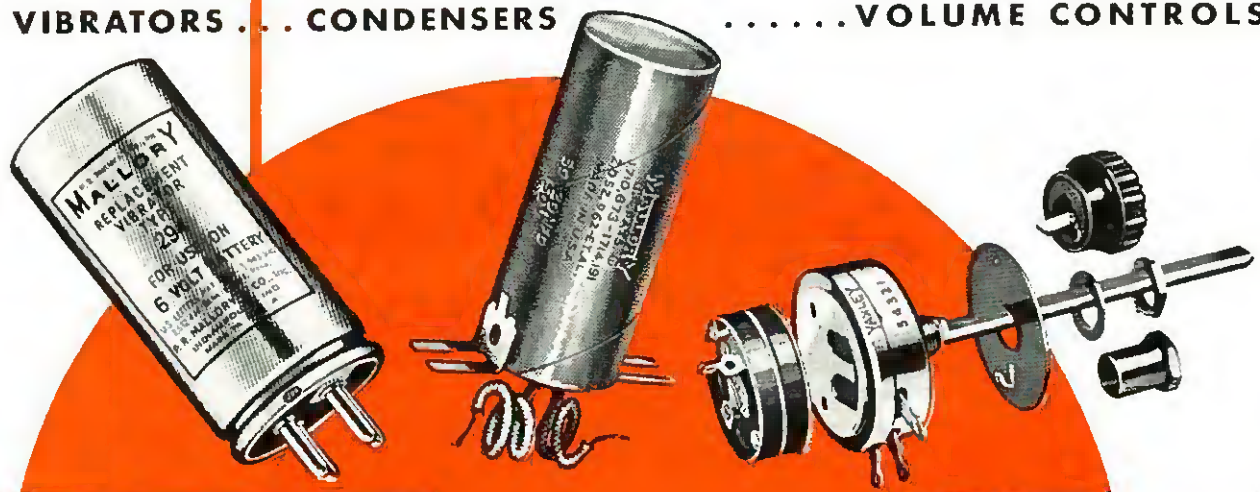
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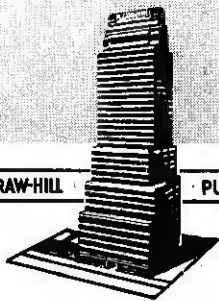


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A McGRAW-HILL

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DECEMBER 1939

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 O. FRED. ROST Contributing Editor
 C. A. NUEBLING Technical Editor
 J. H. AVELING Assistant Editor
 HARRY PHILLIPS Art Director

LEE ROBINSON Sales Manager
 R. E. McGRAW Sales Promotion Manager
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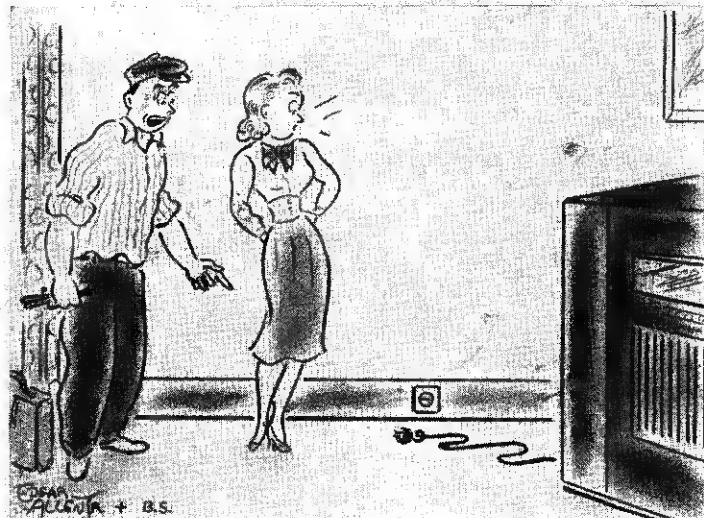
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James H. McGraw, Jr. President
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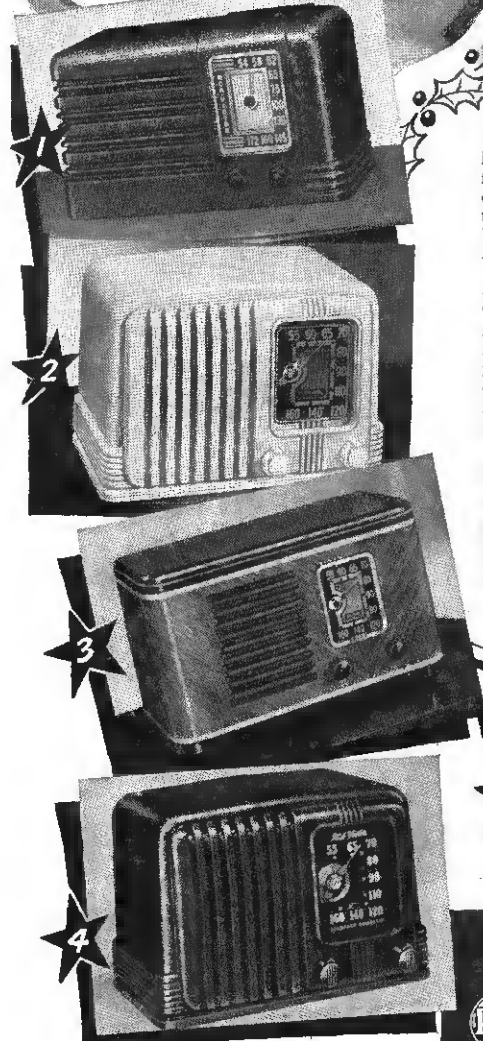
SALES STATIC . . . After this, Madame, before you say your radio doesn't work I suggest you plug the plug in the socket!





"WHEW! LOOKS LIKE EVERYBODY'S GETTING ONE OF THESE NEW RCA VICTOR LITTLE NIPPERS!"

Santa Claus himself couldn't think up a better gift! With this line of brand-new RCA Victor Little Nippers in your store, the Christmas season will be a selling season for you—in a great big way! Because these Little Nippers are the sort of gifts that will click! Low in price, packed with features, and alive with radiant color, they'll sell like water in the Sahara! Put 'em in your window and on your counters—and they'll bring you a merry jingle, jingle of profits!



1 Talk up these sales features of **Model 45X1** and you'll "go to town!" Extra large, Edge-lighted Dial . . . Pentode Beam Power Output for greater volume and purer tone . . . AC-DC operation . . . 5 RCA Victor Tubes, 2 of them double-purpose, giving set equivalent of 7-tube performance. Mahogany plastic cabinet. Also available in Ivory as **Model 45X2**.

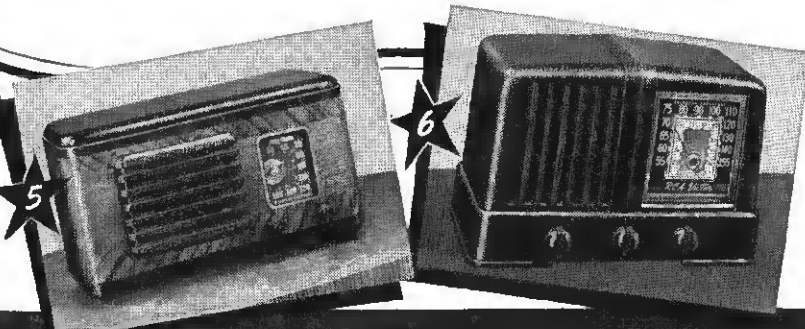
2 **Model 45X12** has an array of features that spell sales! Built-in Magic Loop Antenna . . . large, easy-reading, clock-type Dial . . . super-sensitive, Electro-dynamic Speaker . . . powerful and selective Superheterodyne Circuit. Antique Ivory plastic cabinet with easy-grip, plastic knobs. Also available in Mahogany plastic as **Model 45X11**.

3 Put big set features in a little radio—and you have a sales honey! **Model 45X13** has big, built-in Magic Loop Antenna . . . Easy-reading, clock-type Dial . . . Super-sensitive Electro-dynamic Speaker . . . Superheterodyne Circuit with Power and Selectivity. Beautiful cabinet constructed of fine woods and veneers.

4 Sensational sales features at an amazingly low price. **Model 46X1** has Pentode Beam Power Output for more volume, purer tone . . . 7-tube performance, because 2 of the 5 RCA Victor Tubes are the double-purpose type . . . Built-in Magic Loop Antenna . . . Fire Underwriters' Approval. Deep Mahogany plastic cabinet. Also available as **Model 46X2** in Ivory finish.

5 Hotter than a firecracker! **Model 46X3** has Magic Loop Antenna . . . 5 RCA Victor Tubes, 2 of which are the double-purpose type, thus giving this instrument 7-tube performance . . . Pentode Beam Power Output for greater volume and purer tone . . . Plug-in Ballast Resistor . . . Fire Underwriters' Approval, and a delightful cabinet of rich woods and selected veneers.

6 It's beautiful—it's low in cost—and look at all the sales features **Model 46X11** has! Tunes in Standard Broadcast, State and Municipal, Police and International Short-wave Bands. Handsome, plastic cabinet. Also available in Ivory as **Model 46X12** and in beautiful wooden cabinet as **Model 46X13**.



For finer radio performance—
RCA Victor Radio Tubes

Trade-mark "RCA Victor" Reg. U. S. Pat. Off.
by RCA Mfg. Co., Inc.

RCA Victor

RCA MANUFACTURING CO., INC., CAMDEN, N. J.
A Service of the Radio Corporation of America

Will you be *with* us or *against* us in 1940?

Soon the choice will be up to you

Will you be *selling* Royal Rollator Refrigeration in 1940 . . . a brand new line of superb refrigerators in which, from top to floor, there's space galore . . . extra space set free by Rollator simplicity? Or will you be selling against this great competitive advantage?

Will you be *selling* a refrigerator that says to the housewife, "Help yourself to an extra shelf . . . at no extra cost"? Or will you be selling against this spectacular offer?

Will you be *selling* a refrigerator powered by the simple, trustworthy Royal Rollator unit . . . the King of Cold-Makers? Or will you be selling against it?

★ ★ ★

These are things for you to decide. So that you may be fully informed . . . see for yourself all that Norge dealers will be selling in 1940 . . . you are most cordially invited to attend the Norge Preview in your locality. Just fill in and mail the coupon below and you will be notified as to the time and place of the nearest Norge Preview.

Greater **NORGE** for 1940

NORGE DIVISION BORG-WARNER CORPORATION, DETROIT, MICHIGAN

*Don't miss the
1940
Norge Preview
in your locality . . .
mail this coupon
without obligation
TODAY!*

_____, 1939
Norge Division Borg-Warner Corp.
670 E. Woodbridge St., Detroit, Mich.

Yes, I would like to take in the nearest Norge Pre-view. Without obligating me in any way, please advise me as to the time and place.

NAME _____

ADDRESS _____

CITY _____ STATE _____

RR-101

There's No Doubt About It Now . . .

The BIG PRO REFRIGERATOR

SINCE the first announcement of Philco's plans in refrigeration for 1940, it has become mighty plain that dealers from Coast to Coast know that a new major force has entered the industry. If you haven't yet heard the advance story, better contact your Philco distributor at once because important decisions are being made right now that will mean important profits to many a dealer in the years to come.

Activities in lining up dealer coverage are far ahead of schedule. The trade seems to recognize a ground-floor opportunity in the Philco Refrigerator contract. And there is no doubt that the 1940 Philco Refrigerator line will be a sensation. It will positively smash all tradition and present to the buying public a new idea of refrigerator service and value.

There is no doubt, also, that Philco will be set to sell that product with the finest appliance distributing and merchandising organization in the country. From one end of the nation to the other, they're lined up solidly now; the same strong, successful, hard-hitting distributors that have carried the Philco name to overwhelming leadership over the years. They have had a hint of what is to come in advertising, promoting and merchandising the Philco Refrigerator, and they're straining at the leash to go into action in the old-time dominating, smashing, Philco way that they know so well.

With all this advance excitement, Philco is being careful to keep in mind its original objectives. Of course, Philco intends to move ahead in refrigeration. But the purpose from

Philco All Year 'Round for Profits All

PROFIT NEWS in ACTION for 1940 is PHILCO!

the beginning was and is to give Philco distributors and Philco dealers a balanced, All-Year-'Round source of profits. Philco means to keep its refrigerator contract *profitable* for its dealers. Only as many dealers are being sought as are needed to accomplish the goal that has been set. And those dealers who have done an outstanding job for Philco through the years are entitled to first consideration in building the dealer organization for Philco Refrigerators. Philco welcomes them now into its All-Year-'Round family just as they will welcome the advantages of Philco public

acceptance, Philco advertising and Philco merchandising in their refrigerator picture.

Philco is working day and night at headquarters to get ready for the distributor convention which will unveil the greatest line of refrigerators ever to greet the eyes of the trade. Shortly thereafter you'll see them at local meetings in your area. If you're making your 1940 refrigerator plans now, you should be giving some mighty serious thought to the glorious pageant of profits that will greet you at those meetings.

PHILCO RADIO & TELEVISION CORPORATION

Year 'Round

HOME RADIO • AUTO RADIO • TELEVISION • PHONOGRAPHS • RADIO TUBES
PARTS • REFRIGERATORS • AIR CONDITIONERS • DRY BATTERIES

This new CBS power...

WCKY 50,000w.
CINCINNATI, O.

WRVA 50,000w.
RICHMOND, VA.

WWL 50,000w.
NEW ORLEANS, LA.

KRLD 50,000w.
DALLAS, TEX.

KWKH 50,000w.
SHREVEPORT, LA.

WJSV 50,000w.
WASHINGTON, D.C.

in addition to ...

WABC 50,000w.
NEW YORK, N.Y.

WBBM 50,000w.
CHICAGO, ILL.

8 MORE COMING! 

WCAU

PHILADELPHIA, PENN.

50,000w

WJR

DETROIT, MICH.

50,000w

KNX

LOS ANGELES, CALIF.

50,000w

WCCO

MINNEAPOLIS, MINN.

50,000w

KMOX

ST. LOUIS, MO.

50,000w

WBT 50,000w.

CHARLOTTE, N. C.

WHAS 50,000w.

LOUISVILLE, KY.

KSL 50,000w.

SALT LAKE CITY, UTAH

*50,000 watts
where it counts
the most!*

CBS

Free!

Brand New Invention

Brings Your Present Tube Tester Up-to-Date!



REG. PRICE ~~\$25~~
BUT YOURS ABSOLUTELY FREE

What an opportunity to bring your tube tester up-to-date! Dozens of new type tubes, new terminal arrangements and numerous new heater voltages obsolete most present testers.

NOW... this amazing Philco offer brings you a new \$25 R.T.L. Modernizer absolutely FREE! This revolutionary new invention plugs into any tube tester having a six-prong socket and heater voltages up to 7½. Enables it to handle all present tubes and heater voltages as well as allowing for hundreds of new tubes with voltages up to 150. And when new tubes with different sockets are developed... a socket blank adapts them! A chart giving correct settings for your particular tester comes with the Modernizer. Charts are now ready for practically all testers in use.

Small, compact... measures 5 by 12 by 2¼ inches... weighs only 4 pounds. Finished in light grey crackle. Has two rows of telephone type switches, one row in red, the other in ivory.

Act now... find out how easy it is to obtain one of these sensational Modernizers for your tube tester FREE!

PHILCO RADIO & TELEVISION CORPORATION
 Tube Dept., Philadelphia, Pa.

I want to bring my present tube tester up-to-date. Please tell me how I can get the new \$25 R.T.L. Modernizer absolutely FREE.

MY PRESENT TUBE TESTER IS—
 Make _____ Model _____
 NAME _____
 ADDRESS _____
 CITY _____

ask
Your PHILCO DISTRIBUTOR
How to Get Yours
or Mail Coupon NOW!

The RADIO MONTH

DECEMBER

1939

FUNNY if it wasn't often painfully true is a crack in Garbo's latest flicker "Ninotchka." "A radio," says leading-man Douglas, "is a box you buy on time-payments and before you tune it in they tell you there's a new model." . . . **Tube Type Limitation** is the ostensible objective of a letter on its way to set licensees from a big "bottle" maker, urging them to choose from among 36 modern types when designing new sets. Unless we miss our guess, here's a crusade that will attract many campfollowers. And while we are on the subject of tubes . . . **FTC Hairsplitting** that excludes power supply rectifiers from the list of types which may be advertised as part of a set's lineup mars an otherwise laudable list of regulations aimed primarily at "dummies." So thinks the RMA. And so say we. . . . **Price Armistice** is the suggestion of a prominent industry exec to avoid possible balk in purchasing if receiver lists are upped too fast under pressure from rising raw material costs. Upping is inevitable, he says, but it should be delayed as long as possible. Not a bad idea. And the business could have used it, too, with "reverse english" in the days when prices dove in the opposite direction. . . . **Raw Material Costs** are becoming more serious and it is hard to tell whether rises are on the level or fictitious. Case in point is radio wire of all kinds. We hear that if you order number 18 you sometimes get smaller these days, pay more for it, and like it. . . . **FCC Tele Committee** has just sub-

mitted a preliminary report to the comish and, while it recommends that issuance of real, honest-to-goodness permission for broadcasters to sell time on a commercial basis be withheld, the wording appears to us to have as many loopholes as a frontier blockhouse. Certain stations, it appears, might sanctify sponsors by claiming them essential for the development of program technique. And, speaking of television . . . **Tele Price Test** conducted in upstate New York (details elsewhere in this issue) to determine consumer reaction to radically reduced equipment prices causes much speculation. We'd give our eye-teeth to know what its sponsors have concluded but they won't talk. . . . **Radios Per Home** in Indiana average 1.2 and 15 per cent own automobile sets. Sets in use average 4.5 years in age, according to a survey by Indiana University. . . . **Lowboy Renaissance** may be indicated by the news that one major set maker clicked off 40 per cent more business on such a model this fall than production had planned for. . . . **City of Pittsburgh's** director of public safety, George E. A. Fairley, writes that his department is experimenting with portable radios, striving to further reduce weight, plans eventual purchase of equipment for use by traffic officers at busy intersections, as part of the city's police and fire alarm system supplementing radio equipped cars. . . . **Chicago Checkup** of classified 'phone book ads while keeping a finger on the pulse of business this month produced some inter-



OUR COVER—We wonder how many consumers realize that they get their money's worth in walnut, wire and wattage alone when they buy a radio? Many sets would be "buys" as mere furniture with which to embellish a room. The wealth of entertainment and education that follows a radio into the home is an outright premium gift. Don't let the public take it for granted. Sing the praises of American broadcasting with every sale

esting facts and figures. 32 out of 380 outfits featuring radio service in their copy also advertise sets for sale and 42 of 177 who headline merchandise in their ads also advertise service. Further followup discloses that 89 per cent of the service shops advertising in the book actually stock at least mid-gets, portables or auto sets, that 76 per cent of the firms classifying themselves as dealers employ one or more servicemen even though some do not advertise this fact. Out of eight department stores contacted five farm out radio service while practically all furniture houses and jewelry stores with just a few sets on hand lean on distributors for repairs. . . . To our many friends throughout the business (whom we hope read down to this anything but bitter end) *Radio Retailing's* entire staff sincerely says: *Merry Christmas and a Happy New Year.*

W. MacD



W *We believe this FARNSWORTH
Achievement has no parallel
in the industry*

Starting from scratch only four months ago, Farnsworth today is acknowledged one of the major factors in the radio industry.

On August 7th, Farnsworth factory production was started. Most 1940 lines had been presented to the trade months earlier—during the spring months. At that time, however, the present Farnsworth staff had not even been formed.

In the few remaining fall months, Farnsworth went from a standing start to large-volume, mass production. Meanwhile, the Farnsworth line had been received so well that Farnsworth distributors and dealers continually increased their orders . . . forcing Farnsworth sales and production far beyond original estimates.

Despite this additional demand, Farnsworth has made a remarkable showing in meeting commitments. By November 1st, 70% of all orders booked had been filled . . . 100% for many models. Yet production has been controlled to prevent surplus inventories and to best serve dealer interests.

This record, we believe, is unique in the industry. For quality was not sacrificed for quantity. Farnsworth Radios went out correctly engineered,

soundly manufactured, trouble-free, brilliant in performance. As a result of these accomplishments, Farnsworth is the rising name in the radio industry—the company which the finest distributing organizations and dealers have joined because of the soundness and progressiveness of its program . . . a program which has justified their confidence in us.

But we at Farnsworth consider this only a beginning! During the coming year, more and more radio dealers who join hands with Farnsworth will benefit by their decision. Our program for the coming year is now in preparation. You will find it *designed from the dealer's point of view* . . . a policy which has become typical of Farnsworth operations.

To those who have not yet joined Farnsworth, I suggest you see your Farnsworth distributors immediately . . . learn how the Farnsworth program for the future carries on our reputation for doing things in this business the new, better and more *profitable way*.

L. J. Michaelis
PRESIDENT

FARNSWORTH TELEVISION & RADIO CORPORATION . . . FORT WAYNE and MARION, INDIANA

RADIO *and Television* RETAILING

DECEMBER, 1939



LITTLE MEN WHO AREN'T THERE—Victor Puppet Opera Troupe. In the making. In the orchestra pit. On the stage for "Faust." Amplified standard Musical Masterpiece recordings "ghost" the complete score



PUPPETS *for* PROFITS

WRAP up the Metropolitan Opera House. Ship it, complete with artists, to hinterland cities. Up will go public appetite for highhat music and, with it, sale of recordings.

Logical formula, but the "Met" can't be moved. Nearest thing to it is sending the Victor Puppet Troupe December 20, following a month in New York's Midtown Hall and performances before 300,000 at the nearby World's Fair that elicited 24,000 letters demanding the show go on tour. For the big little boxoffice bonanza directed by Ernest Wolff, operating on a 48-ft. stage modelled exactly after the

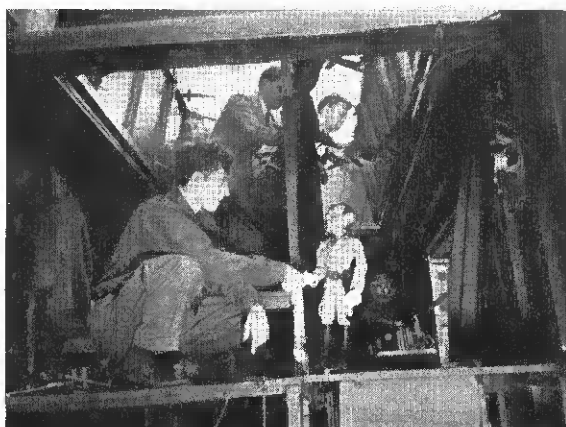
original to one-fifth scale, boasts 200 puppets (unique in that they are controlled from beneath the stage, show no strings) representing singers employed in such favorites as "Aida," "Carmen," "Faust," "Rigoletto," "La Traviatta," "I Pagliacci," "Cavalleria Rusticana," dressed in 300 costumes that ape those worn in actual performances, has props including one of the finest

collections of miniature furniture in the country.

Heart of the Lilliputian lodestone is the synchronization of stage action with standard Musical Masterpiece recordings. Lucky cities include Indianapolis, Chicago, Boston, Poughkeepsie, Philadelphia, Washington, Baltimore, Pittsburgh, Cleveland, Cincinnati, St. Louis, Milwaukee, Detroit, Ann Arbor, Toledo and Akron. (Schedule may be extended.)

Another novel puppet show also on the road is Shell Oil's truck featuring marionettes with a moral for "screwdriver" motorists, touring the country in the interests of a widely-publicized "Share the Road" campaign.

ANOTHER SHOW—One side of Shell Oil's van-body truck (equipped with sound by Radio Wire Television, Inc.) drops down to reveal a stage for actual roadside runs



In ROCHESTER

Station WHAM broadcast news bulletins twice daily from one window at the local power company, called attention to new 1940 sets displayed in another

CALL ours a vivid imagination if you like but: *Nothing could be quite as useless as a radio if there was no broadcasting. Or broadcasting if there were no radios.*

The two, of necessity, interlock and it is but a step from our extreme to the idea that whatever one branch of the industry does to help the other inevitably helps itself.

Magazine-minded, we like to think of one as the circulation department selling the editorial effort of the other. For some, this conception is too radical but no one will deny that when dealers and servicemen plug program excellence it increases the broadcasters audience and when broadcasters emphasize the importance of owning good radios sales and service incomes increase.

For this reason the joint promotional effort of the *National Association of Broadcasters* and the *Radio Manufacturers Association* (*Radio Servicemen of America* recently made it a trio) in progress throughout this past year has been of the utmost importance from a broad industry viewpoint and the report of its actual accomplishments, which follows, will be of wide interest.

As the Season Opened

In April and May of this year NAB members throughout the country held "Open House," in-



BROADCASTERS AND THE TRADE .

NAB-RMA-RSA joint promotional effort most effective all-industry cooperative to date

viting listeners everywhere to visit studios and stations and so firing the starting gun.

This was followed, in September and October, by the "Curtain Raiser" campaign, in which the trade directly participated. During this second phase:

COLUMBIA BROADCASTING SYSTEM presented a series of promotional broadcast shows entitled "So This Is Radio" over its networks, plus many spot announcements tied in with the "Curtain Raiser" theme.

NATIONAL BROADCASTING COMPANY's key Chicago stations WMAQ and WENR put on tie-in programs, supplied broadcast scripts to central-west affiliates and attracted thousands of visitors

**Managing Editor*

in the city for the American Legion convention to studios in the Merchandise Mart.

MUTUAL BROADCASTING SYSTEM told the story of new radio models coast-to-coast with WOR serving as the key, during one "Curtain Raiser" broadcast presented a talk by Dr. Lee DeForest.

In Connecticut WTIC, WDRC, WTHT, WNBC, WICC, WELI, WBRY, WATR and WNLC staged a statewide promotion. Each used six to ten announcements per day and gave an evening half-hour. The CONNECTICUT ELECTRICAL APPLIANCE ASSOCIATION simultaneously printed 500 large window display cards and placed these in prominent dealer windows. Jobber Stern of Hartford, key man for his group during

\$391,760 PREMIUM

THAT'S what it costs* American radio stations every day in the year to provide the present high-standard programs for entertainment and education . . . **the public gets it free for the mere price of a receiver**

*Includes talent, station facilities, telephone tolls, etc.



By

W. MacDONALD*

displayed all makes of radio sets in its reception rooms while the newspaper brought out an edition with its first five full pages devoted to the "Curtain Raiser" campaign marking radios greatest season.

San Antonio's KTSA tied in particularly close with local radio distributors. The lobby of the Gunther Hotel was taken over during the drive, a stage erected from which every local airshow for an entire week originated, 10 to 15 per day. The entire mezzanine was given over to a radio receiver display and all sets were wired so that after each broadcast they could "tell their own story" by means of transcriptions. One minute auditions were given by the station to any who cared to take them. Personal invitations were mailed to the public. Window cards were provided for dealers. Ten announcements were put on the air each day and all news broadcasts were sponsored by radio distributors.

Macon's WMAZ swung a crowd into the display rooms of Georgia Power, built it up from four to six each afternoon, made recordings of

(Continued on page 60)

Help Each Other UP

the activity, reported a sharp resulting upturn in sales, particularly heavy repair business.

Nashville's WSM centered its promotional effort at the State Fair, featured a display of new radio sets,

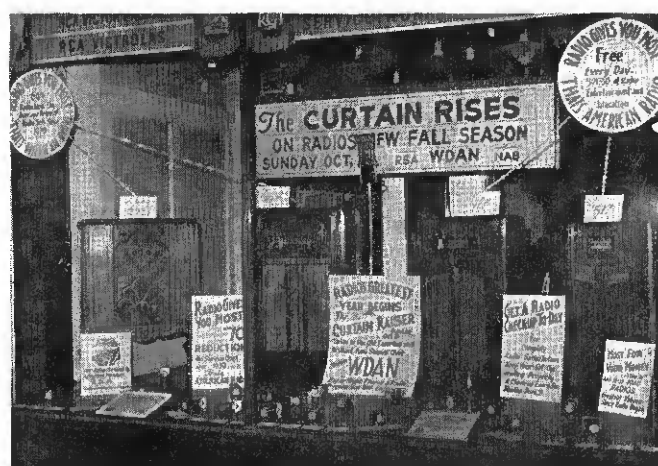
stressed points of modern receiver superiority on the air.

Baltimore's WBAL worked closely with the BALTIMORE NEWS-POST, held open house from September 25 to October 1,



In ABILENE

Station KFBI broadcast from a dealer exhibit at the Dickinson County Fair



In DANVILLE

Station W.D.A.N. arranged 15 displays like this for dealers, plugged for RSA repairmen over the air

EXPORTS

Eyed With

New Interest

FIRST MONTH OF WAR brought largest orders of year, particularly from Latin America. Dislocation of European industry opens new vistas for U. S. manufacturers. Fluctuating shipping, exchange, tariff, restrictions closely watched.

THE ill wind that blew over Europe in September fanned an already crackling flame of interest in export business among American radio equipment manufacturers.

First tangible indication of what disruption in production and distribution overseas might mean to U.S. suppliers was the RMA's report that the first month of war saw orders placed here for \$1,993,646 worth of equipment, by far the largest total registered this year and a substantial increase over last September. Unofficial advice received since from firms with their feet firmly planted in foreign fields discloses that shipments have continued to rise rapidly despite uncertainty of sailing schedules, difficult problems of exchange, tariff and other restrictions subject to constant fluctuation.

Early Trend Happily Reversed

Profiting most from the opportune influx of export business were American receiving set manufacturers, tube makers. Of the total noted above, receiver shipments accounted

for \$1,033,200 (18% above September 1938), tubes were shipped to the tune of \$295,120 (49% up). Parts and accessories, very much in the export doldrums throughout the first eight months of 1939 and apparently headed for a serious decline, staged a comeback at \$470,171 (within 11% of '38).

Importance of the export sales trend reversal may be gleaned from the further knowledge that September sales pulled chestnuts out of the fire for many American radio equipment manufacturers whose foreign business appeared riding for a fall earlier in the year. For the nine months of 1939 ending in September radio equipment exports from the U.S. hit \$15,368,091 (less than 4% under the first three quarters of 1938). Of this total, receivers exported were declared at \$7,140,609 (better than a 3% rise), tubes accounted for \$2,139,808 (5% gain) and parts and accessories brought in \$4,291,877 (off 19%). Transmitting equipment accounted for the balance).

Figures scanned before Septem-

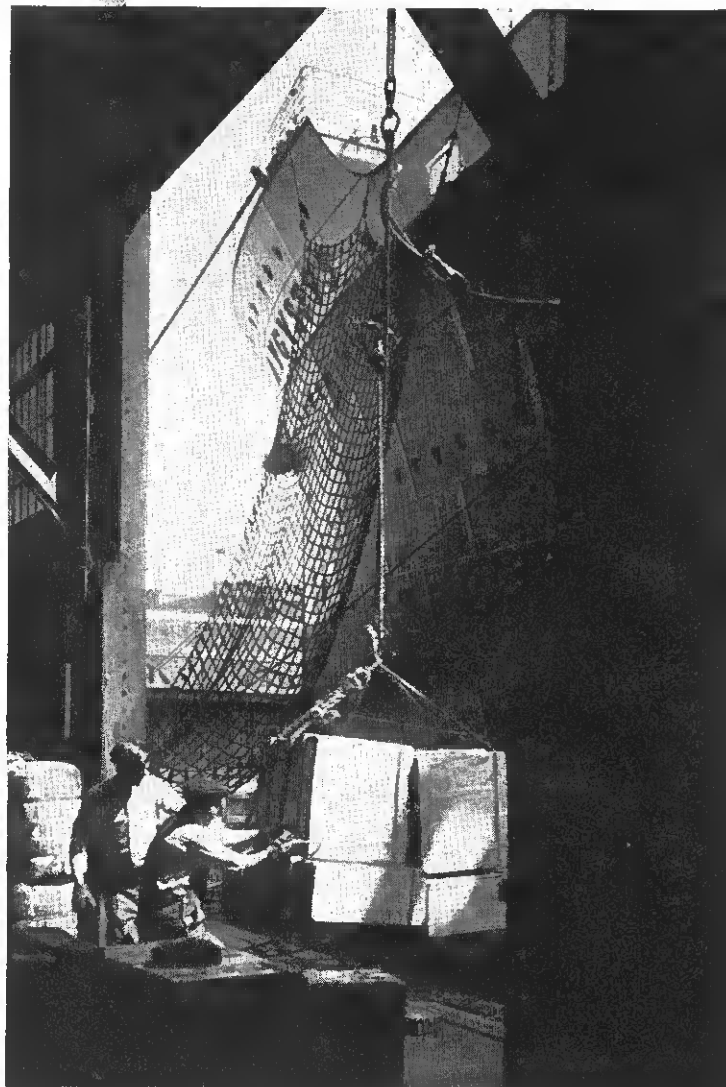
ber painted a picture far less pleasing to the eye and brush-strokes added by export artists during October and November seem certain to further improve it before the close of the galleries for the year.

Southern "Good Neighbors" Buy

Radio equipment shipments increased, and declined, in unexpected and unpredictable places. They rose to the United Kingdom, Ireland, Union of South Africa, Portugal, Switzerland and Greece, fell to zero in the case of Germany, stayed normally low for the U.S.S.R. and went off sharply for Belgium, France, Netherlands, Norway, Sweden, Canada, Turkey and the Philippine Islands in September as against the preceding month.

Most significant development was the substantial increase in American radio equipment exports to Latin America, particularly to Mexico, Cuba, Brazil, Venezuela, Guatemala, Nicaragua, Panama, Chile, Peru and Colombia. It is from the continent to the south of us, exporters

(Continued on page 60)



WORLD RADIO MARKETS Just Before the "BLITZKRIEG"

(Based on latest reports from American Consulates to Department of Commerce)

COUNTRY	POPULATION	SETS IN USE	DEMAND†	COMPETITION‡	COUNTRY	POPULATION	SETS IN USE	DEMAND†	COMPETITION‡
Afghanistan	12,000,000	350	Same	US, Ger, Neth, Eng	Ireland	3,000,000	142,653	Up*	Eng, Neth, US
Alaska	62,700	.....	.....	US	Italy	43,000,000	1,000,000	Up	(It)
Albania	1,000,000	3,500	Up	US, Neth, IT, Ger	Ivory Coast	1,500,000	.....	Up	US, Neth, Fr
Angola	3,000,000	3,000	.....	.....	Jamaica	1,100,000	3,340	Down	US, Eng
Ang.-Eg. Sudan	6,000,000	1,144	Up	Eng, US, Egypt	Japan	.....	3,402,489	.....	(Jap)
Arabia	8,000,000	200	Same	US, Eng	Kenya	3,335,000	2,996	.....	.....
Argentina	12,750,000	1,000,000	Up	(Arg) Eng, US, Neth	Latvia	2,000,000	137,049	Same	(Lat)
Australia	7,000,000	1,250,000	Down	(Aust) US, N.Z	Leeward Is.	92,000	540	Same	US, Eng, Neth
Azores	127,000	1,600	.....	.....	Liberia	2,000,000	300	Up	US, Eng, Neth
Bahamas	65,000	1,200	.....	US	Libya	900,000	8,500	Up	It
Barbadoes	200,000	.....	.....	US, Neth, Eng	Lithuania	2,550,000	53,667	Up	(Lit) Lat, Ger, Neth
Belgian Congo	11,025,000	2,147	Down	Neth, US	Luxemburg	300,000	30,000	Down	Ger, Bel, Fr
Belgium	8,500,000	1,002,045	Up	(Belg) Eng, Ger, Neth	Macao	220,000	500	.....	Eng
Bermuda	29,500	4,691	Down	US, Neth	Madagascar	3,797,936	2,600	.....	US, Neth, Fr
Bolivia	3,000,000	20,000	.....	.....	Madeira	215,000	1,400	Up	US, Ger, Eng, Neth
Brazil	47,000,000	450,000	Up*	.....	Malta	300,000	9,000	Up	US, Eng, Neth, Ger
British Guiana	350,000	1,800	.....	US, Neth, Eng	Manchuria	30,000,000	75,000	.....	Jap
Brit. Honduras	56,000	1,000	Same	US, Neth	Martinique	250,000	3,500	Same	US, Fr, Neth
British India	370,000,000	78,236	Up*	Neth, US, Eng, Ger	Mauretania	300,000	.....	Up	US, Neth, Fr
British Malaya	11,525,000	9,831	.....	.....	Mexico	19,500,000	450,000	Up*	US, Neth, Ger (Mex)
Br. Solomon Is.	95,400	47	Same	.....	Mozambique	4,045,000	4,500	Up	US, Neth, Ger, Eng
Br. Somaliland	340,000	.....	.....	Eng	Netherlands	8,700,000	591,933	Up	(Neth)
Bulgaria	6,000,000	55,000	Up	(Bulg) Ger, Neth, US	Neth. India	60,727,000	70,909	Up	Neth
Burma	15,000,000	3,790	Up	Eng, Neth, US, Ger	Neth. West Ind.	86,500	2,782	Same	Neth, Ger, US
Canada	11,209,000	2,000,000	Up	(Can) US, Eng	Newfoundland	290,000	12,500	Same	US, Can, Eng
Canary Islands	650,000	6,500	Up	Eng, Ger, Neth	New Hebrides	42,000	150	Same	Aust, Fr
Cape Verde Is.	186,000	600	Up	US, Ger, Neth, Eng	New Zealand	1,600,000	321,398	Up	(NZ)
Ceylon	5,800,000	6,007	Up	Eng, US, Neth, Ger	Nicaragua	1,000,000	4,000	Up*	US, Ger
Chile	4,650,000	105,000	.....*	.....	Niger	1,100,000	.....	Up	US, Fr, Neth
China	.....	500,000	.....	US, Eng, Neth, Jap	Nigeria	375,000	1,037	Up	Neth, Eng, US, Ger
Chosen	22,633,000	135,055	Down	Jap	Norway	3,000,000	364,548	Same	(Nor) Neth, Ger, Lat
Colombia	8,721,752	100,000	Up*	US, Neth, Ger, Eng	Palestine	1,400,000	35,708	Down	US, Neth, Eng, Ger
Corsica	325,000	.....	.....	Fr	Panama	550,000	12,000	Up*	US, Neth, Ger
Costa Rica	625,000	10,000	.....	US, Ger, Sw	Paraguay	900,000	8,000	Up	US, Neth, Ger
Cuba	4,000,000	170,000	Down*	US, Neth	Peru	6,000,000	35,000	Same*	US, Neth, Ger
Cyprus	367,000	2,600	Up	Neth, Eng, US, Ger	Phillipine Is.	12,500,000	30,449	.....	US
Dahomey	1,000,000	.....	Up	US, Neth, Fr	Portugal	6,780,000	81,171	Up*	US, Neth, Ger
Denmark	3,700,000	.....	.....	.....	Port. Guinea	400,000	241	Same	US, Eng, Ger
Dominican Rep.	1,500,000	4,500	Up	US, Neth	Puerto Rico	1,806,000	.....	.....	US
Ecuador	3,000,000	7,000	Down	US, Neth, Eng	Reunion	210,000	412	Same	Fr, US
Egypt	16,000,000	82,776	Down	US, Neth, Eng, Ger	Rumania	20,000,000	275,000	Up	Ger, Neth (Rum) Eng
El Salvador	1,500,000	10,000	Same	US, Neth, Ger	St. Pierre, Miq.	4,175	400	Same	US, Can
Estonia	1,130,000	.....	.....	.....	Senegal	1,500,000	.....	Up	US, Neth, Fr
Fiji Islands	200,000	900	Up	US, Eng, Neth, Aust	Seychelles	18,000	75	Same	Neth, US, Eng, Ger
Finland	3,834,662	316,633	Up	(Fin) Neth, Ger, Swed	Siam	14,500,000	30,603	Same	US, Eng, Neth, Jap
France	42,000,000	4,705,859	.....	(Fr) Neth, Ger, US	Sierra Leone	1,750,000	109	Same	Neth, Eng, US
French Guiana	30,876	80	.....	US, Fr	Society Is.	14,000	465	.....	.....
French Guinea	2,000,000	1,105	Up	US, Neth, Fr	Spain	.....	500,000	.....	Ger, Neth
French India	200,000	128	Same	.....	Span. Morocco	.....	1,500	.....	.....
Fr. Indochina	23,000,000	3,500	.....	.....	Surinam	110,000	2,500	Same	Neth, Ger
French Morocco	6,250,000	38,714	Down	Neth, Fr, Ger	Sweden	6,500,000	1,284,174	Same	(Swed) Neth, Ger, US
French Oceania	48,000	425	Same	US, Fr, Aust, Ger	Switzerland	4,000,000	458,074	Same*	(Swit) Neth, Ger, US
French Somali.	65,000	20	Same	Fr, US	Syria	3,050,000	18,000	Up	US, Ger, Neth, Fr
French Sudan	2,500,000	.....	Up	US, Neth, Fr	Tanganyika	5,000,000	577	Same	Eng, US, Neth, Ger
Germany	79,000,000	.....	.....	(Ger)	Tonga	30,000	80	Same	Eng, Neth, Aust, NZ
Gibraltar	24,000	2,800	Down	US, Eng, Neth, Ger	Trinidad, Tob.	412,000	3,500	Same	US, Eng, Neth, Ger
Gilbert Is.	32,300	50	Same	.....	Tunisia	2,608,000	28,000	Same	Neth, US, Fr, Ger
Gold Coast	3,600,000	300	Up	Neth, US	Turkey	16,200,000	48,000	Up	US, Neth, Ger, Eng
Greece	7,000,000	23,000	.....*	.....	Uganda	3,700,000	376	Same	Eng, US, Neth, Ger
Greenland	18,000	100	Same	Dan, US	Un. S. Africa	.....	.....	.....*	.....
Guadeloupe	265,000	3,500	Same	US, Fr, Neth	U.S.S.R.	165,000,000	350,000	.....	(Rus)
Guatemala	3,000,000	14,000	Same*	US, Ger, Neth	United Kingdom	50,000,000	8,984,250	Up*	(Eng) US, Can
Haiti	2,700,000	2,700	Same	US, Neth, Ger	Uruguay	2,000,000	140,000	Up	US, Ger, Neth, Arg
Hawaii	411,485	.....	.....	US	Venezuela	3,500,000	80,000	Up*	US, Neth, Bel, Ger
Honduras	56,893	.....	.....	.....	Virgin Islands	22,012	.....	.....	US
Hong Kong	850,000	11,620	Up	US, Eng, Ch, Neth	Windward Is.	258,000	527	Same	US, Eng
Hungary	10,300,000	419,215	Up	(Hung) Ger	Yugoslavia	15,600,000	147,572	Up	Neth, Ger, Eng, US
Iceland	117,000	15,400	Same	Ger, Neth	Zanz., Pemba	243,000	70	Same	Eng, US, Neth, Ger
Iran	12,000,000	2,500	Same	US, Ger, Neth, Eng					
Iraq	4,000,000	10,000	Same	US, Neth, Ger, Eng					

†1939 versus 1938 sales predictions (for all radios, regardless of make or country of origin) ventured by Consul "on ground," prior to September.

‡As it stood before the first European gun was fired. (First 4 countries shown in approximate order of volume obtained. "Home" manufacturing noted in parenthesis where important).

COUNTRIES NOW DIRECTLY AFFECTED BY HOSTILITIES SHOWN IN ITALICS

*Demand for American radios reported gaining rapidly since outbreak of war.

Should ALL Dealers

SERVICE

YES! says **FELIX SUTKEN***
...it sells sets

FELIX SUTKEN operates one of the best equipped radio shops in suburban Chicago. He sells his full quota of receivers, displaying both console and midget models of a nationally known brand. Service accounts for 59 per cent of his net profits.

The Roseland Radio Laboratory, at 10841 S. Michigan Avenue—14 miles south of Chicago's Loop district—with Felix in charge and Harry Flora combining service and sales, is representative of the specializing type of radio dealer at his best.

Profits Without Pressure

"We get nearly all our sales through service contacts," says Sutken. "We handle a good line of nationally advertised receivers, but, primarily, we advertise our service. Set sales are a natural result of giving good service.

"Our trade is largely residential and permanent. We have service accounts who have called us consistently over a period of ten years—We are on about the same basis as their family doctor. Naturally we get first call when they are ready for a new radio set. Usually it is when something serious, like a burned-out transformer, puts their old set out of service that we secure such a sale.

"No high pressure methods are used. The set is sold on its merit and advantages over the old receiver. Being in bad shape, the old

* Roseland Radio Lab., Chicago.

† Meisel Tire Corp., Chicago.



set is no trade-in problem. It is simply not worth fixing.

Substitute for Salesmen

"Our shop is attractive, with the indirectly illuminated service bench in the rear, the width of the store.

"More women buy console sets today than men and we make our display and window trim with this in mind. A surprising number of women visit the store; they can't help but look at the radio sets. Previously we did not get five women a week into the store, now they are nearly 30 per cent of our 'drop-in' trade. And modern console sets are attractive furniture which they visualize replacing an obsolete set in their own home.

"Practically all our console sales are for sets to replace obsolete receivers but, through our service contacts, we have sold our share of portable and 'second' sets also. We have no canvassers or outside salesmen.

"The guarantee of good service

back of our new sets gives us a distinct advantage over stores which do not feature service in their selling. A customer who has found our service satisfactory over a period of years has confidence in our recommendations of a new set.

Advantage Over Mere Advertisers

"We use no trick promotional selling or cut price advertising. The merchandise we sell is represented on its merit, its name and our personal guarantee that it will give satisfactory service.

"Chicago's Loop district, with its large department stores and frequent 'Sales' of leading makes of receivers with special price inducements or premiums, offers little competition this far out. The experience of our customers in this district, known as Roseland, has been that service from Loop department stores is slow and uncertain.

"We need no better inducement for them to purchase their radio from us."



tion, for which the customer pays the serviceman.

"On service calls within the guarantee period, we forward the call to a service laboratory which in Chicago has one of the best equipped shops in the city. In addition, this firm has a working arrangement with 39 other well equipped shops throughout the city. If the customer moves from the vicinity of our stores, within the guarantee period, he is still assured of good prompt service.

Reduces Fixed Overhead

"We pay a fixed minimum call charge for which the serviceman checks tubes and determines, in general, the cause of the customer's complaint. If only a tube is bad during the guarantee period he replaces this and returns the defective tube to us, for which we obtain a factory replacement and reimburse the serviceman. For more serious trouble he removes the chassis and speaker, which we forward to the local distributor for repair or replacement.

"Through this policy we eliminate the fixed overhead of a service department. Our service expense is only the labor cost within the 90

day guarantee period and this is a negligible amount for our entire group of stores. Furthermore, by not having a service department, we eliminate installation costs, which most radio firms feel obligated to give free—cutting into their profits.

"We find that customers are willing to pay for what they get in the way of installation when they find that we do not give this service free. Our argument is that they are assured of getting a good installation when they pay for it and this is especially true of our sales of automotive receivers.

Thinks Policy No Handicap

"From remarks of distributors' salesmen, we judge that our stores average about the same volume of sales as most two or three man radio shops. Floor space and cost of service are about the only parts of the overhead we charge against radio sales.

"Sets are on display. The customer can't help but see them when he comes into the store. We use manufacturer's backgrounds and sales helps liberally. The fact that we do not have our own service department does not appear to detract from our sales in the least."

ANSWERING the article, "Should All Dealers Service?" in the November issue, A. G. Wadsworth, Chicago manager of the Meisel Tire Corporation chain of stores, points out the advantages of his firm's policy.

"We farm out our installation and service work, 100 per cent. Our radio customers are tire and automotive accessory customers who buy from us because they already have an open account, because our time-payment policy is attractive, or just because they have found our salesmen courteous and pleasant.

Depends on Advertising

"We display only nationally advertised receivers. There is no argument about quality. The manufacturer, through his newspaper and magazine advertising, has done the selling job for us. The customer has the option of making his own installation or we will order it made for him by a radio service organiza-



NO! says A. G. WADSWORTH†
... farm it out

The BEST Radios



MOTOROLA

82A



PHILCO

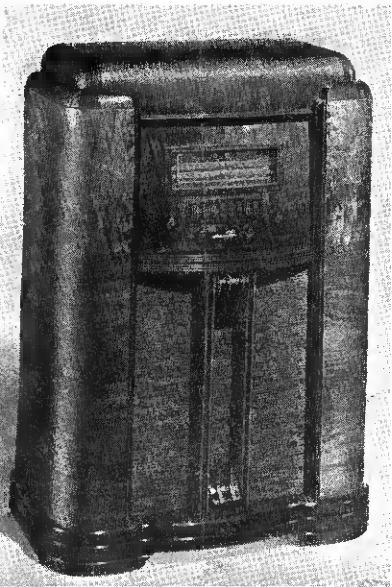
216RX

STEWART-WARNER

018A7

FARNSWORTH

AC90

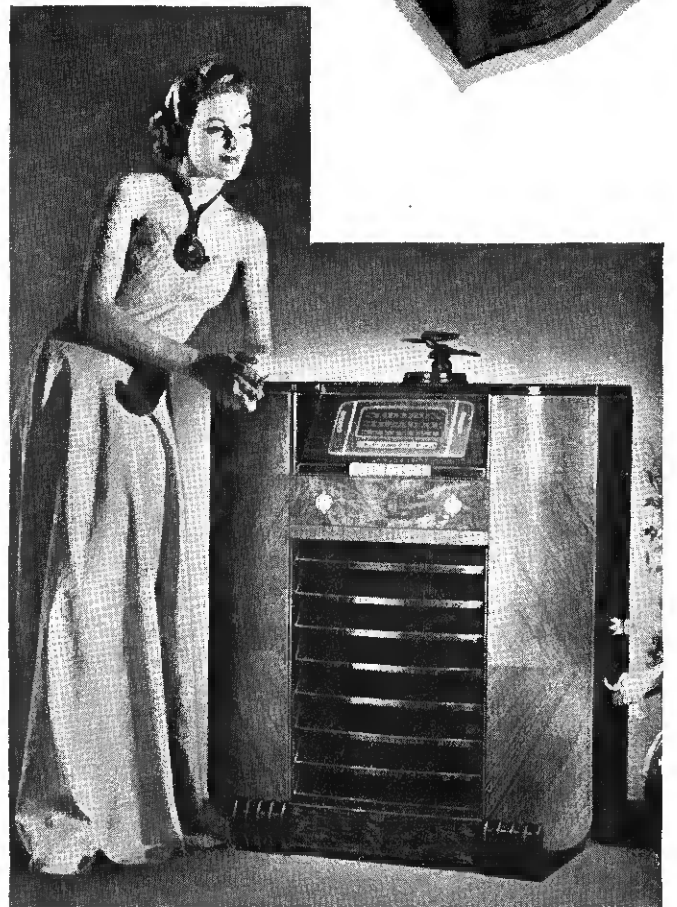
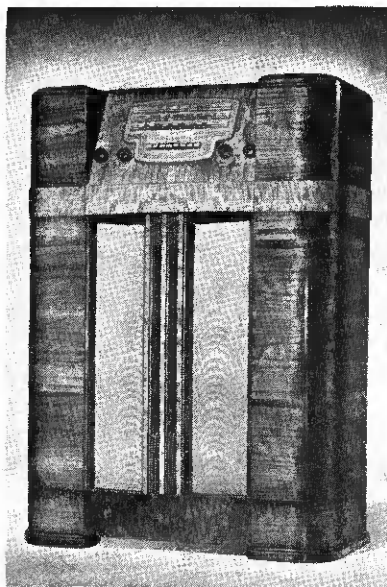


ADMIRAL

39411B

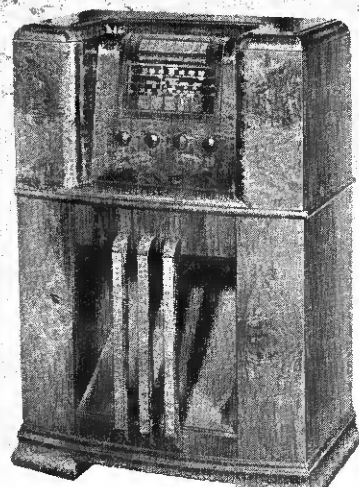
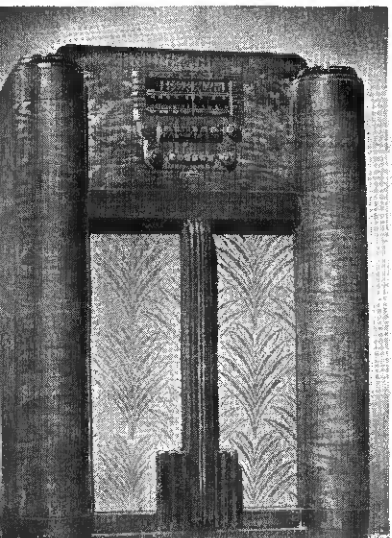
CROSLY

819M



GENERAL ELECTRIC

H116



** Exclusive of radio-phonograph combinations. Sets pictured here submitted by individual manufacturers as their top quality in straight radio class*

MONEY Can BUY*

DEMAND WILL ALWAYS BE HEAVIEST for low and middle-range merchandise but industry "pulls itself down by its own bootstraps" when it consistently fails to effectively promote top quality



RCA VICTOR

K130

HOVER around any hometown haberdashery long enough and you will not only hear men ask to see "something cheaper" but some few (believe it or not) timidly intimate that they might buy something better.

Haunt a department store for an hour and you will note that there are not only women (admittedly in the majority) purchasing almost exclusively by price-tag but also some who ask: "Is that the best you have?"

And for every man or woman tired of having salesmen erroneously assume they seek a bargain when they really want the best . . . to the point of saying something about it and thus running the risk of being classified as babes-in-the-wood wide open for overpriced gingerbread . . . we'll bet there are hundreds who feel that way yet never utter a peep. Not just hundreds who have money to burn and spread it around on swank merchandise because it comes easy but hun-

dreds who want quality above all else, can afford to pay for it but rarely get it because retail selling today generally starts from the bottom and hesitantly works toward the top, frequently developing cold feet midway between.

Not Too Late To Mend

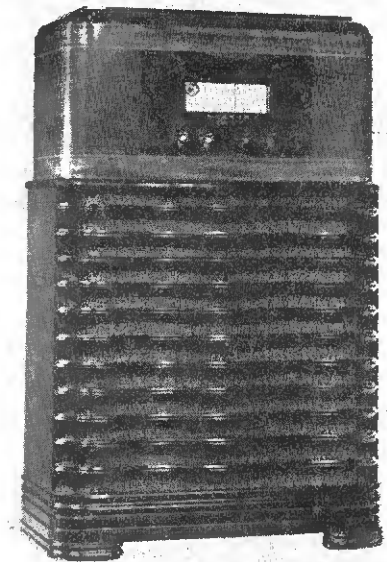
"Cheap Charlie" sales psychology seems to be typical of our times, permeates all American retail business. Lean years forced prices down, quality into the background. And as purchasing power picks up industry in general is slow to realize that, although volume will naturally continue to come largely from the sale of low and middle range merchandise, consistent abstinence from promotion of its very best virtually kicks profit possibilities among the relatively small (but still important) group that ordinarily thinks in terms of quality rather than price in the face and eventually kills this market.

One might almost call this cur-



STROMBERG-CARLSON

480M

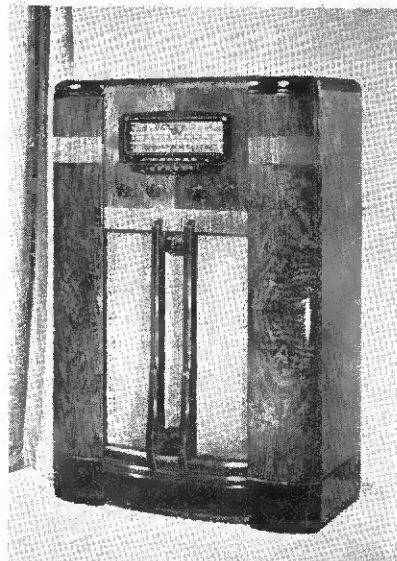


HOWARD

518S

WESTINGHOUSE

WR374



Promotion of the Better Models Raises the Tone of the Entire Business



rent failing of industry "pulling it-self *down* by its own bootstraps."

"Thinking from the bottom" is not an exclusive habit of the radio industry but we think it safe to say that the radio industry has lagged behind some in its effort to recapture top-strata prospects and so raise the entire level of its business. This accounts for the common misconception among consumers as to what a really good radio should cost (most of us within the business have been frequently shocked to learn how little our laymen friends think they need pay for the best). It has also forced us to employ difficult and expensive sell-up strategy even among prospects who would, had we not ourselves aided their natural interest in quality to atrophy, normally have bought the best within their means without fuss and feathers.

All this, we sincerely hope, is "ancient history" and the radio industry will once again occasionally emphasize its best for the profit there is in such merchandise itself and for the automatic uplift such promotion will give radio right down through to the rock-bottom models.

We think many of our readers will see a promotional angle that can be readily expanded upon and applied to problems of advertising, display and actual selling in the very headline of this article and our pictures of the best straight radios at present made.

"The BEST Radios MONEY Can BUY!" This headline is a mere label and *ought* not be novel. Yet we feel sure that because the industry's promotion has for years headed in the opposite direction it is novel.

BELMONT

792

SPARTON

1160

ANDREA

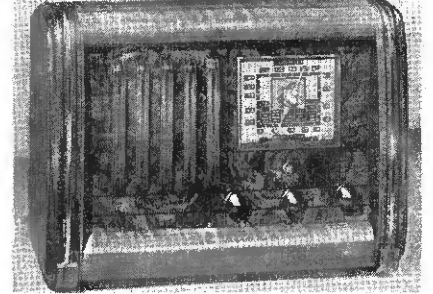
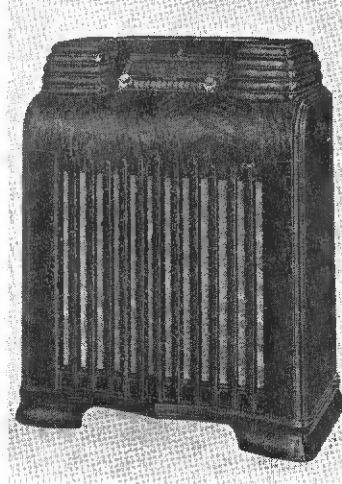
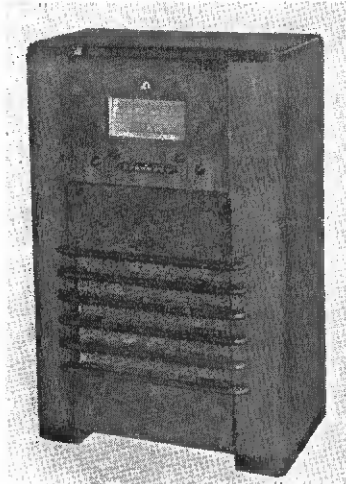
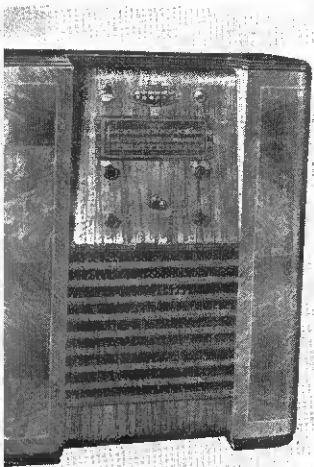
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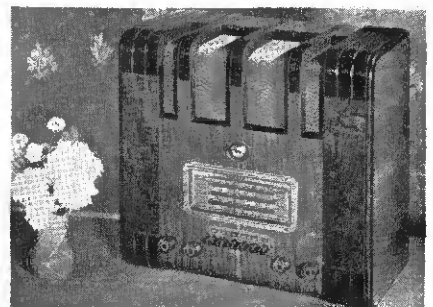
EMERSON

CS317



TRAV-LER

539M



SONORA

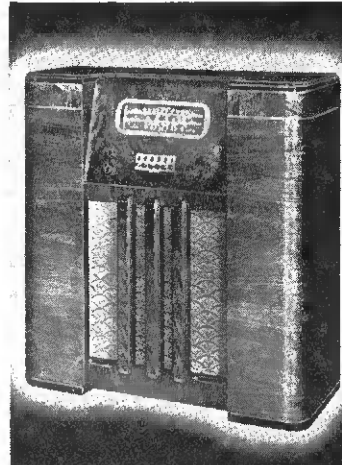
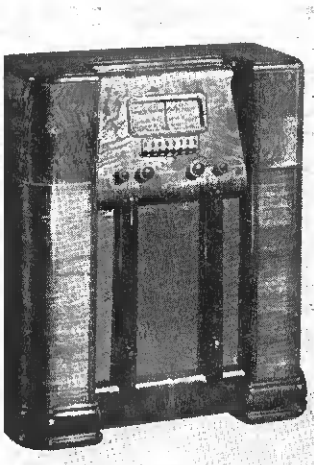
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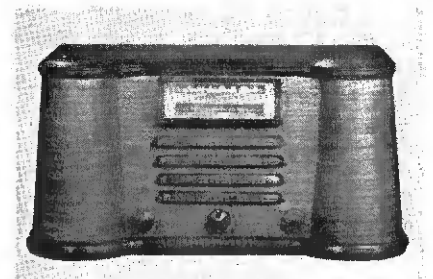
SENTINEL

199ACE



AUTOMATIC

458

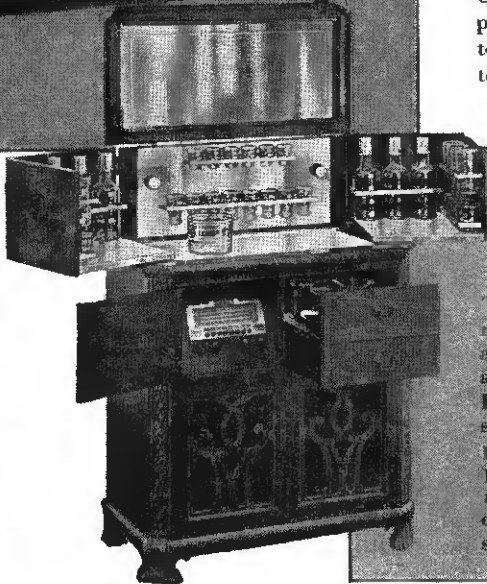


RADIOBAR ANNOUNCES DIRECT FACTORY-TO-DEALER FRANCHISE



CHIPPENDALE with Automatic Phonograph And PHILCO Radio

An exquisite cabinet creation of pure Chippendale design, houses a fully equipped bar, automatic record-changing phonograph, and 1940 PHILCO with electric push-button tuning. Here is an instrument with tremendous sales appeal.



***New Models! New Prices!
New Policy! Write Now
for Exclusive Territory!***

Now! Aggressive dealers can secure exclusive sales territory for RADIOBAR, on a high-profit factory-to-dealer franchise! The new 1940 RADIOBAR models have greater sales appeal than ever before. New features, greater value!

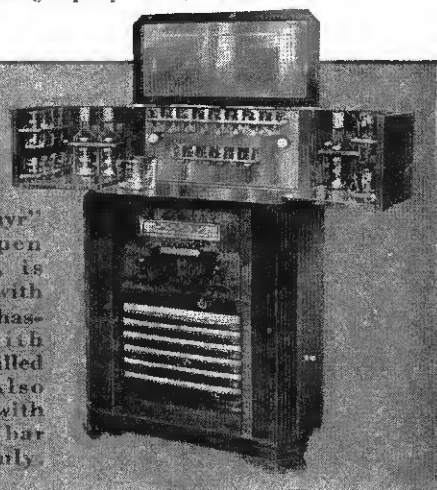
Available with PHILCO Radio or Universal Models for Any Chassis

Factory-equipped with PHILCO chassis, or shipped to you with plain undrilled panel for mounting any chassis you prefer. 1940 RADIOBAR gives you full latitude in developing your own sales plan for best results. And list prices give greater consumer appeal than ever before.

High Profit-Line! Protected Territory

Generous direct-from-factory discounts. Your own protected sales territory. Write or wire RADIOBAR today for full details and illustrated folder. Territories are closing rapidly . . . act now!

The "Zephyr" model, open at right, is available with PHILCO chassis, or with plain undrilled panel. Also available with doors for bar service only.



**WRITE OR
WIRE NOW**

RADIOBAR COMPANY of AMERICA
296 BROADWAY · NEW YORK

T U R N O V E R

One Good Guide to Profits

TURNOVER is the ratio of total sales, at cost, to average stock, at cost. We all know that.

Turnover is calculated by dividing annual sales, reduced to cost, by average monthly stock at cost. Right.

Turnover is a real guide to profits, that's right too, but now the questions begin to fly.

How can a figure that takes a year to get, and covers your whole operation, be a good guide to anything?

That's a natural question, because the use of turnover as an index of operations is still not clearly understood by many dealers.

Figure Alone May Mean Nothing

Turnover is only as important a guide to profits as you make it.

Calculated on a yearly basis, and used only as a comparison with previous years, it is of very little value.

But calculate your turnover monthly, and break your figures down to merchandise classifications, to manufacturers lines, to price groups, or even to major units, and turnover becomes an index of many

factors vital to profits, points out your weak spots, and indicates where, and what corrective action to take.

Some dealers calculate their turnover by manufacturer's lines, and by price lines, as well as by merchandise type.

This indicates which lines are doing the job, how stock is in balance with sales in each price group, and whether stocks of compacts, portables, consoles, combinations are in line with sales in their respective classifications.

In this way you can get the maximum amount of information and guidance about your stock, about the buying preferences of your customers, and about any change in them from month to month.

A thorough understanding of just what turnover figures mean, just what turnover is, is necessary.

First, it is a measure of your buying judgment, for a unit, line, or price group. Monthly turnover figure lower than the average quickly points to a stock out of line with sales.

You may have bought too heavy, have too high a stock. You may have misjudged a change in customer preference; your assortment may be too broad. Some new product may have switched customer demand.

In any event if your stock seems out of line, some corrective action should be taken.

How to Put Your Facts to Work

Knowing that your stock is out of line in a particular place is just the beginning.

Have sales held steady, and you bought too much?

The answer then may be just to postpone further buying.

Have sales fallen off? *If so, why?*

Are others cutting prices? Has a

new model come out which is more desirable?

If so, you'd better sharpen the pencil and get your prices in line.

Perhaps, you've been pushing some other model or line, and this one has to be sold.

The point is that when turnover figures tell you where the trouble is, you still have to find what it is, and correct it, in your own way, by your own action.

Slow Stock Movement Expensive

Many dealers find that much of their slow moving stock was bought "at a price." A long discount they got, but their chance of selling it, they missed.

Many a dealer has "lost his shirt" buying long discounts, forgetting that you make no profit until you have turned the buy over, and you lose plenty if you don't sell it.

A monthly study of classified turnover figures will quickly bring any lazy models, any errors of buying, to your attention in plenty of time to get corrective action before all your expected profits have been eaten up.

Such a comparison of turnover figures also points out where your assortments are too broad, where your capital is frozen, where to put your selling effort, what the public will buy and what it does not want.

Turnover figures calculated and analyzed on a monthly basis tell you plainly what to mark down and when to mark it down, but not how much to mark it down.

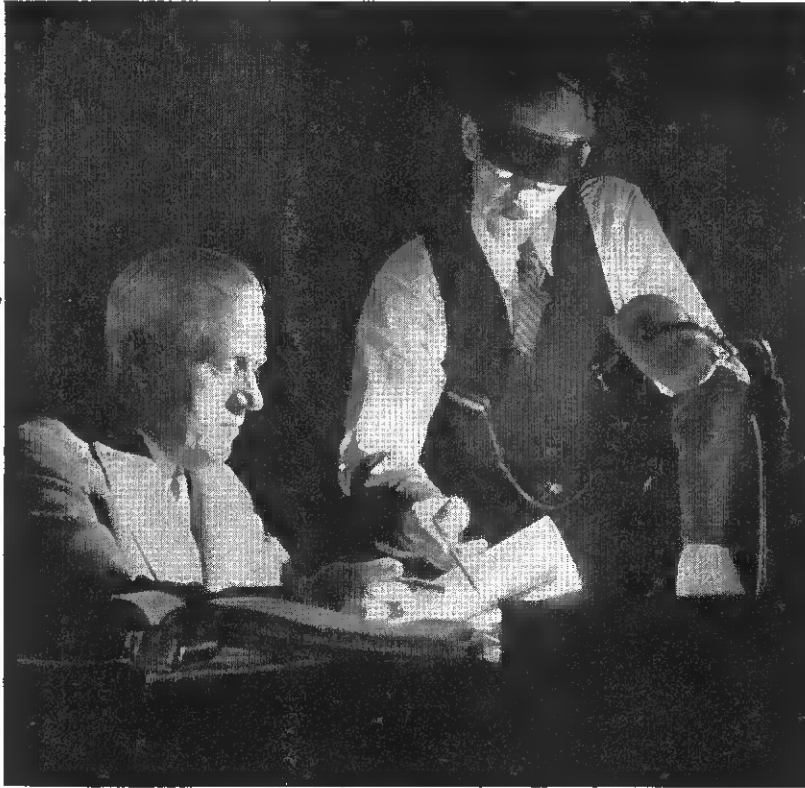
The effects of turnover, or lack of it, are far reaching on profits.

The longer merchandise is kept in stock the more it costs, and the less it is worth.

When you find that merchandise is not moving, it often costs less to take your loss at once, and turn it over, than it does to hold on, with a prayer on your lips and hope in

DO YOU REALIZE **that as turnover goes down**

- 1 Depreciation costs immediately go up
- 2 Danger of stock damage also goes up
- 3 Merchandise maintenance costs go up
- 4 Interest on stock investment goes up
- 5 Stock insurance costs likewise go up
- 6 Rent for display and storage goes up
- 7 Consumer resistance to sales goes up
- 8 Sales effort needed to move goes up
- 9 and Selling cost naturally goes up



**FIRST OF A SERIES about
Modern Management Methods**

Next Month: "Buying Your Way to Better Business"

your heart that it will soon go.

For example, if you make only \$10 on the sale of a single unit, but turn your stock over 8 times a year your profit is \$80.

But if you hold an unwanted model for 12 months, and make your full profit, you have lost \$70 of profits which your investment should have made.

If you are afraid to take a loss by moving your unwanted model at cost, or even less, you ultimately sell it at a discount anyway, and lose the profit you could make buying models you could turn over, in addition to the larger discount you probably have to give too.

Interest on your investment increases with time.

Insurance costs go up in relation to sales value when stocks are not actually producing sales.

Rent for display space, warehouse storage, increases and takes a corresponding amount of space from the stock which is selling.

Consumer "desire to purchase" goes down as the age of the radio increases.

Damage and consequent repair costs increase.

And, if you do not have unlimited capital, every dollar you have frozen in non-moving merchandise is a dollar you cannot invest in wanted, profit-making merchandise.

May Cost 3% Per Month

Just what these increased costs add up to is hard to say, but based upon the experience of several large stores where complete records were kept, the "cost of merchandise," which includes interest, insurance, rent and repairs, increases from 1 to 1½ per cent per month, after the first month.

And the "cost of selling" which includes extra commissions, "Stims," PMs, polishing, mark-downs, and extra trade-in allowances, increases 2 to 2½ per cent per month.

Thus, it seems a fact that every month longer than necessary you keep a radio in stock you eat into your gross profit, or margin, by some 3 per cent.

Take a look at your own figures,

and see how quickly your profits would vanish into thin air if your whole stock turnover went down, and you bit into profits at a 3 per cent per month bite.

Of course, your whole stock will never turn uniformly, and you wouldn't want to eliminate prestige and novelty models from your assortment just to get a higher turnover.

But many dealers in an effort to have "anything the customer asks for" carry too many lines in regular stock, penalize their own profits from the fast selling models by keeping a lot of non-working models to eat out of the profit feed-bin.

It is much more practical to pay a little more to sell a line, than to freeze several thousand dollars in slow moving stock in another line.

No Radio Worth More Tomorrow

Factors of obsolescence and surplus production liquidation being the destroyers of radio values which they are, many smart dealers protect themselves through constant turnover analysis.

They know that no radio will be worth more tomorrow, or next month, than it is today.

The "guide to profits" obviously does not lie in the "turnover figure" itself, but how you use it to unmask conditions which eat into profits, and correct them.

There's no magic in the figures of your turnover.

But there is vital information which many smart dealers are using to build greater profits, through making their "dollars in stock" work just as hard as the "old man" does himself.

Getting the figures is a by-product of a good bookkeeping system.

Using them for all they are worth is the mark of a smart merchant.

And the pay-off is more money in the bank, and less aspirin.

Holiday Greetings

WE feel that the confidence you have in our company is no idle allegiance, and by the same token our special expression of thanks to you during these holidays is no casual sentiment. It is a sincere feeling of gratitude we have toward our old and new friends who have added an abundant measure of goodwill and happy relations to our assets.



HYGRADE SYLVANIA CORPORATION
EMPORIUM • SALEM • ST. MARYS



WHOLE WINDOW, AND WORTHWHILE—Here's the way Mallory Chamberlin of Memphis emphasizes the idea that it can supply "what record-buyers want when they want it"

RECORDS

... are No Chicken Feed

UNLIKE oxygen which first excites, then kills, radio nearly killed and now excites the public desire for recorded music.

More and more people are buying more and more records and plugging of all music by broadcasts is one reason.

But many a dealer who thought fifty dollars worth of records would put him in the record business, and keep him there, has learned a lot since trying it.

Record buyers want *what* they want, *when* they want it. This was the first lesson the "fifty dollar boys" learned.

"Them As Has, Gets"

Assortment is very important. For record buyers fall quite naturally into *three* broad classifications:

(1) The popular and swing addict, who usually wants the newest releases, generally of a particular artist or band, and will accept no substitute.

This type of customer wants a specific record, quick, and will go from store to store if necessary to get it. They can be sold other records too, if you have the particular record wanted. It's only natural that when they find the dealer that always has the records they want,

when they want them, they will stop going to other dealers who do not serve them so well.

Some smart dealers catalog the artist preference of their regular customers, notify them whenever there is a new release by that artist, even sell them whole collections of their favorite's recordings.

(2) Then there are the middle-aged people who like the sweet songs of their youth, the folk music of the land of their forefathers. These people do little shopping around, are seldom in a hurry for a particular record, but can be sold plenty.

It's obvious that no skeleton stock can begin to cover this broad field. But have a fairly complete assortment, or an accurate knowledge of your customer's preference, and a real selling job can be done. Not just once, but continuing month after month, such customers will

\$50 MAY START YOU in the business but you will soon want to broaden stock to get the real disc gravy

build their collections. And buy a radio or record player now and then, too.

These customers are particularly susceptible to intelligent suggestion. This, of course, indicates that the record salesperson must have a broad knowledge of current stock, and of the complete catalog of recorded folk and sweet music. These customers can be sold by suggestion, at the point of sale, by display, or by phone or mail.

That Unsold 75%

Many an enterprising dealer uses his dull hours to compile a few albums of such selections, and then sell them by phone. Some dealers even send the album along for a demonstration, and follow it up the next day. Such off-peak business is low cost, is long profit, and *plus*

(Continued on page 61)

Getting the **JUMP** on Refrigerator Competition

HERE'S A PRACTICAL PLAN radio dealers with outside salesmen can take in their stride to make fair box business good and good box business better

By CASWELL ODEN

WITH THE WIND whistling through your whiskers this, you may think, is a heck of a time for Oden to go lyrical about Spring. But there is good reason for his apparent rushing of the seasons, which you will appreciate as the plot unfolds. ED.

IN the spring a young man's fancy, if he is an outside salesman, lightly turns to thoughts of—selling *Refrigeration!* For when God's in His heaven and all's right with the weather, he is not only able to work in more comfort, but he can earn more money. He can stop living off those mythical dollars he gets from the distributor, for radio demonstrations, and starts selling the women something they don't have.

But it is not in the spring that he starts *getting ready* to sell them, lining up his prospects. He starts

* Philadelphia, Salesman

doing this, or should, just about the time you will be reading this.

Lining up prospects is one thing, and letting them "hang fire" is another. The experienced outside man knows only too well that it is pretty much a waste of time to let prospects hang fire—keep calling back on them, simply because they will talk to him. But people buy electric refrigerators *when* the weather is hot, so it isn't letting prospects hang fire when we start lining up box prospects right after Christmas—*knowing* that we are, in most cases, going to withhold our strongest bid for their business until March or April.

Planning Your "Edge"

And we want to start lining them up for a very good reason. During the spring and summer, when they're *buying*, the less time we spend looking for them (canvassing) and the more time we spend handing them contracts to sign (selling)—the more money we will

earn. There'll be a lot of other men out there selling them too, and we want to make as much hay as we can while the sun is shining.

All of which forces us to take time out for a word about working methods.

Job for the Crew

We've already talked about the most effective use of outside sales manpower—one man to canvass and another man to close, selling talent used only on selling, and less experienced men, less able men, or new men, spending all their time digging up prospects. But the fact still remains, for many deplorable reasons that we won't go into here, that most outside appliance salesmen have to do both their own canvassing and closing, so we have to consider them too.

The supervisor of a crew, even if his men are closing about half the sales themselves, can't do any lining up—except perhaps a few of





COLD WORK BUT WORTH IT—He bucks the breeze anyway selling radios in January and February and if he plays his cards right while on the ground can “take the tail-feathers,” come March, of refrigeration specialists who only start then

JANUARY 1940						
SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

FEBRUARY 1940						
SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

his own prospects. He gets so many prospects every day, fresh prospects, that he is kept busy on them alone. If he started saving prospects, the first thing you know there wouldn't be enough room in the car for them.

Working right, a prospect for a supervisor is almost a “one shot” proposition—make it or break it. He's there to put on the pressure where it's needed, close the tough ones, and if he misses out on one—well, so he misses out, that's all. He's only got a hundred other places to go. (Sometimes this is a little tough on the man, the canvasser, but if he doesn't think the prospect got all it was worth—he can go back himself! That's when he starts to be a salesman. And the first time, the very first time, he closes one that the supervisor

missed out on—get some men for him, quick! For he is ready to be a supervisor himself.)

However, while the supervisor can't do any lining up, the men can. They can save the box prospects they locate during January and February—but . . . they don't want to just hold them, until the buying starts in earnest, and then feed them to the supervisor, gradually, a few a day, so that they can take it easy on the canvassing! The supervisor doesn't want anything like that! He wants *fresh* prospects, recently contacted. And the men, while lining them up, should go back and contact them *again*, before expecting the supervisor to spend any of his time on them.

So much for the crew.

Take It in Stride

It is when we are out there digging them up and selling them ourselves, that lining up these box prospects is more important, more necessary, in fact downright essential. It's still a waste of time to let prospects hang fire, even though we have to locate them ourselves—but we do want to line up these *seasonal* box prospects before the buying starts. And we want to have a whole flock of them lined up

by the first of March. It is the difference between a fair refrigerator season and a good season; or a good season and a grand season. For we are getting the jump—getting it over the man who doesn't do it, simply goes from day to day.

And inasmuch as this lining them up doesn't require any more *work* than we would do anyway, we are very foolish if we do not do it. That is to say, we don't do any more canvassing, but merely spend a little more time at the door, probing, while we are canvassing for the *other* merchandise. If the lady doesn't want a radio, does she have a box? If not, is she going to get one “this summer”? And it is surprising how much more truthful the lady will be, if she sees by our very attitude that she is not going to be pressed right away, how much more apt she is to admit the desire or expectation of buying—than if we were talking to her around the middle of June.

To Do in January

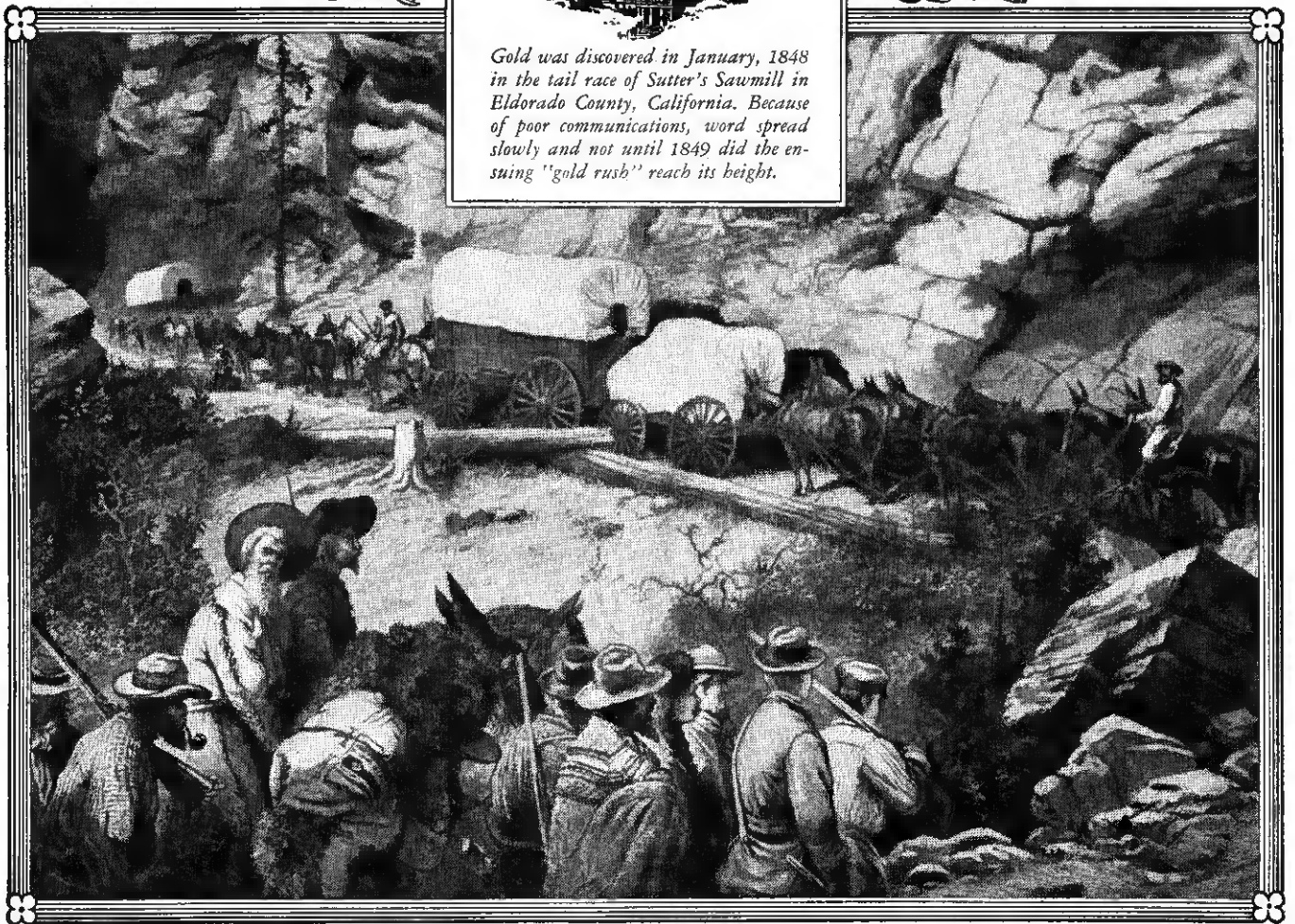
If we start on the first of January and keep a record of all these women we think we have a chance to sell, systematically note and file away all the information we obtain,

(Continued on page 62)

They might have been the "FORTY-EIGHTERS"



Gold was discovered in January, 1848 in the tail race of Sutter's Sawmill in Eldorado County, California. Because of poor communications, word spread slowly and not until 1849 did the ensuing "gold rush" reach its height.



HOW THE FAMILY OF RCA WOULD SPEED UP THE GOLD RUSH

Hardly before the echoes of the first shout of "gold" died out along Sutter's Creek, NBC engineers and announcers would be on the spot with portable broadcasting equipment developed in RCA Laboratories and built by the RCA Manufacturing Company. Out over the two great NBC networks, which provide the broadcasting service of the Radio Corporation of America, would flash the discovery news in a thrilling program featuring a personal interview with James Wilson Marshall, the finder of the first nugget.

Both in America and abroad listeners would turn the volume a little higher on their RCA Victor receivers so that not one precious word would escape them.

Then as the rush started for Eldorado County, police in cities and towns throughout the nation would direct the flow of traffic with 2-way RCA Police Radio Systems. And songs improvised by the gay "Forty-Eighters" to make the going more pleasant would, of course, be recorded on Victor and Bluebird Records and reproduced everywhere by RCA Victrolas.

In lieu of any present discovery of gold, RCA stands ready to serve you in every respect in every field of radio.

• • •

Trademarks "RCA Victor" and "Victor" Reg. U. S. Pat. Off. by RCA Mfg. Co., Inc.



Radio Corporation of America RADIO CITY, N. Y.

RCA Manufacturing Co., Inc. • National Broadcasting Company • RCA Laboratories
Radiomarine Corp. of America • R.C.A. Communications, Inc. • RCA Institutes, Inc.

STABILIZING *Service Payrolls*

How to keep trained manpower at work doing profitable repair jobs for the "inert 35 per cent"

By

HAROLD F. JENKINS*

IMMEDIATELY after the holidays radio dealers maintaining service departments frequently find themselves on the horns of a dilemma.

Business, quite naturally, dips temporarily following the Christmas peak. There is less immediate need of manpower, both sales and service, and it is a great temptation to pare expenses by staff reduction. Technicians are usually first to suffer, face part-time employment or a firing-squad intent upon thinning their ranks to a skeleton force.

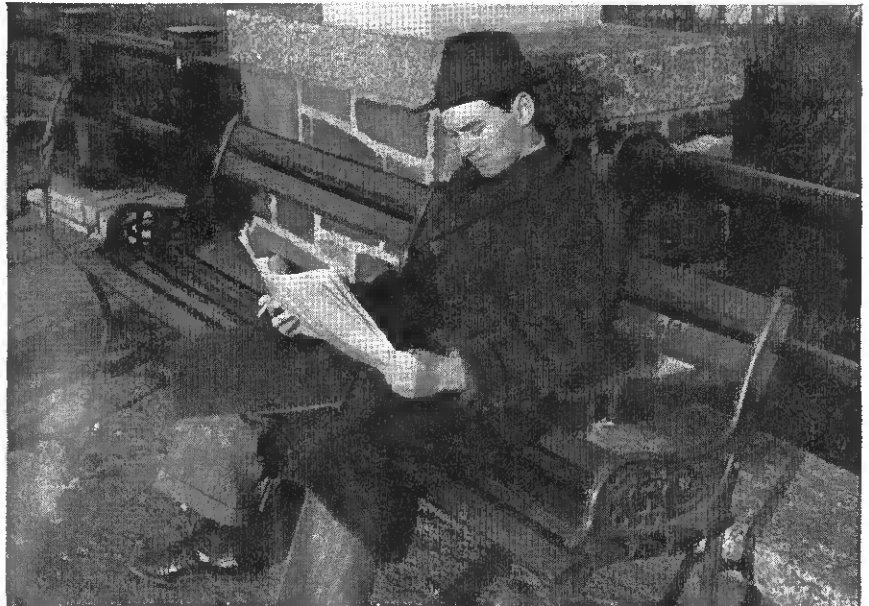
Most dealers who have, in the past, swayed in this direction under pressure of overhead realize that reliable technicians are perhaps the most difficult of all employees to hire and expensive to "break in" when the need for reorganization occurs, as it inevitably does. Many further realize that annual amplification of "floating" service manpower is directly detrimental to all established concerns.

Fewer retailers would slash if they knew how to employ their servicemen profitably in January. And, in my estimation, this can be done by virtually all except those that opportunely expand their force beyond normal requirements just for the holiday rush.

January Ideal Month

In an article appearing in this magazine some months ago the author expressed an opinion that many campaigns for increased service business are failures because they are conducted in the summer months when interest in home radio, at least, is at its lowest ebb. It was further suggested that such

* Fred C. Harrison, Parts Distributor.



A BAD PLACE FOR A GOOD SERVICEMAN—The temptation to ease technicians out in the lull following the holidays tears down organization difficult and expensive to restore, throws "floaters" on the market to further complicate selling for established concerns

drives should take place at the height of the listening season.

January is the ideal month. Why? Holiday distractions are over. People are settling down for long winter evenings at home. Radio occupies the dominant position in their entertainment plans. News broadcasts occur almost hourly to further whet their desire for a perfectly operating set.

Estimates vary as to the probable number of radios operated year after year with some program-marring fault. They continue to run, in many cases until they fail completely and fail even to whisper. Our guess is as good as any on the number of faulty sets in operation. Want to bet it is not at least 35% of all radios in operation?

Then too, after Christmas there are undoubtedly many people who expected to buy, or receive, a new

set and now know they will have to make their old one do awhile longer. Look through your service department files. You will find suitable names for service selling. People who bought a set three or four years ago and who have not called you for service since.

Suggested Plan

To obtain this type of business, letters, postcards or newspaper advertising just won't do. Best method is a direct personal call. Next best is a 'phone call. In either case, offer a free check up.

Yes, we said a free check up. Disagree? Since the dawn of radio, servicemen and dealers have thrown up their hands in horror at the mention of it. Yet, for a campaign with a definite time limit, it should

(Continued on page 64)

PHILCO

announces
that make



PHILCO ALL- PURPOSE PORTABLE

For AC-DC and Battery Operation

PHILCO 84T. Self-powered for use *anywhere* . . . **\$29⁹⁵**
instantly convertible to AC-DC operation! Battery automatically disconnected when house current is used. Plug-in cord concealed when battery is in use. 5 tubes, built-in Loop Aerial. Powerful, fine-toned. Ventilated airplane cloth case. Approved by Underwriters' Laboratories. **Complete with Batteries**



PHILCO 502 Radio-Phonograph

(Left). Plays 10" and 12" records with lid closed. Noiseless, self-starting phonograph motor. Tone Control for records, Volume Control for both radio and phonograph. Powerful, fine-toned 5-tube radio. Attached Aerial . . . no ground needed. Approved by Underwriters' Laboratories. **\$29⁹⁵**
Inlaid Walnut cabinet.

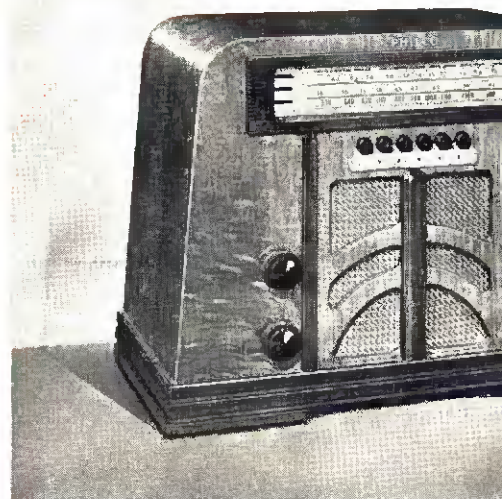
PHILCO RP-1 Wireless Record Player

(Right). Plays 10" and 12" records through entire radio circuit *without wire connections to set!* Powerful, even speed motor. Attractive Walnut cabinet. **\$19⁹⁵**



Dealers everywhere agree that Philco's year's "hottest" line . . . offering more bigger values and the greatest assortment every price. And now, just when you need stimulus, Philco brings you thrilling new CABINETS that make its line "hotter". Study the new Philcos pictured here . . . they're only *part* of the most popular most profitable line in radio history!

**See Your Philco
Distributor**



PHILCO 145T. The handsomest forming *low-priced* American and Foreign ever offered! Built-in Super Aerial System and *Twin-Loop* Aerial. Carry it from room to room, plug in anywhere and play! Electric Push-Button Tuning. Lovely Walnut cabinet.

PHILCO 140T. In same cabinet but with Manual Tuning.

Philco All Year 'Round for Profits All

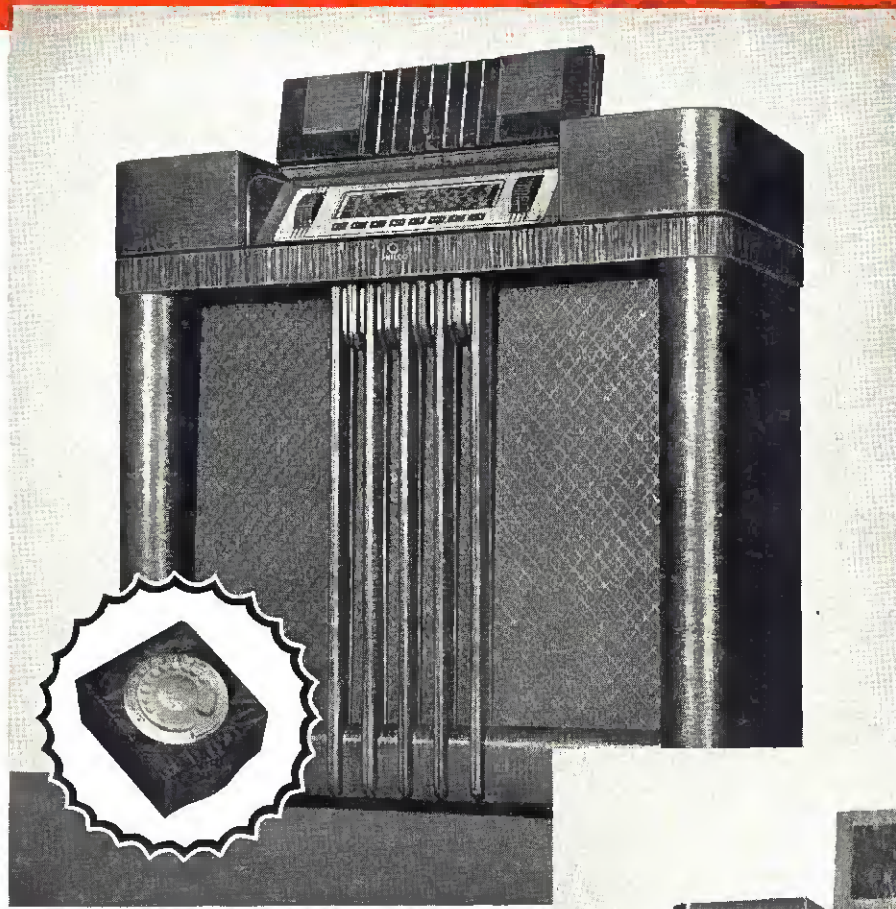
nsational new MODELS...new CABINETS

the *Hottest Line* in radio *Still Hotter!*

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t-per-
model
tubes
9⁹⁵
5⁰⁰



**PHILCO 217RX
with Wireless
Remote Control**

(Left). A new version of the world's most thrilling radio! 12 tubes, American and Foreign reception, Built-in Super Aerial System... plus Wireless Remote Control of favorite stations. No wires, no plug-in—tune from any room! Magnificent Inclined Sounding Board cabinet of choice Walnut, with folding lid that covers the Inclined Control Panel.

\$189⁹⁵

**PHILCO 201XX
New Beauty...
Top Performance!**

(Right). A "sell-up" model in a new cabinet of exquisite beauty! Built-in Super Aerial System with 11 tubes and Twin-Loop Aerial for super-performance on both American and foreign stations. Just plug in anywhere and enjoy powerful, pure-toned reception! Electric Push-Button Tuning. Inclined Sounding Board cabinet of sliced and butt Walnut.

\$139⁹⁵



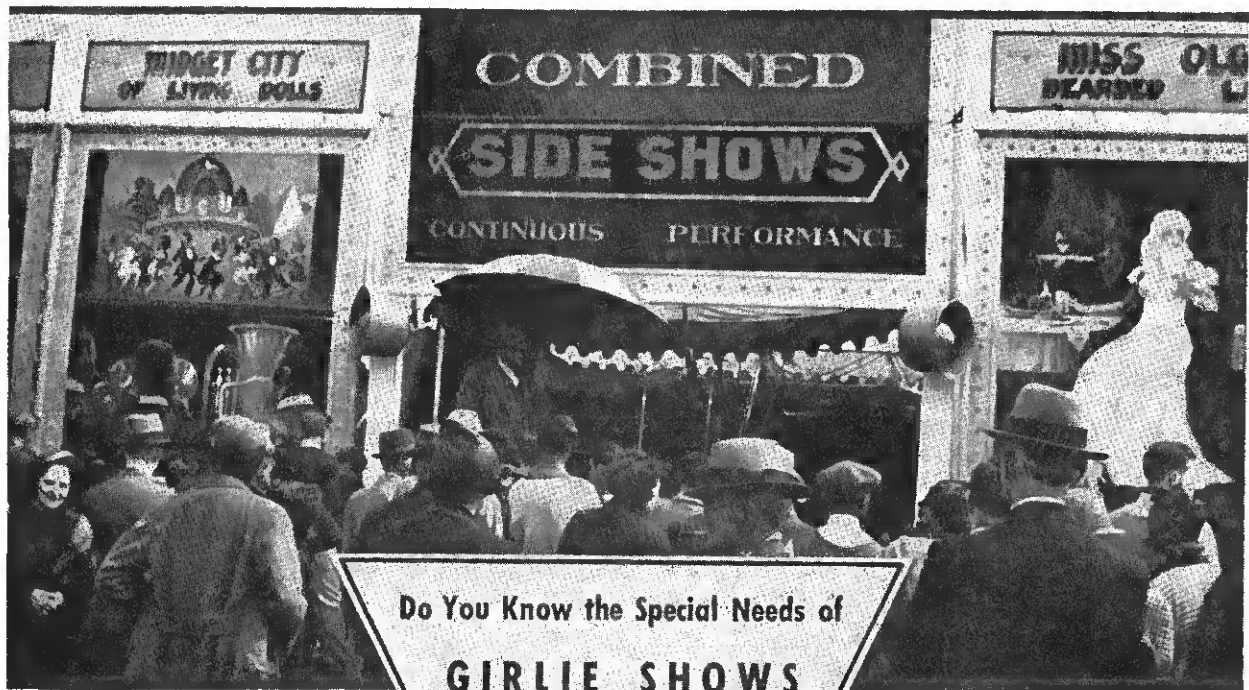
Western Prices Slightly Higher

ear 'Round

- HOME RADIO
- AUTO RADIO
- TELEVISION
- PHONOGRAPHS
- RADIO TUBES
- PARTS
- REFRIGERATORS
- AIR CONDITIONERS
- DRY BATTERIES

Selling Sound to "CARNYS"

By W. L. FULLER, JR.*



SOUND reinforcement is playing a more important part each year in the success of small carnivals and circuses. Not only do "carnys" need it to properly distribute voice and music over large areas during actual performances but they also need the services of a truck for pre-performance ballyhoo.

Selling such specialized jobs requires a specialized technique and I suspect that suggestions that can be passed along here to other operators who do such work only occasionally will be useful. It helps if you can talk the showman's language.

Equipment Suggestions

Equipment for carnival and circus jobs is, of course, largely a matter of personal preference but there are some general rules to keep in mind. It is particularly advisable, for example, to sell standard sound equipment for which replacement parts are readily obtainable. Shows travel extensively and it costs them money to have their equipment out of commission for even a short time. I know of a situation that devel-

* Fuller Specialty Co., Sound Dist.

oped in North Carolina that illustrates my point. The "West Shows" had practically new equipment in which one microphone circuit went dead and trouble occurred in a bias circuit. The manager couldn't get experienced service any other way than by returning the amplifier to a distant and obscure supplier so had to spend \$10.50 of his own money to get it done quickly and then by a man who had never seen equipment of that kind before.

Here's another suggestion, one that I consider particularly important. When you select sound equipment for a show be sure the power

and output transformers are over-size and have a safety factor. The same thing applies to resistors and the condensers in the amplifiers. This is where companies interested in getting business at any price cut and skimping is dangerous for this particular class of service.

If you have jobs in the South be sure to have transformers and even condensers and resistors made for tropical and salt water use if possible.

In selecting a "carny" microphone, it is very important to choose one for the type of work on which it is to be most used. Illustrations of this are: For a "bally," for the ticket booth, a close talking microphone is most suitable, as this eliminates possible feed back.

The type of horns and speakers may vary. I personally like 6 ft. trumpets and units. The only possible objection is the space they take to carry them around while enroute. Trumpets carry a long way before they flare out the sound. For the average show at a carnival, a 12-inch PM speaker and horn is fre-

(Continued on page 59)

HAVE YOU HEARD ABOUT THE NEW GALE MERCHANDISING PLAN?

I LIKE TO DEAL DIRECT WITH THE FACTORY!

a Preview of GALE FOR 1940

A DYNAMIC 1940 REFRIGERATOR LINE

There's a new Gale line of breath-taking beauty — packed with extra features — super-powered by the 'Mechanical Icebergs'! It's PLUS value from top to bottom!

A SENSATIONAL NEW MERCHANDISING PLAN

Would you like to cut down your inventory?
Would you like to have more models to show?
Would you like to take the gamble out of buying?
Would you like to be the tough competition?
Would you like to build profitable volume?
Would you like to eliminate "loss leaders"?

The 1940 Gale plan does all of these things AND MORE! It's revolutionary! It's simple! It's practical!

A REAL FACTORY-TO-DEALER PROGRAM

Remember, with Gale you deal direct with the factory! You get your full margin of profit on every Gale sold! The brilliant 1940 line, the revolutionary new merchandising plan and Gale's profit-building, direct-from-factory program gives you a tremendous opportunity to build volume and make real money in 1940. Watch for full details.

GALE PRODUCTS GALESBURG, ILLINOIS

Division of Outboard, Marine & Manufacturing Co.

I UNDERSTAND GALE IS THE SURPRISE OF THE YEAR!

THE NEW GALE IS A WOW!

THE BOSS TOOK ON GALE REFRIGERATORS ALL BET HE GOES TO TOWN!

GALE UNDERSTANDS WHAT DEALERS NEED!

GALE Products
1627 Monmouth Blvd.
Galesburg, Illinois

Gentlemen: Put my name on the list to receive full information on the GALE program for '40!

Company _____
Address _____
City _____ State _____
By _____



ANDREA



TELEVISION—Model 2-F-12 is a handsome mahogany console with doors concealing the speaker grille and all electrical parts; raising the top brings the picture tube in view and discloses the television controls; 12-inch television image tube; 5 television tuning bands; 3 band all-wave radio; height 41, width 33, depth 21 inches; list price \$395.00.



TELEVISION PHONO-COMB—Model 8-F-12 is an all mahogany console equipped with television, automatic phonograph, radio broadcast and short-wave receiver; contains spacious compartment for records and albums concealed by double doors at lower left hand side of cabinet; list price \$595.00. (All other features are similar to those of Model 2-F-12.) Andrea Radio Corp., 48-20 48th Ave., Woodside, L. I.

LAFAYETTE

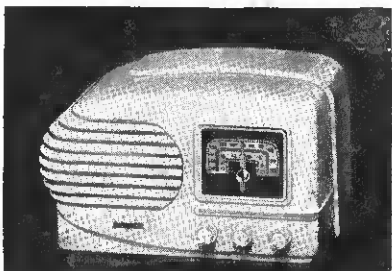
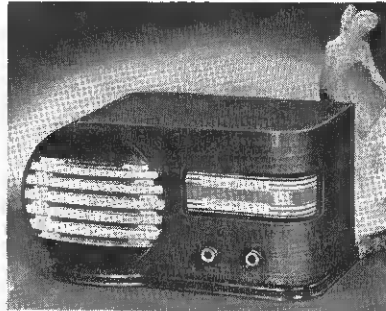


TABLE MODEL D-73—New antennaless midge radio of streamlined plastic cabinet available in ivory or walnut; 6-tube superheterodyne with built-in antenna; efficient dynamic loudspeaker; provides terminals for external antenna, for phono and television. Tuning coverage is from 540 to 1650 kc. and 5.7 to 18 megacycles. Radio Wire Television Inc., 100 Sixth Ave., New York.

TRAV-LER

TABLE TYPE RECEIVER—A 6-tube superhet operating on a.c. or d.c. Receives domestic and European short wave broadcasts; has an easy-to-read illuminated slide rule dial; contains a 4-inch

electro-dynamic speaker; automatic volume control; has handsome modern cabinet with circular louvre opening and corner dial; price \$19.95 list. Trav-Ler Radio & Television Corp., Chicago, Ill.



FADA

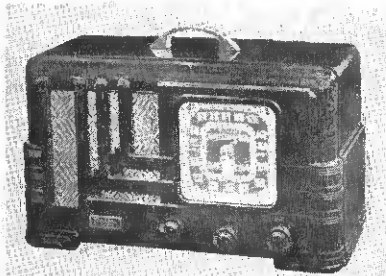
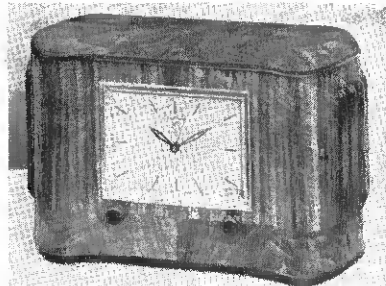


TABLE MODEL L-96W—Illustrated model is distinguished by its convenient handle for easy portability, has a 5-tube a.c.-d.c. superheterodyne chassis with automatic volume control, tone control, beam power system, 5-inch dynamic speaker, and self-contained loop antenna. Modern cabinet of walnut bakelite. List \$19.95. Fada Radio & Electric Co., 30-20 Thomson Ave., Long Island City, New York.

KADETTE

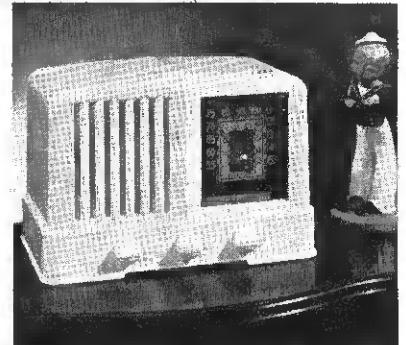


RADIO ELECTRIC CLOCK—A pre-set arrangement, like an alarm clock, to automatically turn on—hours later—any radio program selected; will wake you with music, and play you to sleep; chassis is a 5-tube superheterodyne with built-in loop antenna; unusual wood walnut veneer cabinet. List \$29.95. Kadette Radio Corp., Ann Arbor, Mich.

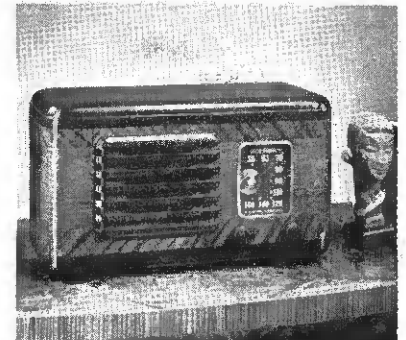
Preview of

RCA

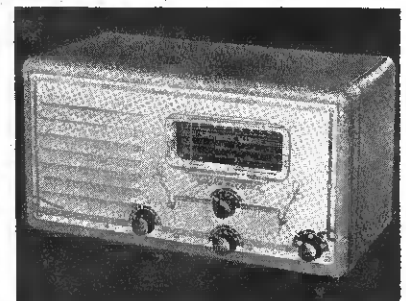
TABLE MODEL 46X12—"Little Nipper" model in ivory plastic cabinet with vertical louvre-type grille openings; has automatic volume control; covers 49-meter international band, also police, amateur, and aviation bands; 5-tube superheterodyne with built-in loop antenna.



MODEL 46X3—Handsome wood cabinet of hand rubbed walnut veneer; features a finished back which perfectly matches the cabinet; rounded corners and solid top; horizontal louvre grille opening; 5-tube superheterodyne chassis with built-in loop antenna; height 8 1/4, width 14 1/2, depth 7 1/2 inches. RCA Mfg. Co., Camden, N. J.



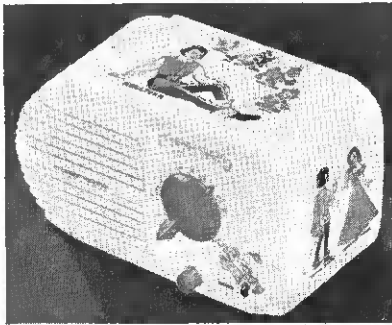
SOUNDVIEW



MARINE RADIOS—Complete new line of 12 new boat sets including portable types. Frequency range is designed to cover that part of the radio spectrum of interest to yachtsmen. Karns-White Corp., 1775 Broadway, New York, N. Y.

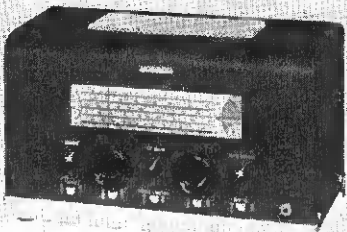
New Products

STEWART-WARNER

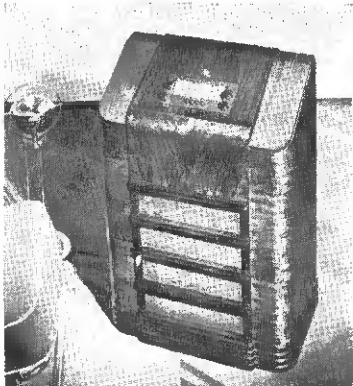


GULLIVER'S TRAVELS MODEL—Compact table receiver in white with full color illustrations taken from the picture of the same name. Two models are available; one with dial and volume control on front as shown; the other with thumb wheel knobs built into the top of cabinet. Stewart-Warner Corp., 1826 Diversey Pkwy, Chicago, Ill.

HOWARD



MODEL 436—An amateur and commercial receiver with frequency coverage from 540 kc. to 43 mc. Also available for 150-400 kc. (750-2000 meters). Features noise limiter, inertia tuning, electrical band spread with scale over 8 inches in length.



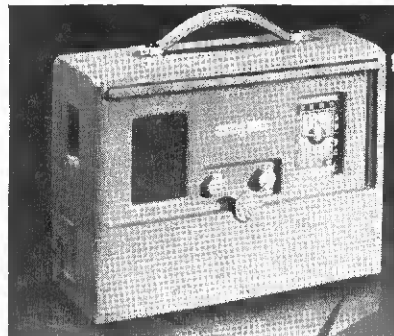
TILT-TOP CONSOLE—Model 308TT is an 8-tube superheterodyne with built-in loop aerial; features four push buttons for instant selection of stations; tuning range from 540 to 1700 kc., 5.5 to 18 mc, cathode-ray electronic tuning eye on panel; 12-inch dynamic speaker. Handsome cabi-

net of hand rubbed walnut veneers. American and foreign short wave available. Howard Radio Co., 1735 Belmont Ave., Chicago, Ill.

G-E



PHONO COMBINATION—Model HJ-628 unit housed in console grand cabinet of walnut finish with full length lid. Dial scale, tuning keys, turntable and other controls are located under lid. Equipped with Beamoscope, 14 inch speaker, 6 tubes, 8 inch turntable, crystal pickup; tunes from 550 to 1600 kc.



CARRYABOUT—Model H8-412 battery a.c.-d.c. portable housed in washable imitation pigskin with leather carrying handle. Has disappearing panel slide which conceals controls when not in use. Built in Beamoscope; tuning range 540-1600 kc.; battery life is approximately 300 hours. General Electric Co., Bridgeport, Conn.

MAJESTIC

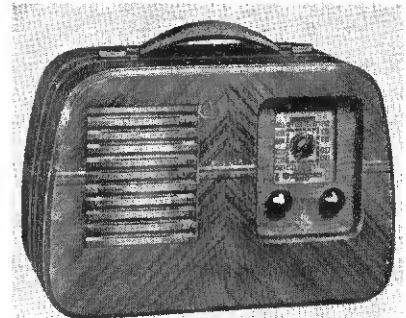
MODEL 2D60—A 2 band, 6 tube, ac-dc superhet designed for listening to European broadcasts. Housed in either walnut or ivory plastic cabinet with full vision gold and silver dial face. Dial is printed with name of European countries to facilitate easy tuning.



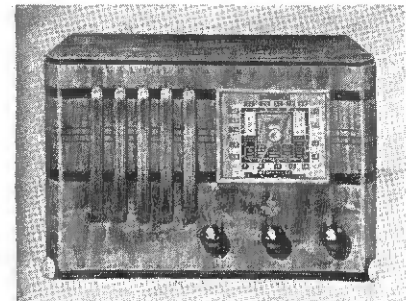
RECEIVER—Model #1A50A is a 5 tube Superheterodyne with a single wave band tuning from 538 to 1720 Kc; operates on 110 Volts, 60 cycle, A.C. Features an exceptional tone quality. This table type model is of Walnut with contrasting maple trim. Majestic Radio and Television Corp., 2600 West Fiftieth St., Chicago, Ill.



EMERSON

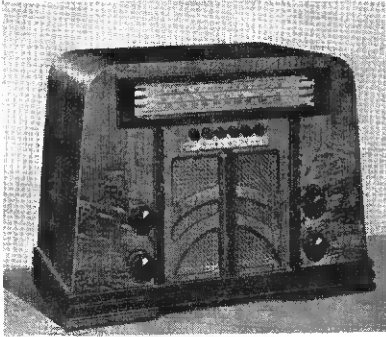


MODEL DF-302—Combination a.c.-d.c. battery portable 6-tube superheterodyne with Inner-Captor loop. Housed in matched walnut carrying case with inlaid stripes and leather carrying handle. Tunes standard broadcasts; 6 1/2 inch p.m. speaker; miracle tone chamber; list price \$39.95 complete.

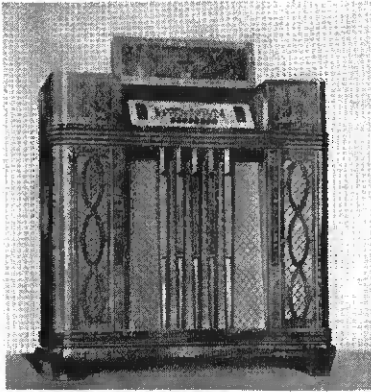


MODEL CS-320—An a.c.-d.c. 6 tube superhet tuning domestic and foreign broadcasts. Has television provision, 6 1/2 inch electro dynamic speaker; striped walnut cabinet; price \$29.95 list. Emerson Radio and Phonograph Corp., 111 Eighth Ave., New York, N. Y.

PHILCO



MODEL 145-T—Modern table receiver with six pushbuttons is encased in buff walnut cabinet; features horizontal dial across top of cabinet; measures 11 1/16 high, 15 1/16 wide, 8 1/4 inches deep; list price \$39.95.



MODEL 201 XX—Pushbutton console in modern cabinet of sliced walnut, bordered with buff wal-

nut; equipped with drum tuning dials; measures 36 1/4 high, 36 wide, 14 15/16 inches deep; list price \$139.95. Philco Radio & Television Corp., Philadelphia, Pa.

CLARION

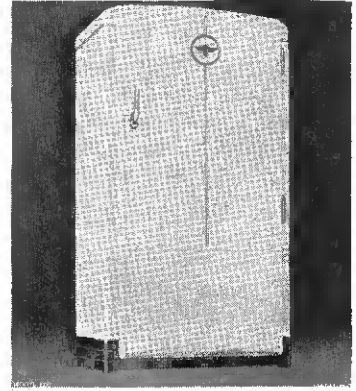


SOUND SYSTEM—Model C-410, popular size sound system. Uses 6V6G pushpull beam power output tubes; supplies 10-15 watts of audio; phono and mike input; speaker matching transformer; complete with 2 speakers, baffles, microphone and stand, \$76.47 list. Transformer Corp. of America, 69 Wooster St., New York.

NON-OX

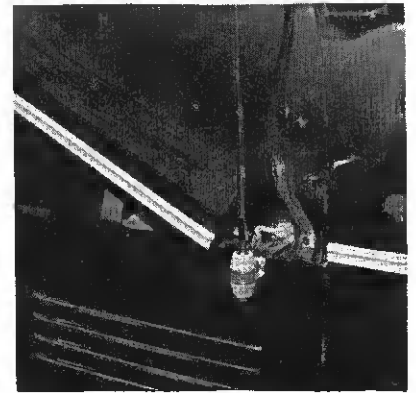
CONTACT CLEANER—A preparation designed to prevent oxidation of electrical contacts on relays, switches, tuning condensers and similar devices using silver or silver alloy contacts. Contains high grade mineral oil for lubrication and special chemicals to alloy oxidation. Non-Ox Co., 3533 Slauson Ave., Maywood, Calif.

STEWART-WARNER



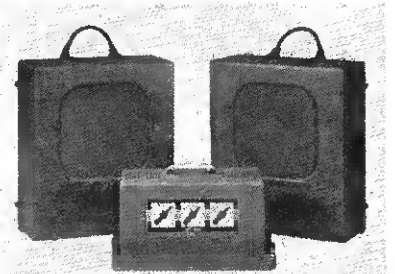
MODEL 860—Vapor sealed, all steel welded cabinet with DuLux finish. Net capacity 8 cubic feet; shelf area 17 sq. ft.; has 16 point cold control, sterilizer-ray lamp, 6 ice trays, automatic dome light, sliding vegetable basket, polished chrome finish hardware. Stewart-Warner Corp., 1826 Diversy Parkway, Chicago, Ill.

WARD



AUTO AERIAL—Designed for 1940 cars using alligator type hood. Mounting bracket bolts under hood for neat appearance. An anti-rattle, two section aerial which extends to 50 inches. Uses black ceramic insulation banded with chrome. List price from \$2.45 to \$2.95. Ward Products Corp., Ward Bldg., Cleveland, Ohio.

OPERADIO



SOUND SYSTEM—Model 414, a 14 watt portable unit housed in single, three piece carrying case. Has two 12 inch p.m. speakers, 25 ft. rubber covered cable, crystal microphone; finished in two-tone gray leatherette to match gray baked wrinkle of amplifier. Operadio Mfg. Co., St. Charles, Ill.

FREE *This handsome, handy*
MANUAL FOR RADIO SERVICING
Worth several dollars!



TYPICAL PAGES FROM THE C-D MANUAL

NO STRINGS TO THIS OFFER

Now, without cost, have at your fingertips all the latest data on servicing defective capacitors (includes circuits shown in new Rider Vol. X) in one handsome, sturdily bound volume. Concise, stripped of all non-essentials, this new C-D Capacitor Manual for Radio Servicing is nevertheless complete, containing everything you need to know about capacitor selection for replacement. Over 240 pages—a wealth of information it took months to gather!—yet Cornell-Dubilier has arranged the material so simply and in such orderly manner that reference is surprisingly quick and easy.

Contains all this!

Set manufacturers names listed alphabetically. Model data covers capacitor values, working voltages and standard C-D capacitor types required for replacement (number of standard types reduced to absolute minimum), references to illustrative circuits (over 165 are given in back of Manual), manufacturers original part numbers, and the Volume and page of Rider's in which complete schematic circuit is to be found for general checking purposes.

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CORNELL-DUBILIER
ELECTRIC CORPORATION

1019 Hamilton Boulevard, South Plainfield, New Jersey

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can you fill these shoes?

YOU'LL BE
WALKING ON VELVET
IF YOU CAN



here's what it takes!

- A location free from interference with already established Tung-Sol dealers
- Ability to turn over an adequate tube stock at least every 3 or 4 months
- A realization that sticking to established prices means full profit
- The will and the skill to use sales helps and displays to bring customers in

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The Tung-Sol sales-tested plan of protected profit — and a sufficient supply of Tung-Sol Tubes to start you rolling — without a penny of investment. Check! Then write us today.

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SALES OFFICES: Atlanta Chicago · Dallas · Denver · Detroit · Kansas City
Los Angeles · New York General Offices: Newark, New Jersey



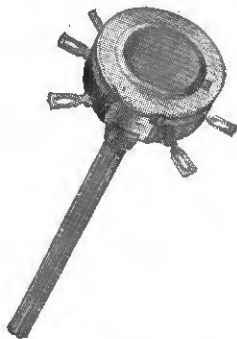
Sweet and
(WITH ACCENT ON THE)
LOW

"When the organ plays at twilight" can you still hear the **LOW** notes when the volume is turned down?

With Old Man Centralab at the console you get true tone compensation . . . for his Standard and Midget Radiohms are available with 1, 2, 3 taps to match the original control.

Wherever tapped controls are indicated be sure to use Centralab with the long straight resistor strip that gives smooth accurate attenuation throughout the entire circumference.

Old Man Centralab suggests: With short wave listening on the up, Centralab Wave change switches do the trick . . . better.



Centralab

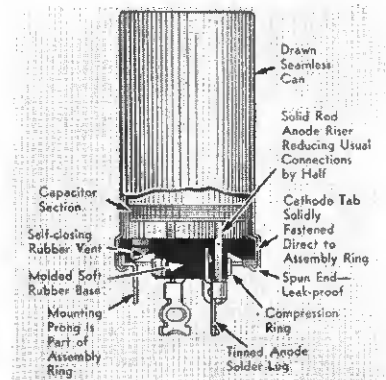
Div. of Globe Union Inc.
MILWAUKEE, WISC.

QUIRK



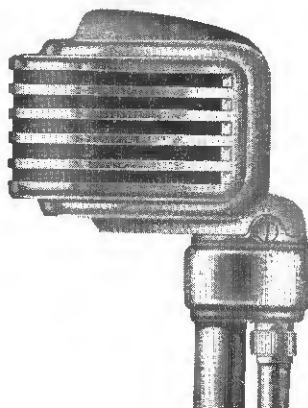
FLASHLIGHT BATTERY—A miniature rechargeable, spillproof battery designed to fit flashlights, bicycle lamps, hand lanterns and other lights. Same size as two standard flashlight cells; easy and inexpensive to recharge; life is conservatively rated at 200 discharges; housed in transparent Lucite case. Midget charger for this battery is also available. Quirk Battery Co., Highland Park, Ill.

SOLAR



ELECTROLYTIC—Type DY, a dry electrolytic capacitor, has a novel soft rubber base through which all terminals are brought and sealed under compression; low contact resistance; improved RF characteristics; thorough sealing; freedom from intermittents, is claimed. A special engineering data sheet is available. Solar Manufacturing Corp., Bayonne, N. J.

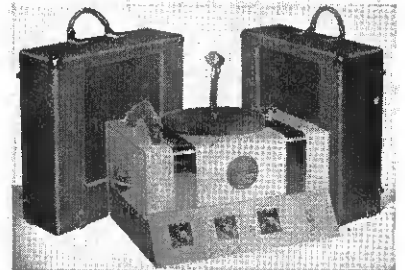
TURNER



CRYSTAL MIKE—Model 44X has a selective directional pick-up of sound; a tilting head for semi- and non-directional operation; output level of

—58 db with 25 ft. cable; frequency response from 30-10,000 cycles; satin-chrome finish; fits any 5/8-27 stand; moisture-proofed crystal; and automatic barometric compensator; free from blast as well as mechanical shock-proofed. Price \$27.50 list. The Turner Co., Cedar Rapids, Iowa.

AUDIOGRAPH



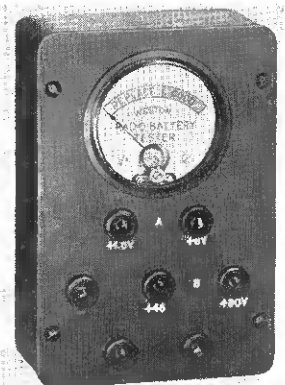
AMPLIFIER—Model AMR-25C, a 25 watt unit for operation from either 6 volts d.c. or 110 volts a.c. Optional phono player top with crystal pickup; constant speed motor, new inclined control panel; economy switch. John Meck Industries, Randolph & Elizabeth Sts., Chicago, Ill.

TACO



POWER ANTENNA—A power line antenna designed for use with any receiver without a built-in aerial. May also be used on loop sets to eliminate the dead-spot of the loop. May be mounted on set for easy portability. Technical Appliance Corp., 17 E. 16 St., New York, N. Y.

WESTON



POCKET-SIZE BATTERY TESTER—Model 777, a compact inexpensive unit for correct testing of batteries for portable radio receivers under load. Current drain on the battery is adjusted to conform to the requirements of the set. To facilitate new battery sales and replacements, the scale consists simply of a "replace-good" indication, uncomplicated by voltage indications which might be confusing to the layman; provides pin jacks for the different battery voltages encountered—1.5, 6, 45 and 90 volts. Weston Electrical Instrument Corp., Newark, N. J.

DACO IS LEANING BACKWARD TO GO FORWARD WITH YOU INTO 1940 WITH THE INDUSTRY'S MOST AMAZING TUBE TESTERS.

THEY TEST ALL ELEMENTS SEPARATELY—THEY SELL TUBES—THEY SELL YOU TO CUSTOMER. THEY CONVINCED YOUR CUSTOMER BY AMAZINGLY INDICATING FOUR ANSWERS SIMULTANEOUSLY ABOUT THE QUALITY OF THE TUBE BEING TESTED. METER READING—AUTOMATICALLY LIGHTED GREEN AND RED WINDOWS—AUTOMATIC FLASHING OF WORDS REPLACE AND GOOD—AUTOMATIC RADIO RECEPTION WITH TUBE WHILE BEING TESTED—THEY ALMOST TALK—ALL MODELS CONTAIN THE FAMOUS DACO-DAYRAD ENGINEERED CIRCUIT.

STANDARD \$19.90
303C Counter-
303P Portable

Counter cabinet same as de luxe
Portable case same as de luxe
Circuit same as de luxe
Beautiful aluminum panel
Ready Reference Chart
3 inch meter
2 spare sockets
Slide button element
Switches to test all elements separately
on all tubes from 1.0 to 117 volts.
Counter model finished in black or blue Morocco
Portable case is black leatherette.

DELUXE \$29.90
303D 5 Counter
303P 5 Portable
*303C Counter
*303P Portable
*Includes Voltmeter

Beautiful streamlined cabinet
Leathette carrying case
DACO-DAYRAD circuit
Blue and silver panel
Easy roll rotary chart
3" meter on voltmeter model
2 spare sockets
Slide button element
Selector switches
Tests all tubes from 1.0 to 117 volts
Chrome trim strips
Voltmeter on 303C and 303P models
Counter models black, blue or rust
Portable black leatherette
Extremely beautiful

SUPREME \$39.90
303C Counter

The Supreme model is the same as the Deluxe 303C 5; however 3" meter is provided.
This model contains automatically lighted windows red and green
Autogenetic flashing of words replace and good
Radio plug-in attachment for radio reception on tube being tested.
This is most amazing tester ever made
Finished in crystal gray Morocco

SUPREME \$59.90
303CC Console

This Supreme model is the supreme counter model.
Mounted on top of lighted window compartment which is part of open shell display cabinet of three shelves and space for display of 250 tubes.
One window two inches wide in red and green extends horizontally completely around cabinet—automatically operates from meter in instrument and simultaneously with windows and radio plug-in on instrument.
Four chrome corner posts join 3 shelves spaced 8" apart. Mounted on recessed block base.
A complete tube merchandizer 35" high 24" wide 21" deep—finished in crystal gray.

DELUXE 303 C5 COUNTER TYPE
Cabinet 16x13. Height 5 3/4x3". Shipping Wt. 17 lbs.



DELUXE 303 P5 PORTABLE TYPE
Black Leatherette Case 12 3/4x13 1/2x6
Shipping Wt. 15 lbs.



SPECIAL
A limited number of Dayrad rebuilt testers available.
Very low price
Fully modernized

DACO EASY PAYMENT TERMS

303 Standard Models.....	\$6.60	Down
303 Deluxe Models.....	\$10.00	" " " "
303 Supreme Counter.....	\$13.20	" " " "
303 Supreme Console.....	\$20.00	" " " "
401 Signal Generator.....	\$11.50	" " " "
521 Volt Ohmmeter.....	\$13.30	" " " "

10 MONTHS TO PAY BALANCE
All Prices F.O.B. Cincinnati
See your jobber or write us

DAYTON ACME CO.
2339 Gilbert Ave. Cincinnati, Ohio

WE MODERNIZE YOUR DAYRAD EQUIPMENT AT LOW COST

DAYTON ACME CO.

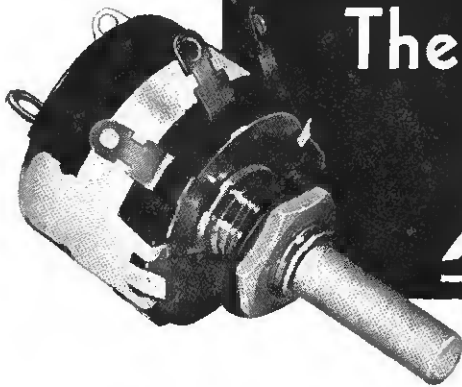
- Please ship Model.....at once. Check Enclosed.
- Please send complete information on all models.
- Please send information on easy payment plan.

Name

Address

City State

4 YEAR WARRANTY
Any Daco instrument will be repaired for four years for any cause other than abuse or accident.
This warranty includes all modernization required due to new tube development—includes changing of charts each six months and monthly bulletins on new tubes appearing between chart changes.
Cost of Warranty \$7.50
Unused Portions of Warranty Can Be Applied on New Purchases



The easiest way to spell *Profits*

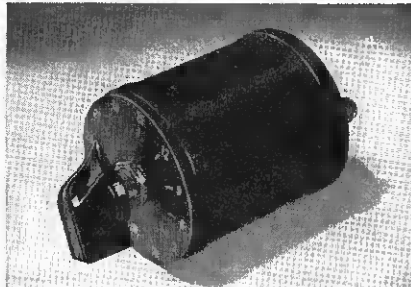
• **CLAROSTAT**—that's how you spell profits—whether you be a jobber, retailer or serviceman. Especially so if you make CLAROSTAT your No. 1 line for controls, plug-in resistors, wire-wound controls, power resistors, voltage-dropping cords, etc. For example:

• CLAROSTAT controls are available in both composition-element and wire-wound types. Also in exact duplicate types precisely matching the replacement requirements of standard sets. Note too CLAROSTAT mixers, faders, L-pads, T-pads and other controls for P-A systems, sound-recording, broadcast control room, etc.

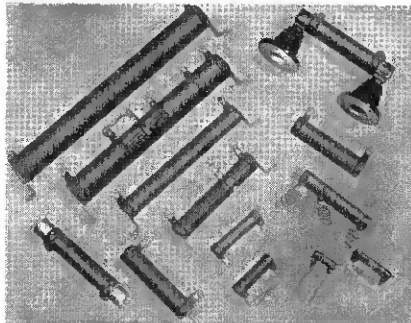
Get Your Copy . . .



Use our manual. Contains most extensive and complete listing of control replacements for all standard sets. Ask your jobber for your copy—or write direct to our Dept. SMR. Jobbers invited to write in.



• For distortionless speaker control, there are two types of constant-impedance output attenuators—CIA 25-watt and CIB 10-watt (shown above). Choice of ohmages. Insertion loss zero. DB range in 3 DB steps to infinity. Neat. Easily installed. Wire-wound for hard, long fool-proof service.



• CLAROSTAT Greenough power resistors are the first choice with builders of sturdy equipment. Unique inorganic cement coating. Will not crack, blister, peel or flake. Maximum heat radiation. Can be overloaded to red heat and plunged in cold water without damage. The toughest thing in power resistors. 10 to 200 watts. All popular resistance values.

CLAROSTAT *Manufacturing Co. Inc.*



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BROOKLYN, NEW YORK, U.S.A.

• OFFICES IN PRINCIPAL CITIES •



This New Series Webster Electric Crystal Pick-up Offers Jobbers MAXIMUM Profits

Many outstanding features, unusual performance, beauty of design, and the reputation of Webster Electric make this new Pick-up a good bet for any jobber. The price is right, and discounts insure real profit for jobber and service man. Write for details—you'll want to read about the features of the NEW Webster Electric Crystal Pick-up.

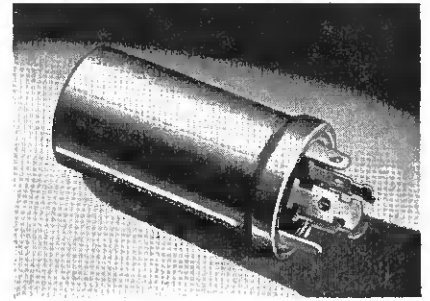
Licensed under patents of the
Brush Development Company

WEBSTER ELECTRIC COMPANY
RACINE, WISCONSIN, U.S.A. Est. 1909
Export Dept.: 100 Varick Street, New York
City. Cable Address: "ARLAB" New York

Webster Electric

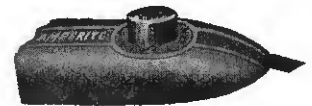
"Where Quality is a Responsibility and Fair Dealing an Obligation"

AEROVOX



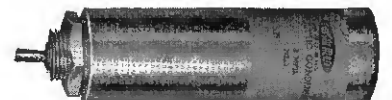
ELECTROLYTICS—Midget can type with prong base mounting are compact, economical, and simply mounted. Mounting prongs and lugs slip into elliptic fibre washer riveted to chassis. Hermetically sealed, safety vent, available in single and multiple section units. Aerovox Corp., New Bedford, Mass.

AMPERITE



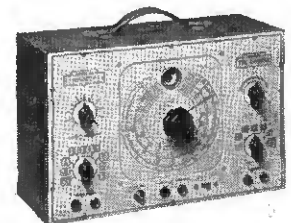
KONTAK MIKE—Model KKH with hand volume control is streamline in design, smooth in action; any number up to four can be paralleled into one input; volume of each instrument can be varied without affecting the others; can be attached to any string instrument, harmonica or accordion, or any standard amplifier, including the electric guitar amplifier. Amperite Co., 561 Broadway, New York.

CONSOLIDATED



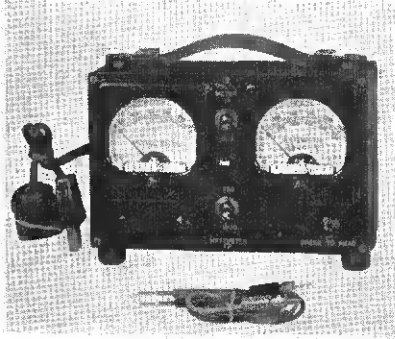
CONDENSERS—A new and improved method of sealing both dry-electrolytic and by-pass units is now employed on these condensers. All are sealed with a specially developed material which the manufacturer states offers greater resistance to moisture and assures longer life and provides trouble-free performance. Inverted type; lock nut mounting; in drawn metal container. Consolidated Wire & Assoc. Corps., 514 So. Peoria St., Chicago, Ill.

SPRAGUE



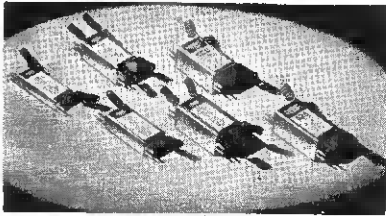
TEL-OHMIKE—A compact portable condenser and resistor analyzer; sells for \$29.70; measures the characteristics of condensers, leakage current, insulation resistance, power factor and capacity under exact working voltages; has direct-reading scales, and permits capacity measurements from .000010 mfd. to 2000 mfd.; resistance measurements from .5 ohms to 5 megohms; provides pin-jacks to connect a voltmeter or milliammeter when required. Sprague Products Co., North Adams, Mass.

HICKOK



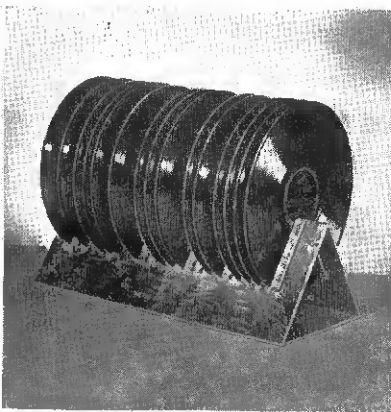
APPLIANCE TESTER—Model 145 dual volt-wattmeter for checking line voltage while measuring a.c. watt consumption on refrigerators, washing machines, motors, flat irons and similar appliances. Measures watts up to 1500 and voltages to 300; in handy case with convenient handle and rubber-cushioned feet. Hickok Elec. Inst. Co., 10514 Dupont Ave., Cleveland, Ohio.

CORNELL-DUBILIER



MULTIPLE ELECTROLYTICS—Types JR, JRC and JRX dry electrolytics in double cardboard, wax-dipped containers. Unusually high resistance to moisture and temperature changes; insulated pig-tail leads, mounting feet. Available in single and triple units from 2 to 16 mfd. capacity in voltage ranges from 250 to 450. Cornell-Dubilier Elec. Corp., South Plainfield, N. J.

RCA

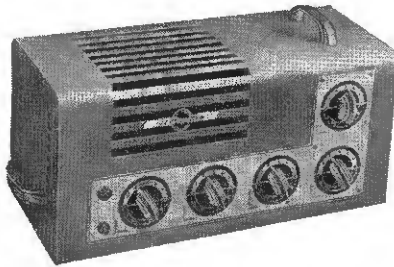


RECORD RACK—Low cost rack of rugged construction of laminated cardboard with simulated furniture finish. List price is \$.75. RCA Mfg. Co., Camden, N. J.

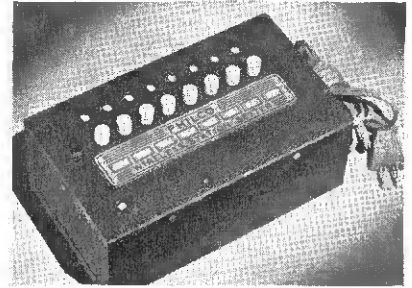
LAFAYETTE

SOUND SYSTEM—Model 757-T, 7 tube amplifier, delivering 30 watts output. Mixing facilities for two low-level microphones and two pickups. Ac-

cessories include two 12 inch dynamic speakers with wall baffles and 100 ft. of rubber covered cable. Choice of one velocity, dynamic or crystal mike; 25 ft. mike cable, floor stand, and other necessities. Radio Wire Television Inc., 102 Sixth Ave., New York, N. Y.



PHILCO

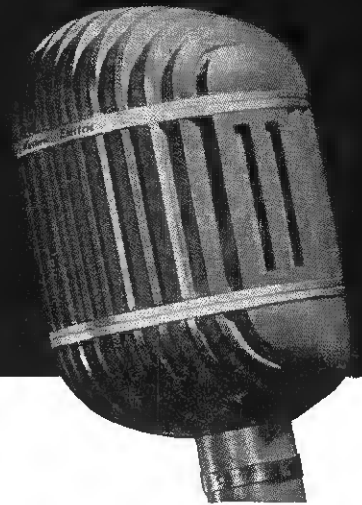


STATION SETTER—A pretuned device which generates a signal in the broadcast band to enable setting pushbutton receivers. Contains 8 buttons, permits adjusting sets when desired station is on or off the air. Philco Radio and Television Corp., Phila., Pa.

REVOLUTIONARY

MIKE

proves ideal
for P. A. use



7 REASONS WHY:

1. Cardioid Directional
2. 120° equal pick-up
3. No feedback
4. Subdued audience pick-up
5. New clarity
6. High fidelity
7. Unequaled control

Western Electric 639A
reaches new high in
pick-up control

By combining dynamic and ribbon units in one mike... equalizing and combining their outputs... Western Electric produces the 639A.

With the 3-way switch you can have cardioid, ribbon or dynamic performance. It's ideal for Public Address as well as broadcasting use.

Send the coupon for full details... today.



Western Electric
CARDIOID
DIRECTIONAL MIKE

GRAYBAR ELECTRIC CO., Graybar Bldg., New York.
Please send booklet describing Western Electric's
New 639A Mike. RR-12-39

NAME.....
ADDRESS.....
CITY..... STATE.....



BET HE HATED TO LEAVE—Kelvinator's *J. Nelson Stuart* takes a last lingering look at one of his firm's refrigerators in the galley, says goodbye to skipper *Irving Johnson* of the schooner "Yankee," on her way from Gloucester around the world via the south seas

RCA Limits Tube Types

To use only 36 in its own new models. Urges other set makers to follow suit

CAMDEN—A plan to standardize the use of receiving tubes by the radio industry to a relatively small list of 36 standard types (which perform virtually all basic functions) as against the more than 450 overlapping types now extant, has been advanced by the RCA radio tube division.

From tube and parts sales manager, *L. W. Teegarden*, comes word that a survey just concluded reveals that although 453 different tube types are produced by the industry 90 per cent of all sales are centered in only 90 types. And that for those 90 types only 20 basic functions exist. The use of so many different and overlapping tube types has complicated manufacturing, says *Teegarden*, as well as stocking and selling problems to the detriment of all concerned.

To set makers purchasing RCA tubes went a communication urging design of new receivers to include only tubes in the "preference list" of 36. (*Teegarden* pointed out that this list was offered as a helpful suggestion for general industry good and a constructive beginning not intended to be rigidly inflexible. He also noted that should technical progress result in the development of tubes having superior performance to those now on the list such new tubes would be substituted rather than added).

Setting an example for set makers urged to cooperate by RCA's tube division, commercial vice president, *Henry C. Bonfig*, of the RCA Manufacturing Company simultaneously announced that "all new RCA Victor radio receivers now contemplated for future production will be designed to include the tube

On the Newsfront

types in the 'preference list.' On the list were types:

1A7GT	5Y3G	6SA7	12C8
1D8GT	6B8G	6SC7	12SA7
1G4G	6F6G	6SF5	12SC7
1G6G	6H6	6SJ7	12SJ7
1H5GT	6J5	6SK7	12SK7
1N5GT	6J5GT	6SQ7	12SQ7
2A3	6K6GT	6U5(6G5)	35L6GT
3Q5GT	6N7G	6V6G	35ZZ5GT
5U4G	6R7G	6X5G	50L6GT

Parts Show June 11-14

Set for Chicago's Stevens and Blackstone Hotels

CHICAGO—From the Radio Parts Manufacturer's National Trade Show, Inc. (*A. A. Berard*, *H. E. Osmun*, *J. J. Kahn*, *S. N. Shure* have just been elected 1940 officers) comes word that the Show will be held here June 11 to June 14 inclusive.

The main exhibition will be in the large Exhibition Hall of the Stevens Hotel, used for this purpose last year, with demonstration and conference rooms in

both the Stevens and the adjacent Blackstone Hotel.

The first three days of the show (Tuesday, Wednesday, Thursday) will be "Jobber Days" and the last (Friday) will be "open house" for the general trade.

Crosley Distributors Convene

Told firm's sales upped 53.1% in first 9 months

CINCINNATI—Sale of Crosley radios, refrigerators, washers, ironers and stoves upped 53.1 per cent in the first 9 months of 1939 general sales manager, *T. W. Berger*, told 300 distributors and their salesmen assembled here November 27 at the Netherland Plaza Hotel.

Lewis M. Crosley, executive vice president of The Crosley Corporation, opened the convention, said brother *Powel Jr.* would return to harness from Florida shortly, introduced assistant sales manager, *Neil Bauer*, who presented new merchandise consisting of 1940 radio, refrigerator, washer and stove models.

Other speakers included *R. J. O'Connor*, manager of Crosley's washer-range division, and *William Shipley* of the



AT CROSLLEY SHINDIG—(Top) Crosleyman *T. W. Berger* chats with sidekick *Neil Bauer*. (Bottom) Distributor *Frank Greusel* grins at *Lewis M. Crosley* and *Ralph Heaton*



radio division. Mr. Berger returned to the platform to announce that an entirely new line of small commercial cars would be seen shortly.

The meeting was followed by a banquet in the hotel's Pavilion Caprice. Trips to the Crosley plant at Richmond, Indiana and the WLW transmitter at Mason, Ohio were arranged next day.

FCC Tele Committee Report

Suggests separate technical and program research groups in 96 cities. Frowns on sale of time on straight commercial basis

WASHINGTON—Division of television licenses into two separate classifications to facilitate development of the art was recommended November 14 to the FCC by its television committee chairman, T. A. M. Craven, who suggested that one group of stations be licensed for technical research while the other be licensed to develop program technique.

The committee's report suggested continued prohibition of licenses embodying direct or indirect charges for time but explained that this would not necessarily ban sponsorship and financial support for stations if it could be definitely proven that such sponsorship was primarily for the purpose of experimental program development. Sale of time as a straight business similar to that at present conducted by aural broadcasters was understood to be frowned upon in the report.

A plan of allocation permitting the granting of licenses in 96 metropolitan centers was further outlined and time-sharing suggested in certain instances.

Parts of the committee's report dealing with specific applications for television transmitter licenses were not made public.

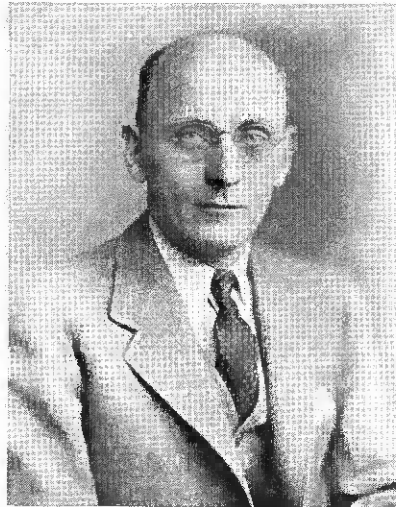
More RSA Chapters

CHICAGO — Radio Servicemen of America has just added three new chapters: Amsterdam (N.Y.), Marinette (Wisc.) and Minneapolis. Officers at Amsterdam include Joseph Tallman, Samuel English and A. R. Kindle; at Marinette A. E. Meissner, Ed. J. Kehoe; at Minneapolis Orville C. Mason, Arthur Lane and Sears Milnor.

More and more chapters, according to RSA executive secretary Joe Marty, are completing the necessary work under the Guarantee Service Plan of the Association. Members, he says, are enthusiastic and are reporting increased business as a result of the plan's effectiveness.

EADAB Moves

BROOKLYN—The Electrical Appliance Dealers Association of Brooklyn, Inc., of which Tom Bolger is executive secretary, has moved to new and larger quarters at 1271 Bedford Avenue.



PHILCO'S HARRY BOYD BROWN—National merchandising manager, he has just been placed in charge of the Philadelphia firm's air-conditioning activities

Philco Sets Dates

New refrigerators, air-conditioners to be shown in Florida, California

PHILADELPHIA—Philco's convention, featuring its new line of refrigerators and air-conditioning equipment, will be held at Palm Beach, Florida, for four days beginning January 15, it has just been announced by Sayre M. Ramsdell, vice-president of the Philco Radio & Television Corporation.

The convention, which is to be attended by more than 700 distributors and guests from every section of the United States, will mark the debut of a Philco refrigerator completely new inside and out. It

will also be the stage for presentation of an air-conditioning line designed and engineered to appeal to the largest consumer group ever visualized as prospects by the company.

Several hundred distributors and dealers west of the Rockies will also see new refrigerator and air-conditioning lines at Coronado Beach, San Diego, California on January 24, 25 and 26, Ramsdell simultaneously announced. Features and presentations of the Palm Beach convention will be repeated at that time.

FTC Rejects Tube Plea

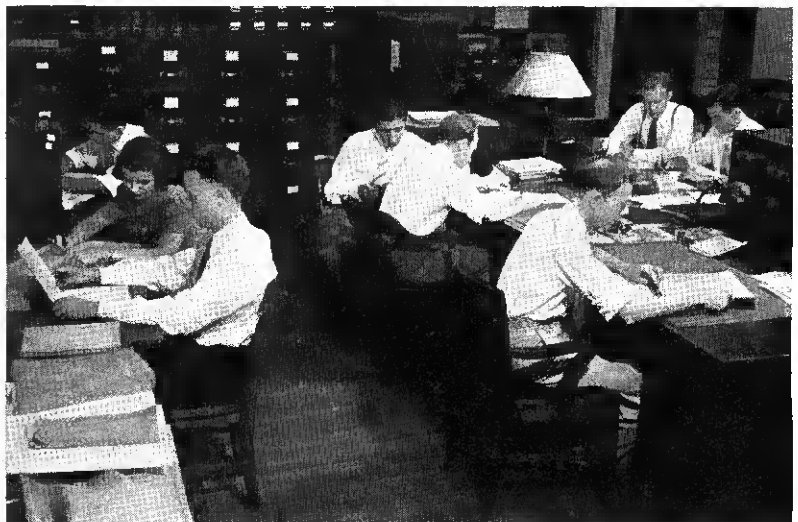
Turns down RMA's request for modification of rule requiring identification of rectifiers

WASHINGTON—The Federal Trade Commission has turned down the Radio Manufacturers Association's request that paragraph K of Rule 3, Group 1 of the Trade Practice Rules promulgated July 22 be modified.

(This rule made it unfair trade practice to include in advertised radio receiver tube specifications devices which do not detect, amplify or serve as heterodyne oscillators. RMA made no objection to it as applied to ballasts, "dummies," pilots, but felt that the necessity for segregating and plainly labelling power-supply rectifiers worked an unnecessary hardship.)

Knapp With Howard

CHICAGO—Robert Knapp has joined the staff of the Howard Radio Company in the capacity of sales promotion manager. Bob was formerly with Motorola and, prior to that, with Zenith.



COMPLETE THIRD BIG JOB—Men at work are part of P. R. Mallory & Co's permanent, full-time staff of experienced service engineers that turned out the recently released Mallory-Yaxley 3rd Edition Radio Service Encyclopedia (popularly dubbed "MYE"). Files in the background contain servicing data on specific sets collected and carefully cross-checked since 1934 (Mallorymen devoted nearly three years to the job of compilation before releasing the 1st Edition, have spent well over \$100,000 on the ambitious project to date).

Stewart-Warner Boxes Out

Twelve new models announced at convention. New dealer finance plan outlined

CHICAGO—The 1940 line of Stewart-Warner electric household refrigerators, comprising 12 new models, was introduced at the firm's annual national convention (refrigerator division) here November 27-28 at the Edgewater Beach.

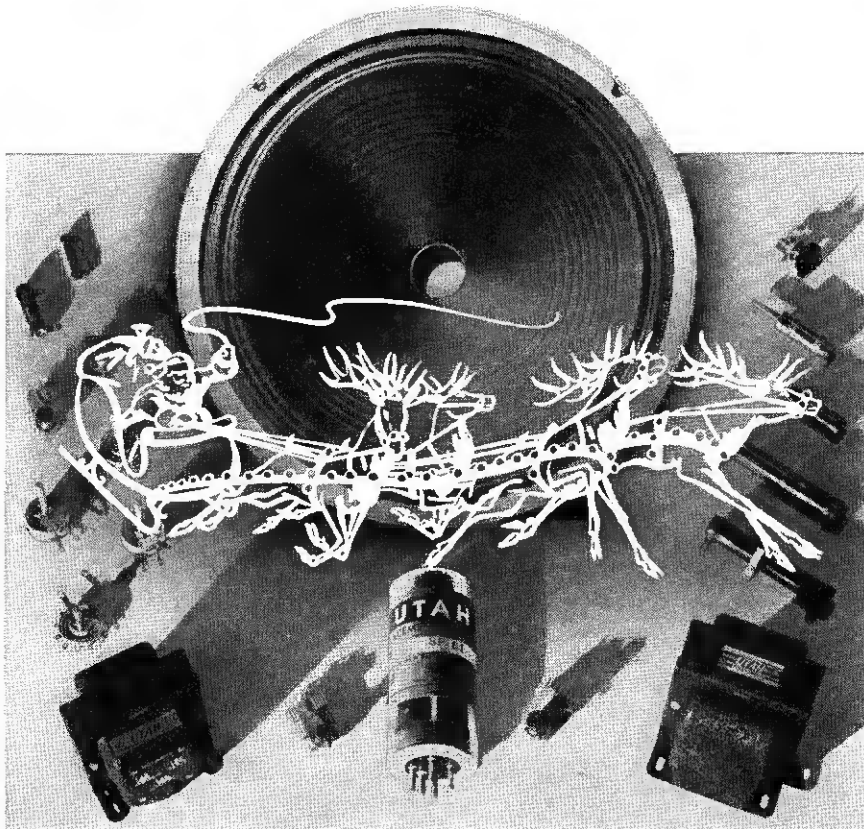
Keynote of the convention was the theme that "a thorough knowledge of a dependable product built by a dependable company is one of the most important phases of a successful merchandising

program." This was stressed to an attendance of over 350 distributors, factory reps, district managers and company officials plus 50 refrigerator service managers.

The meeting was conducted by household appliance division manager Charles R. D'Olive, who introduced president and board chairman James S. Knowlson, vice president A. B. Dicus, vice president and general sales manager F. A. Hiter, appliance advertising manager C. C. DeWees, sales and merchandising executive Joseph C. Elliff. D'Olive also announced a new financing plan whereby dealers will be allowed from 90 to 120 days for payment, said that orders at the close of the convention exceeded by more than 40



CONVENTION M.C. — Charles R. D'Olive did a job as master of ceremonies at Stewart-Warner's convention



THOUSANDS MORE WILL GET UTAH QUALITY AND PERFORMANCE THIS CHRISTMAS

Utah products will assure satisfactory performance and maximum enjoyment for the many thousands who will find radio receivers among their Christmas presents this year. The continually growing preference of many manufacturers for Utah parts, reduces the possibility of customer dissatisfaction — avoids unnecessary loss of time and money.

Service work is more profitable when

Utah replacement parts are used. Utah's designing keeps abreast of all industry developments. Utah's engineering and precision manufacturing enable you to obtain maximum performance value from each Utah part and all other parts in receivers, P. A. systems, etc.

If you don't have a copy of the 32-page, illustrated Utah catalog, write for it TODAY—there is no obligation.



UTAH RADIO PRODUCTS CO.
 810 ORLEANS ST., CHICAGO, ILL.
CANADIAN SALES OFFICE:
 414 BAY ST., TORONTO, CANADA
Cable Address: UTA-RADIO-CHICAGO

per cent those placed for the 1939 line a year ago.

The principle of the Dual-Temp refrigerator, leader of last year's line, has been extended to include three models for 1940, each model with a freezing locker for frozen foods. Nine other models were introduced: two Deluxe, three Sav-A-Step and four Standard.

Majestic Spikes Rumors

Resumes production, introduces new model, releases many new promotional pieces

CHICAGO—To dealers November 25 from Majestic Radio & Television Corporation's W. B. E. Norins went a letter stating, in part:

"We realize that during the past 30 days there have been a great many rumors concerning the financial structure of this company. The purpose of this letter is to clarify any doubt in your mind whether or not Majestic will continue to operate. *Majestic continues to operate and we will be in a position to make deliveries to your distributor and to you.* As you know, Majestic sales increased tremendously during the past eight months—it was not lack of orders which necessitated the present reorganization proceedings. We are now operating under a trusteeship and production has been resumed."

Introduced in a folder accompanying Norins' letter was a new model, model 2D60. A folder promoting radios for Christmas was simultaneously released with another featuring two new sales-making displays.

On November 27 it was further announced that Majestic production lines were again operating at full speed, shipments going forward daily and gradually nosing ahead of back orders, with demand for consoles running ahead of demand for table types.

Tele Test Guinea-Pigs

Three upstate New York towns scene of television price test by RCA

NEW YORK—Just concluded by the RCA Manufacturing Company in the upstate towns of Newburgh-Poughkeepsie-Middletown (about 65 miles from the Empire State transmitter) is a two months promotion of television receivers sold experimentally much below established lists (\$600 models went for \$395, \$495 models for \$295 and others for proportionately less) to determine the extent to which potential purchasers are influenced by price.

Conclusions of company executives remain unknown but it is believed that 100 televisions went into the hands of consumers during the period, dealers supported by newspaper advertising presumably receiving the usual discounts.

The marketing area in which the test was conducted contains about 1/30th the population of metropolitan New York City.

DuMont Tests Tele Prices

PASSAIC—The Allen B. DuMont Labs of this city, in order to test out the price level of its model 180X, 181X, 182X and 183 television receivers, has just announced a special Christmas allowance on all retail sales of such sets made by authorized dealers during December. Reduction is approximately one-third off list and dealers are to receive a compensating rebate following sales and actual installations.

Lists remain the same and dealers are to be billed at present prices for merchandise ordered during December, receiving a rebate later. DuMont management emphasizes that the test is solely for the purpose of ascertaining to what extent lower prices can stimulate the television market.

Gillig With Emerson

NEW YORK—Phil Gillig, one of the country's foremost radio merchandisers



THREE ABRAMS—Mrs., son Fred and Max Abrams of Emerson in a new informal pose

until recently directing head of the Ludwig-Baumann chain's radio and major appliance division, has joined the Emerson Radio & Phonograph Corp. as sales promotion manager.

Pletman Heads Wire Broadcasting

NEW YORK—A. W. Pletman has acquired the interests of John E. Otterson and Jarold West in Radio Wire Television Corp. of America, announces that as president he will continue the development of the major company's subsidiary, Wire Broadcasting Corp. of America.

Nagle-Bendix Deal

DETROIT—From Ted Nagle, formerly director of sales for the Bendix Radio Corporation's automotive division, comes word that he has formed the Ted Nagle Equipment Corporation with offices in the General Motors building here, has acquired the complete line of automotive and radio service test equipment formerly produced by Bendix.

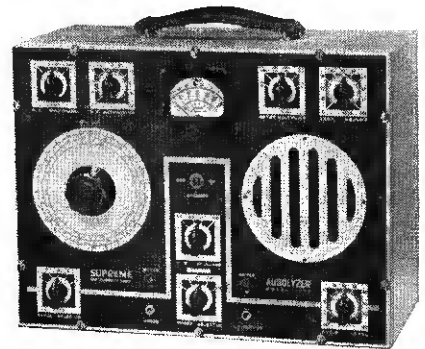
Nagle is president of the new firm, has his own engineering organization. Miller Tool and Manufacturing Company of Detroit will do his actual manufacturing.

Here's How---

- - a Radio SHOULD BE Tested - - at a PROFIT!

One Probe!

DOES IT ALL!



Instead of several cables to confuse the operator, the Audolyzer uses one cable with which over 75% of all work is performed. This probe is of such unique design that it can be used in making tests on any part of the receiver without affecting the receiver's operation. (Two other inputs are provided when the occasion demands two or more tests to be made simultaneously.) The one common probe is rapidly switched from circuit to circuit and has the following functions:

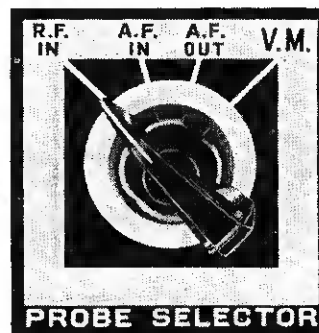
R. F. IN: The probe feeds a two stage amplifier tuned over the ranges of 95 K.C. to 14.5 M.C. in five bands. Its sensitivity is great enough to monitor signals in the first R.F. stage. With the aid of the Audolyzer's R.F. multiplier and attenuator its sensitivity can be reduced and used to monitor the strongest R.F. signal found on the second detector plate or the oscillator grid. The meter is used with the R. F. amplifier to compare signal strengths. For simple signal tracing through the R.F. stages, the speaker gives a quick audible check.

A. F. IN: When the signal has been traced to the second detector plate, simply set the "Probe Selector" to the "A.F. IN" position and finish the signal tracing job with the same probe. Starting

at the first audio grid, the signal is followed to the speaker's voice coil, the Audolyzer's speaker being used as a monitor.

A. F. OUT: When the "Probe Selector" is set in this position, the Audolyzer is set up as a receiver. When a station is tuned in, the audio signal is present at the tip of the probe for the quick checking of P.A. amplifier and receiver audio systems.

V. M.: Should any signal tracing step indicate trouble, a quick D. C. voltage check can be made at any point by setting the "Probe Selector" to the V. M. position. With this set-up, A.V.C., GRID BIAS, SCREEN, PLATE and POWER SUPPLY voltages can be measured without affecting the receiver operation.

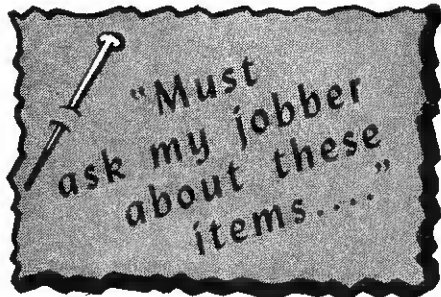


Why hasn't this been thought of and developed before? To test a radio, what is more simple or logical than to substitute a stage or part that is known to be good for the defective stage or part, while the receiver is in operation. Use only one probe—just listen for the trouble . . . that's AUDOLYZING.

SUPREME INSTRUMENTS CORP.
GREENWOOD, MISSISSIPPI, U. S. A.

SUPREME

EXPORT DEPT.,
Associated Exporters Co.,
145 W. 45th Street, New York
Cable Address: LOPREH, N. Y.



● There are lots of new items in that 1939-40 AEROVOX catalog—many we've been waiting for. Here are just a few good items taken at random:



For rush jobs, there's the PBS line of cardboard-case electrolytics. Here's a real choice of capacities; voltages; single, dual and triple-section units. Other types are listed for heavier-duty service.

For auto-radio, there's a nice selection of condensers and noise suppressors now listed. No longer necessary to try this or that type to knock out troublesome noise. There's now a type for each purpose.



Typical of the completeness of the AEROVOX line are these prong-base midget electrolytics. Quite a selection of them. AEROVOX has stood by its tried, tested and perfected electrolytic sections. No attempt at ultra-etching or other stunts to reduce bulk and cost perhaps at expense of performance and life.



Popular DANDEE line of miniature can electrolytics now includes double-section units and wider choice of single sections. Also high-capacity low-voltage units. Mighty handy type for general repairs and inexpensive assemblies.



Backed by the AEROVOX interference analyzer indicating what type to use and how to apply, these noise killers are worth pushing. A few extra dollars can be picked up.

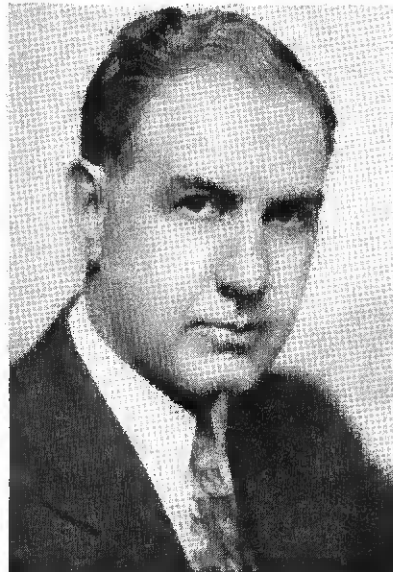


AEROVOX sure has some line of micas—molded-bakelite, porcelain and metal-case, silver-mica precision units. Low-loss yellow bakelite now available at slight increase. Also meter-mounting bracket units.



Ask Your Jobber . . .

● Get your copy of the 1939-40 AEROVOX catalog from him—or write us direct. Then ask your jobber to show you the items that interest you.



NORGE'S O'HARRA — M. Glenn O'Harra, v.p. in charge of sales for Borg-Warner's Norge Division

Norge Distributors Meet

See new merchandise, get "collegiate course" in profitable territory management

DETROIT—Norge distributors and their executive personnel went through an "advanced collegiate course" in the profitable operation of wholesale territories and sales management, followed by a post-graduate course in appliance merchandising, sales promotion and advertising, at the annual convention for distributors of Norge Division, Borg-Warner Corporation, closing a five-day session here December 8.

The convention opened Monday morning with the first day devoted to a preview of 1940 Norge Rollator refrigerators, ranges, home laundry equipment and commercial refrigeration. Climaxing the first day of distributor sessions at the Detroit Players' Club, the annual banquet was held that night at the Detroit Leland Hotel.

On the following Tuesday, distributors and their personnel went into a four-day merchandise "clinic" at the Leland. The purpose of the clinic, Howard E. Blood, Norge president, explained, was to prepare and equip and assist them in preparing and equipping their dealers in turn to take full advantage of the opportunities ahead in 1940.

Prominent among the list of convention speakers were vice president in charge of sales M. G. O'Harra and general merchandise manager, J. A. Sterling.

Sentinel Plays Santa

EVANSTON—Sentinel Radio Corporation distributors' salesmen are once again competing for valuable gifts offered by general sales manager, G. W. Russell, in a "Sentinel Plays Santa" competition.

In progress since November 15, it nears conclusion as this issue closes (concluded December 15).

Westinghouse Meetings On

Sales personnel, distributors begin active program. Trade to see new line January 2

MANSFIELD—Distributors of Westinghouse Electric & Manufacturing Company products gathered December 4 and 5 for their annual convention here, called by Frank R. Kohnstamm, sales manager of the merchandising division.

As this issue goes to press Westinghouse district sales personnel is going through an intensive three day course of sprouts on sales planning and promotion and, immediately after, distributor's salesmen are to attend a national meeting.

Wholesale personnel not present at the Mansfield meetings will attend 15 held in key cities beginning December 26 and dealers will see the company's new line of products immediately thereafter, with the first preview set for January 2 (The press is to see new lines at a special showing in New York January 4).

Westinghouse, according to Kohnstamm, anticipates a substantial sales increase next year and has stepped up its entire program in preparation for it.

Davin Leaves Detrola

DETROIT—Jim Davin has resigned from the Detrola Corporation of this city after two years as sales promotion and advertising manager. As this issue went to press he was on his way to the west coast with Mrs. Davin for a vacation in San Francisco and Los Angeles, expects to be in New York shortly and then back to the Lake Shore Athletic Club in Chicago.

"Repers" Conduct Tour

MINNEAPOLIS—The "Repers," organization of radio parts manufacturers agents travelling out of the Twin Cities, has just concluded a trade tour during which servicemen in the vicinity of Duluth, Fargo and Sioux Falls attended open forums, saw new equipment.

Secretary Mel Foster says Messrs. Roland, Borke, Kennedy, Hill, Heinann, Harding, McCarthy, Lindborg, Franklin and Hildebrandt did the circuit with him, with Joe Marty of the RSA in tow as a speaking guest.

G-E Radio-Record Player Special

BRIDGEPORT—In progress by mid-winter, according to General Electric's radio merchandising manager, A. A. Brandt, will be a combination offer of the firm's seven-tube console model H-736, and the HM-3 record-player, at a startlingly low price involving the turn-in of the prospect's existing receiver.

The plan will be labelled the "cream in the coffee" deal, is, according to Brandt, intended to give sales a mid-winter hypodermic.

Dale to New Quarters

NEW YORK—The Dale Radio Company has moved to larger space at 1780 Broadway. Maurice Despres, president, plans to issue open house invitations to the trade before the end of the year.

Dealer Helps

SERVICE PROFIT IDEAS—Replete with sound ideas for making more money at servicing is a new booklet by the *Weston Electrical Instrument Corp.* of Newark, N. J. entitled: "Ideas for Profitable Servicing." Contains by way of illustration photos of the firm's tests instrument line plus full data about all instruments. Simultaneously issued for distribution to servicemen is a *Weston Tube Base Data Connection Chart*. Shows base layouts of over 500 tube types, clearly and simply, may be obtained without charge by men in the business.

TRIPLE PUNCH—*Majestic* has a Santa Claus cutout unique in that it is equally adaptable to either table or counter use and for console display. Lithographed in four colors.

WINTER WINDOW—A new radio tube winter window display is announced by *Hygrade-Sylvania*, consists of a central figure (girl skater photographed by camerartist Paul Hesse) plus wording calculated to click at this time of the year by tying in with a popular sport. Stands 40 inches high.

CHRISTMAS AIDS—New *Philco Radio & Television Corporation* dealer helps designed to help dealers just before Christmas include a Greek Letter Monogram Package especially recommended by the company to swell gift sales to high-school and college students, specially designed cellophane with which to wrap *Transitone* compacts for store display, reproductions of Christmas ads now running in national magazines and window cards tying in with the holiday theme.

XMAS CARDS—Admiral radios for Christmas are urged by *Continental Radio & Television Corp.* counter cards released just before the holidays. One illustration features a cut out Santa, another a cut out reindeer and a third features a silhouetted Christmas tree.



Can you test . . .

LOKTALS-BANTAMS-"S" TYPES? 35, 45, 50, 70, 117 VOLT HEATER TYPES?



FREE . . . TUBE TESTERS OR OTHER SERVICE EQUIPMENT! LEADING MAKES

Here's the chance of a lifetime to get the tube testing equipment you always want and need. National Union *now* makes it possible for you to choose from all the newest models of leading instrument manufacturers . . . every one guaranteed to test all the latest tubes! See your National Union jobber or send coupon. Only a small deposit is required—refunded as merchandise credit when the required number of points is reached, based on your purchases of N.U. tubes and condensers. Ten years and thousands of satisfied dealers testify to this easy way to obtain necessary shop equipment.

NATIONAL UNION RADIO CORPORATION
NEWARK, N. J.

N. U. QUALITY IS THE BY-WORD
OF THE SERVICE ENGINEER

Increase your volume, give better satisfaction to your customers, protect yourself from cut price competition . . . THEN WORK WITH N.U. . . . All our policies and sales promotions are aimed to build you and your business.

**GET A NEW TESTER
Free!**

National Union Radio Corp.
57 State St., Newark, N. J.

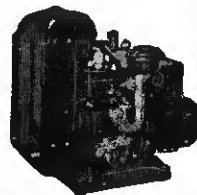
Please send me information on how I can get the following piece of TEST EQUIPMENT FREE.

Name

Address

City State

RR1239



NEW MODEL AC-DC
DUAL VOLT
350 WATT
PRECISION WORKMANSHIP
STURDY COMPACT LIGHTWEIGHT
MORE THAN 40 TYPES IN STOCK

COMPLETE ELECTRIC PLANTS

ONAN A.C. ELECTRIC PLANTS supply electricity to operate A.C. RADIO, SHORT WAVE TRANSMITTERS AND RECEIVERS, PUBLIC ADDRESS SYSTEMS, MOVING PICTURE PROJECTORS.

SOUND TRUCK APPARATUS, ELECTRIC TOOLS, LIGHTS AND ALL APPLIANCES.

THOUSANDS IN USE IN ALL PARTS OF THE WORLD

Used as **STANDBY EQUIPMENT** in Schools, Hospitals, Theatres and Public Buildings, for Emergencies caused by Power Line Failure due to Storms, Floods, and other Catastrophes. Save Property and Lives. Other Models for Farms, Camps, Homes.

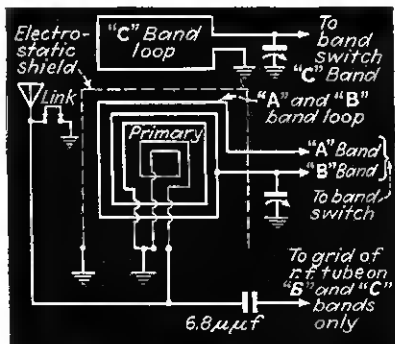
Available in 110 or 220 Volt, AC—15, 32 and 110 Volt, DC—also Dual Voltage, AC-DC Types. Manual, Full-automatic or Self-Starting. \$99 and up. Shipped **READY TO RUN.**

WRITE FOR DETAILS AND PRICES

D. W. ONAN & SONS

629 ROYALSTON AVE.

MINNEAPOLIS, MINN.



All Wave Loop

Loop antenna operation in the model U-44 by RCA may be had on any frequency from 540 kc. to 18 mc.

This is made possible through the use of two separate loops built inside the cabinet. Band "C" (short wave) uses a small loop placed horizontally since on shortwaves most signals are skywaves and induce the greatest voltage when the loop is in this position. Band "A" (broadcast) uses a large vertical rotary loop which is electrostatically shielded by a Faraday screen to exclude electrostatic interference. A portion of this loop is tapped for operation on the "B" (medium wave) band.

Provision is made for use of an external antenna in locations where signals are shielded by building construction. On the "A" band the antenna is inductively coupled to the loop by a primary winding which connects to the antenna. This also serves to couple to the "B" band in conjunction with the 6.8 mmf. condenser which feeds the antenna signal direct to the grid of the r.f. tube. On the "C" band this condenser alone serves to couple the external antenna. When loop operation alone is desired on any of the bands the shorting link is closed, grounding the external antenna.

Shunt Permeability Tuning

Usual types of electric automatic tuning receivers use trimmer condensers for aligning the circuits for each button. In Model S-1726 by Philco, all adjustments are made on permeability tuned coils. This type of tuning has very low frequency drift and is therefore well suited for oscillator as well as r.f. circuits.

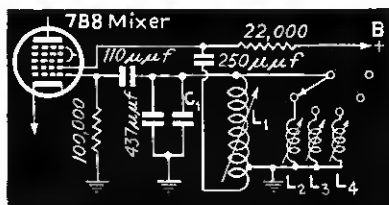
Certain differences in alignment may be expected with the circuit shown here as compared to usual circuits. A main inductance L_1 is constantly in the oscillating circuit of the mixer stage. This has been designed to resonate lower than the lowest fre-

for the Service Department

quency to be used. One purpose of this inductance is to assist in tracking the oscillator since r.f. and oscillator trimmers are ganged.

For each position of the station selector switch a new permeability tuned inductance (L_2, L_3, L_4) is shunted across the grid portion of L_1 . The result of the combined inductances raises the resonant frequency of L_1 to the desired value. The action is opposite that of a shunt condenser since inductances in parallel have a total value of less than either one separately.

To further reduce oscillator drift a thermal compensator (C_1) shunts the



tuned circuit. This is a special condenser that changes capacity in accordance with the heat within the set to compensate for expansion and movement of tube elements and wiring due to heat.

Vibrator Tester

A simple vibrator tester that will give the serviceman a good indication of condition of a vibrator is reprinted here from the Mallory Yaxley Radio

Service Encyclopedia.

The goodness of a vibrator may be determined by the value of the starting voltage, the same as the worth of a tube is checked by the value of electronic emission from the cathode.

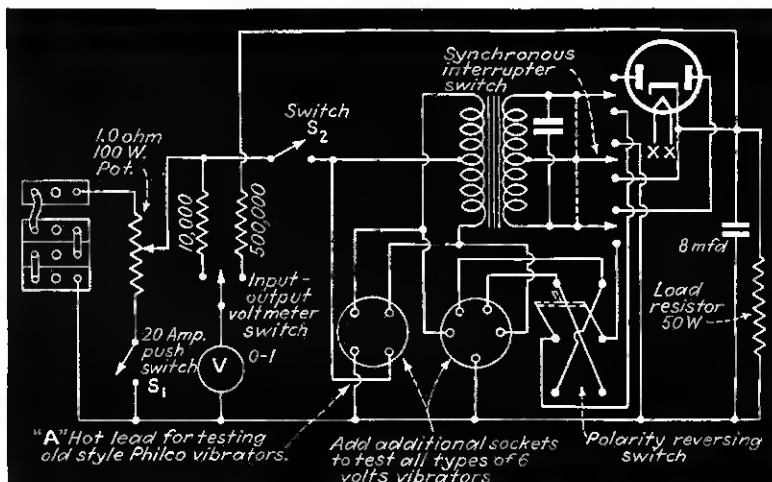
Vibrators in good condition will start at 5.2 volts or less; these should give many hours of satisfactory service. Units that start between 5.2 and 5.6 volts are doubtful and may be expected to fail in the near future. Vibrators that require voltages above 5.6 volts to start should be considered defective since they undoubtedly give trouble when the car battery is low.

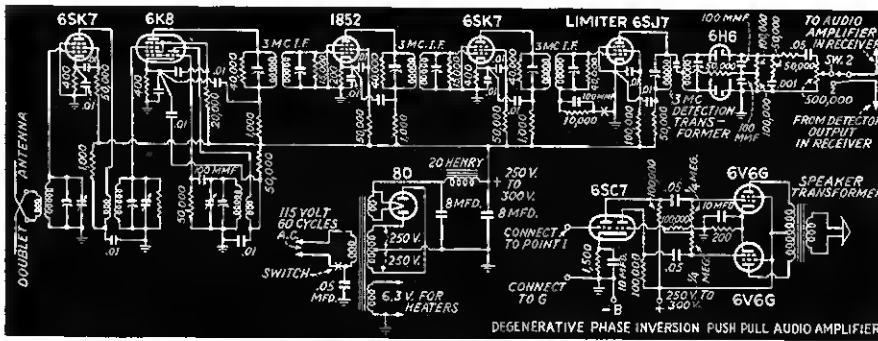
After starting tests are run, the vibrator should be operated at $6\frac{1}{2}$ volts with a voltmeter connected in the output circuit. If the voltage output fluctuates over a fairly wide range, the vibrator is definitely bad. Likewise a fairly steady voltage indicates a good unit.

Vibrators that pass these two tests may be properly classified as good ones and used with confidence.

Operation of the tester is as follows: With a vibrator placed in the proper socket adjust the potentiometer at the left with the switch S_2 closed so that the voltmeter reads 5.2 volts. Switch S_2 is then closed. If the vibrator starts it may be considered good as far as this test is concerned. If it fails to start, open switch S_2 and re-adjust the potentiometer to a slightly higher voltage and repeat the procedure.

After the starting voltage value has been found, adjust the potentiometer so the voltage is between 6 and $6\frac{1}{2}$ volts, then observe fluctuations of the output.





Frequency Modulation Kit

Interest in high quality and noiseless reception has brought forth this frequency modulated kit by Browning Labs.

An analysis of the circuit shows that a 6SK7 is used in a tuned r.f. stage, a 6K8 as a mixer-oscillator, an 1851 and a 6SK7 as i.f. amplifiers operating at 3 mc., 6SJ7 limiter stage which passes only frequency modulated signals and blocks all amplitude signals, and a 6H6 detector which operates in a like manner, but in reverse, to a discriminator in an a.f.c. circuit.

The output of the detector is designed to feed into any standard audio amplifier and speaker, or to the phono terminals of a broadcast set. An amplifier with phase inversion is shown so that a pushpull stage may be driven from the single-ended output.

New Tubes

117L7GT—Midget rectifier—beam power amplifier by Arcturus designed primarily for output—half wave rectifier service in a.c.-d.c. battery portable receivers as a source of filament and plate supply voltage as well as higher audio output when used on the line. Characteristics are:

Heater Voltage.....	117 volts
Heater Current.....	.09 ampere
Plate Voltage.....	90 volts
Plate Current.....	.45 ma.
Power Output.....	1.0 watt
Max Rectifier Current Output.....	.70 ma.

11A4—Power output low battery drain pentode by Sylvania with loctal base. Electrical characteristics are similar to the 1A5G.

11A6—Loctal pentagrid converter by Sylvania similar electrically to the 1A76 and 1C7G.

11H4—The loctal equivalent by Sylvania of the 1H56 diode triode.

11N5—R.f. pentode with loctal base by Sylvania. Electrically similar to the 1N5G.

7E7—Loctal duo-diode-pentode by Raytheon with common cathode.

Heater Voltage.....	6.3 volts
Heater Current.....	.3 amp.
Plate Voltage.....	250 volts
Screen Voltage.....	100 volts
Grid Voltage.....	3.0 volts
Suppressor Voltage.....	0 volts
Plate Resistance.....	0.7 megohm
Transconductance.....	1300 umhos
Plate Current.....	7.5 ma.
Screen Current.....	1.6 ma.

6AE5-GT—Heater-cathode type low-mu triode by RCA intended for use in a.c.-d.c. receivers; octal base. Characteristics are:

Heater Voltage.....	6.3 volts
Heater Current.....	.3 amp.
Plate Voltage.....	95 volts
Grid Voltage.....	-15 volts
Plate Current.....	.7 ma.
Amplification Factor.....	4.2
Plate Resistance.....	3500 ohms
Transconductance.....	1200 umhos

New Tube Ratings

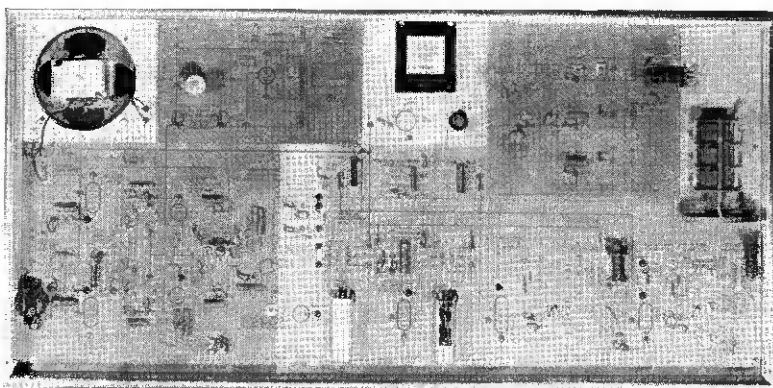
The system of ratings which has been in use up to the present was originated in the early days of radio when B-supply voltages were obtained from batteries. In those days, the output of a 90-volt supply fell below 90 volts during receiver operation, but it never rose appreciably above 90 volts. Maximum plate-volt-

age ratings for tubes, therefore, were set up as absolute maximums. A maximum plate-voltage rating of 90 volts meant that the d-c plate voltage should not exceed the rating at any time.

This practice of setting ratings as absolute maximums has continued up to the present even though other sources of supply have been in common use. Today, tube voltages are usually obtained from sources, such as power lines, where the voltage varies, not only below, but also above its nominal value. In many receivers, this upward variation causes tube voltages to exceed the maximum ratings. The reason is that these receivers have been designed so that plate and screen voltages are at the maximum rated values when line voltage is at its average value. In other words, many receiver designers have interpreted tube maximum ratings as design maximum values, although the ratings were intended to be absolute maximums. While this misinterpretation has caused no trouble with many tube types because of the factor of safety in the ratings of these types, it has caused trouble with some rectifier and power amplifier types. To avoid this misinterpretation it has become desirable to modify the system of tube ratings as outlined by RCA.

It is also desirable that tube ratings be established so as to make allowance for the difference in variation of supply voltage which exists between automobile receivers and receivers operated from power lines. Surveys have shown that most of the power lines in this country deliver a voltage within +10 per cent of 117 volts. The voltage of automobile storage batteries, however, may vary 40 per cent or more.

In the new system of ratings, the meaning of a maximum rating is changed from absolute maximum to design maximum.

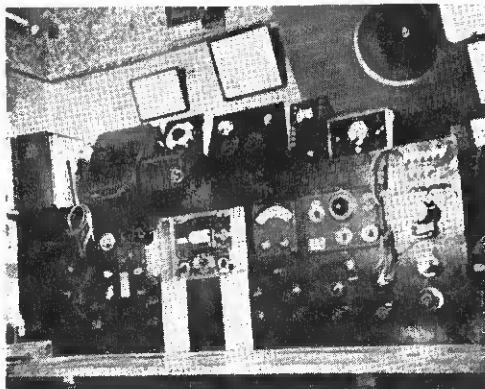


DYNAMIC DEMONSTRATOR—A complete working model receiver is built into this schematic enabling RCA lecturers to demonstrate test equipment.

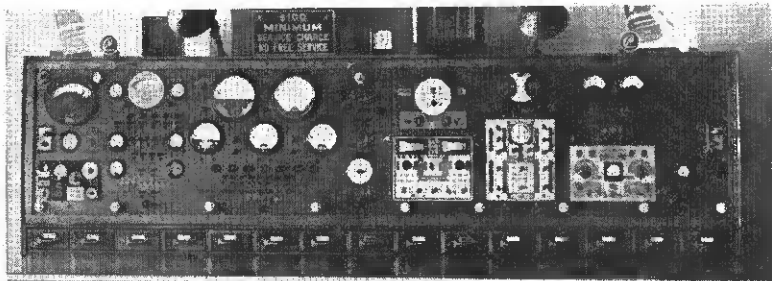
Actual wiring and components are contained either on the front or rear of the board. All necessary adjustment and operation can be made and the results observed. Pin jacks and jumpers inserted at various points in the schematic permit many circuits to be broken, simulating a defective receiver. The condition is then located by signal tracing and other test methods.



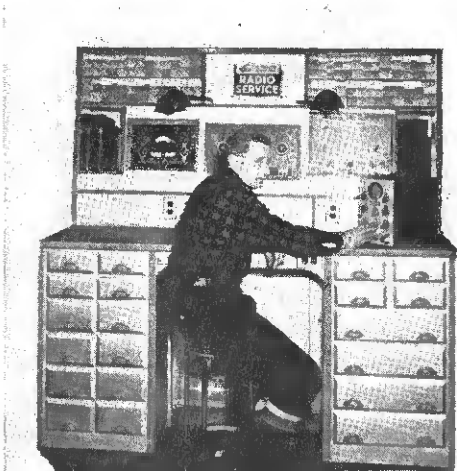
INDIANA—A neat layout at Chets' Radio Service, East Gary. Equipped for signal tracing, tube testing, volt-ohm-current measurement and other tests



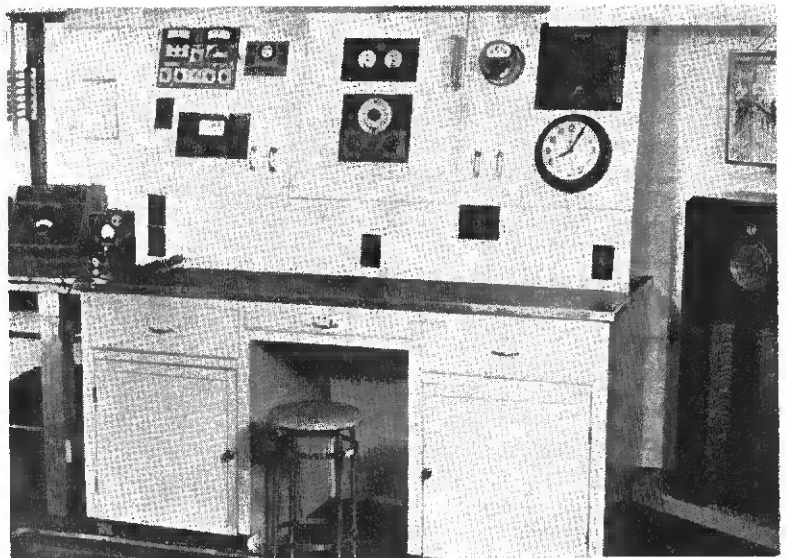
NEW ZEALAND—On the underside or on top of the earth, sets still need servicing and C. Kemp Goodwin of Carterton is fully equipped to do it properly



WISCONSIN—There's nothing like a good comfortable seat, says Walter Hryniewicki of Thorp. Plenty of drawer space nearby is handy too. Last but not least, don't forget a conveniently located stock of tubes



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MICHIGAN—White bench of Bob Hopkins at Jackson makes for eye-ease while reading instruments. In addition, tubular fluorescent lamps give even lighting. Clock times service jobs

FLORIDA—E. Stevens, formerly of Chicago, now at Miami, designed this masterpiece. Note signal tracer, oscillograph, signal generator, audio oscillator, and resistance bridge. If you don't see what you want, ask for it



NEW JERSEY—T. Earl King of Salem checks voltage, current, ohms and capacity simply by pushing buttons; many other test functions are also included. Panel is of black monotile, looks like Bakelite, costs less

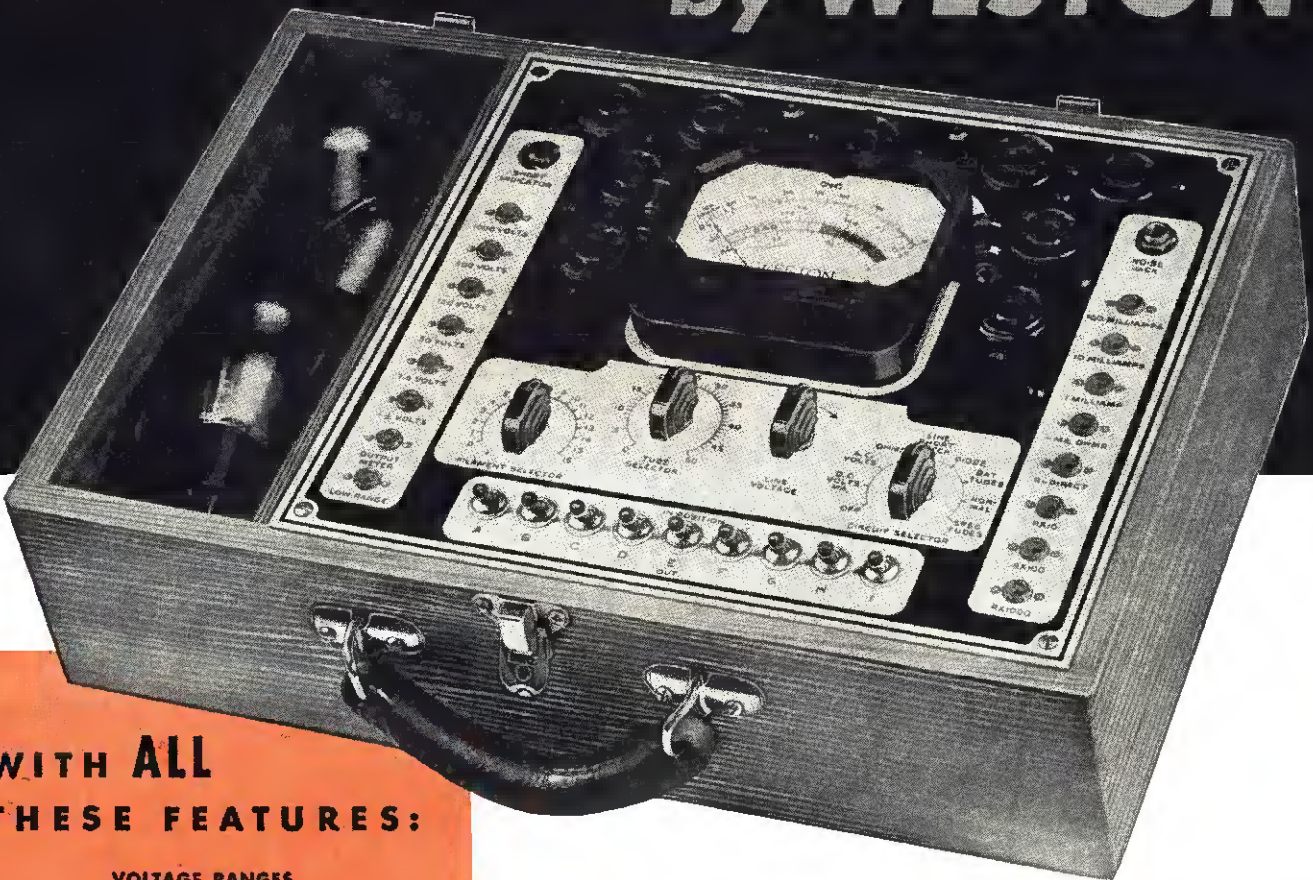
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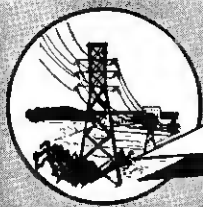
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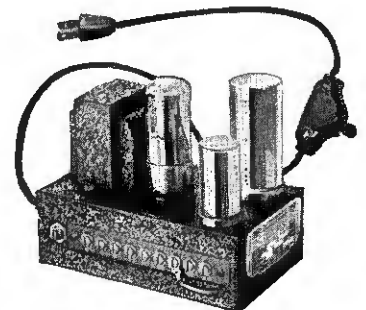
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After

SIGNAL TRACING,

What?

By C. A. NUEBLING*

MOST difficult phase of all servicing is to find the defective stage, or stages, causing the signal to disappear, fade, or become noisy. Modern signal tracing instruments do just that part of the job in a comparatively easy manner.

But, after the stage is located, it is not always obvious which particular part is "screwing up the works."

In most cases common sense and simple deduction, in conjunction with the r.f., i.f. or a.f. test probe will disclose the breakdown. Yet, in other instances, no visible solution will be available and resort to volt, ohm, current, or capacity measurements must be made.

Many signal tracers contain provision for these measurements; they should be used whenever signal tracing does not give an absolute result. A few typical cases will be described here so that servicemen will be able to reason with the circuits they must service.

Amplifier Stages

For the purpose of explanation a typical r.f.-i.f. amplified stage has been chosen. The circuit is similar to a.f. and converter stages also and for purposes of analysis may be diagnosed in a like manner.

When trouble tracking leads one to a given stage, as much information as possible on the characteristics of the stage should be gleaned before laying down the signal tracer probe.

Suppose, in Fig. 1, a signal was present across L_1 and L_2 but weak or absent between the grid of the tube and ground. Assuming the grid lead and cap to be making good connection, the only logical alternative would be an open capacitor at C_2 , thereby preventing the signal from being impressed across the input (grid and cathode) of the tube. If bandswitching is used in the circuit, naturally the switch contacts should be suspected also and continuity checked with an ohmmeter.

If, in a second supposition, the signal at the grid circuit is satisfactory but no signal is present at

* Technical Editor

"COMES THE REVOLUTION" was the cry introducing signal tracing a short while ago. Undoubtedly, this method, opening a new field of attack, has given more to servicemen than any test procedure in recent years.

Still, it is safe to say, that any one basic test method alone, without the assistance of other and older methods, is about as handy as a pocket in an undershirt. This is true of voltage, current, resistance, signal and other measurement methods.

Common sense reasoning is still King; the ability to know when to use the proper test method, your Crown.

the plate, then the tube and its associated circuit should be suspected. Before going further it would be logical to measure all voltages at the tube elements with a vacuum tube voltmeter or any high resistance meter.

Usually an open resistance or shorted capacitor will show up under this test, but if such is not the case, it would be natural to test the tube.

Excluding a defective tube, an ohmmeter would probably disclose shorted turns in L_3-L_4 or a shorted

trimmer; (C_5-C_6) this is of course assuming that the alignment of L_3-L_4 had not been disturbed.

Fading or intermittent operation is common in amplifier stages and usually difficult to trace. If signals in the grid circuit are constant, but a test probe at the plate indicates changes in signal voltage, the grid circuit could still be suspected. Usually the screen resistor or its associated bypass causes a good deal of this trouble, but grid circuit components may do likewise.

Although it would appear at first thought that fading in the plate circuit, and not in the grid, would indicate proper function of the grid circuit, on closer examination it can be seen that if R_1 , the a. v. c. resistor, should change its resistance value intermittently; or C_2 should become leaky, a similar condition would result.

It would be difficult to test C_2 by ordinary means. A condenser checker or high resistance leakage test should be used as this condenser is connected in a high resistance circuit with respect to a.v.c. voltage and any slight leakage condition would be detrimental. A VTVM at the grid would indicate this condition.

In r.f. stages the rotor of C_1 is usually connected to ground. Dust, dirt and mold often collect on the plates and insulation and cause leakage to ground. This would result in a condition similar to a leaky C_2 and should be checked for leakage after disconnecting the stator circuit. Such a condition would not normally indicate a disturbance in the grid circuit when a signal tracer is used.

Oscillators

Most signal tracers have an oscillator channel for checking oscillation and measuring the frequency. Actual oscillator performance is usually determined by a built-in vacuum-tube voltmeter.

The strength of oscillation can be found by connecting the VTVM across the grid leak R_1 (Fig. 2) and measuring the rectified grid voltage when the oscillator is working.

Under certain conditions, particularly when the grid leak R_1 is high,

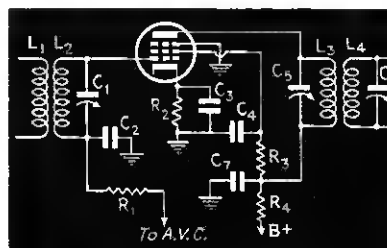


FIG. 1 Typical R.F.-I.F. Stage

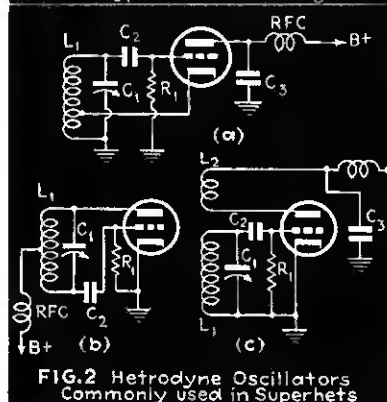
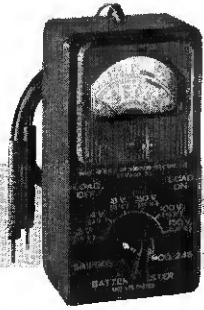


FIG. 2 Hetrodyne Oscillators Commonly used in Superhets



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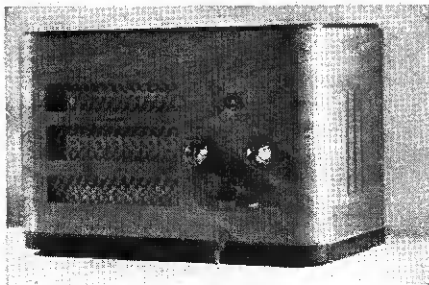
Also a sensitive voltmeter

The load is thrown on and off with a convenient toggle switch. When off, the tester becomes an accurate voltmeter with ranges of 0-2, 0-4, 0-8, 0-50, 0-100, and 0-150 volts having a sensitivity of 1,000 ohms per volt. Here is Simpson quality, accuracy, and beauty at the remarkably low price of **\$7.85** (Net price to dealers and service men)

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this test does not always indicate good oscillator performance even though a satisfactory reading is obtained. It is possible for the oscillator to be super-regenerating (working at a low and high frequency simultaneously) and at the same time give good indications on the oscillator channel and VTVM. If the rest of the set were in working order a multitude of "birdies" would appear over the dial, indicating the presence of this condition. But if the set was dead in the second detector stage, so that no audio output was available, a set of "screwy" conditions might be encountered in the working part of the set which would confuse the signal servicer. Usually, in the circuits of Fig. 2, if R₁ is much above 100,000 ohms this condition might occur, so it would be well to check this with an ohmmeter.

Changes in oscillator grid voltage (strength of oscillation) is one cause of fading in superhets and may be caused by intermittent or leaky C₂, defective R₁ high resistance rotor contacts of C₁, or corroded or loose windings on L₁ or L₂. These may be checked by a leakage indicator and ohmmeter. While using the ohmmeter it would be sensible to check ground connections, especially in the coil circuit since these are often riveted to the mounting lug or shield can and in time develop a certain amount of resistance.

Audio Frequency

A SERVICEMAN WAS CALLED recently to remove a fly that had become lodged behind a radio dial.

WHEN BUILDING ANY RADIO equipment or servicing a particularly hard set on which you have to check all parts, take a red pencil and trace on the diagram the part you have wired in or tested. This will indicate when you have completely covered the circuit.

FLAT DIAL BELTS which are hard to obtain may be made with adhesive tape. Cut a strip slightly narrower than pulley and 2 or 3 times longer than the original belt. Lay the smooth side on the pulleys and pull the whole length around, pressing the layers as you go. Rubbing a piece of chalk on the sticky side will prevent gumming of the idler pulley.

T R I C K S

AK 84

Breaks into oscillation after operating a short time . . . replace 60,000 ohm resistor in the grid circuit of the 27 oscillator.

AK 89

Motorboating around 900 to 1,500 kc. . . . check all chokes in r.f. section for short or open.

ARVIN 5 TUBE A.C.-D.C.

Regenerative . . . suspect leaky mica condenser from B minus to a.c. line at switch.

BOSCH 236

Bad distortion . . . replace cathode resistor on the 57 second detector with 25,000 ohms.

BOSCH 620, 625

Hum not caused by improper filter system may be removed by replacing the .1 mfd first detector and i.f. grid return with .25 mfd or larger.

CROSLY 617

Noisy, intermittent . . . tighten 6A8G socket clamps and realign as sensitivity and selectivity is affected by vibration of Dynatrol.

CROSLY 648

Intermittent operation . . . replace 60,000 ohm resistor connected from 6A8 oscillator grid to chassis.

G-E F63, F70

Due to the inverse feedback used in these sets a squeal will sometimes develop when the output transformer is replaced. This may be corrected by reversing connections to the transformer.

G-E E81, E91

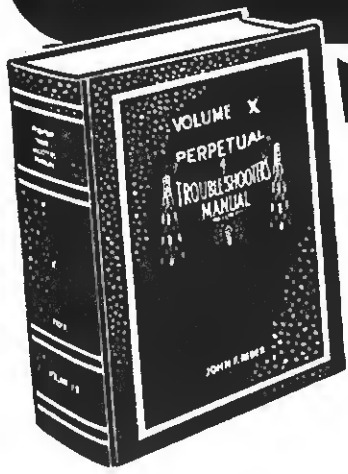
High noise level between stations may be reduced by inserting a 5000 ohm half watt resistor bypassed with .05 mfd condenser in the cathode of the first detector and last i.f. stage.

GRUNOW 6C

Loud hum . . . suspect open condenser connected between junction of two 250,000 ohm resistors in the grid of the 42 and ground. Replace with .075 mfd unit.

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so crammed full of the kind
of stuff I've got to have! It's
a swell job... a book every
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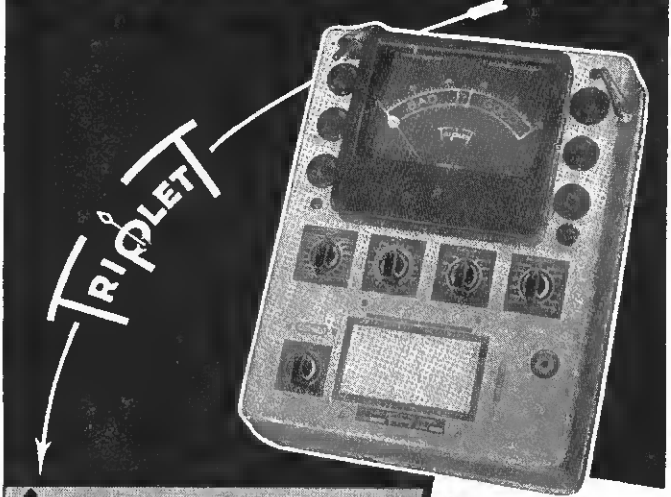
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GUARANTEED INSTRUMENT**

WITH the Triplet Model 1612 on your counter, your place of business immediately is brought up-to-date. For here is a "customer acceptance" tube tester that is impressive in the quick "readings" it gives with its fine, business-like appearing 7-inch meter. A quick spin of the Illuminated Roll-Dex Speed Chart will give you the settings in a flash. All tube references on entire chart scanned in less than 10 seconds. Has all tube sockets including Loctals and new Bantam Jr. Tests High Voltage series tubes including 117Z6G. Future tubes provided for by filament voltages in 20 steps from 1 to 110 volts. Noise test jack and separate line voltage control meter. Suede finish Silver Grey and Maroon case and panel of heavy, streamlined steel. Dealer Net Price.....\$29.84



**MODEL 1613
PORTABLE STYLE**

This Portable tester is the same as above, but has a detachable cover with attached handle. Case size with cover 15¼" x 11½" x 6½". Dealer Net Price..\$34.84

Write for Catalog!
Section 2012, Harmon Ave.

THE TRIPLET ELECTRICAL INSTRUMENT CO.
Bluffton, Ohio

GRUNOW 1937, 15 TUBES

Peculiar hum which develops after few minutes of operation . . . connect shell of large speaker to ground.

KADETTE

Common trouble is usually the failure of the dual .5 mfd condenser; this is caused by the heat generated by the line dropping resistor. Replace resistor with 290 ohm line cord.

KENNEDY 62D

Tuning meter unstable accompanied by erratic action of the set . . . look for intermittent opening of 4200 ohm section of candohm voltage divider.

MOTOROLA DELUXE

Noisy, loss of volume . . . look for shorted leads in shielded cable from r.f. section in tuning head to audio section in speaker housing.

PHILCO 12X

High pitched whistle . . . shorten twisted speaker leads as much as possible.

PHILCO 20

Oscillation . . . connect .1 mfd condenser across entire voltage divider.

PHILCO 38

Distortion after replacing leaky coupling condenser on first audio . . . check battery pack for positive charge at minus $7\frac{1}{2}$ "C" terminal. This is probably caused by discharge and small recharge from "B" plus through leaky condenser.

PHILCO 39-30T

Crackling, noisy . . . check 250 mmf. mica condenser bypassing plate of the 75 tube.

PHILCO 71

Cuts out on strong locals, low powered stations come through weakly . . . change resistor in oscillator circuit from 15,000 to 10,000 ohms.

PHILCO 643, 643A

Weak, all voltage and capacities check okeh . . . replace output transformer.

RADIOLA 66

Dead, except for loud hum . . . look for shorted .002 mfd. bypass from plate to cathode lugs of second detector socket.

RCA VICTOR 96T

Oscillation, motorboating . . . open 5 mfd bypass from screen of 6F6.

RCA 810K

Weak reception . . . check antenna coil for open or band switch for poor contact.

RCA 911K

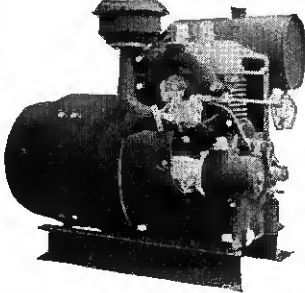
Candohm resistor burned, shock when chassis is touched . . . a.c. line uses one spare terminal of the 5T4 socket. Socket leaks to ground, replace socket.

RCA R10

Noise similar to loose tube elements . . . may be caused by loose metal grommet rattling on chassis. The control grid lead of the first detector passes through this opening and undoubtedly picks up the small induced voltage thus generated and amplifies it greatly.

110VOLTSAC ANYWHERE!

With KATOLIGHT. Furnish standard 60-cycle AC for operating sound truck equipment, AC radios, transmitters, flood lights, motors, moving picture projectors, etc.



A complete line of light and power plants ranging up to 10,000 watts capacity. Also 6, 12 and 32 volt battery charging plants, Diesel plants, rotary converters, and frequency changers.

List prices \$50.00 and up.
Jobbers and Dealers Write For Latest Catalog

Kato Engineering Company
Elm and Front Streets
MANKATO, MINN., U.S.A.

Examining
SOLAR

EXAM-ETER
CIRCUIT and COMPONENTS ANALYZER

including
PEAK VOLTMETER

A sensation! Combines more important test functions than ever offered before for only . . .

\$39⁰⁰ AT YOUR JOBBER

Write for full details

SOLAR MFG. CORP. Bayonne, N. J.

*Season's Greetings
to the
Entire Industry*

Sentinel
QUALITY RADIO SINCE 1920

AND BEST WISHES FOR A PROFITABLE NEW YEAR

SENTINEL RADIO CORP. • 2020 Ridge Ave., Dept. R.R. • Evanston, Ill.

SENTINEL 90 B 167 S

Frequency jumps several kc. and returns . . . replace oscillator coil, part 3429.

SPARTON 301

Hum . . . clean and tighten the ground connections on the large 7,000 ohm resistor located in back of the 50 tubes.

SELLING SOUND TO "CARNYS"

(Continued from page 34)

quently desirable as this type gives a quick flare and still covers quite a distance. A flat baffle, in our estimation, is passé for carnivals but lots of shows still use them and are apparently satisfied.

The average small show only needs a 20 to 30 watt amplifier, with a turntable and pickup, two horns and speakers and a microphone. Larger shows frequently use two or more, or a larger size.

Installation Ideas

Most carnival folks are familiar with the "Ten and One Show," a typical setup requiring sound. Horns should be set about 25 ft. from either end of the platform, suspended on poles holding the banners and pointed in the opposite direction to that of the ticket booth. In this way you can catch the "blow-off," still be able to talk to the folks in front of the platform and also eliminate any possible feed back.

This same set-up will work in connection with a "girlie show."

For sound on rides, the speakers should be pointed practically in front or slightly to one side and bally made from the ticket booth. In some cases the speakers can be installed on top of the ticket box to advantage.

For the "free act," an amplifier of about 50 watts and 4 trumpets with units facing the midway, with a microphone at least 40 ft. behind the units so no feed-back occurs, is recommended.

For the front of a carnival, similar to Marks Bros., Sheesly, Chetland and Wilson's Shows, two big flare speakers fixed to catch the people directly in front and two trumpets pointed to attract the more distant passer-by is a good bet.

Maintenance Hints

The first thing to do after selling a "carny" system is to suggest an extra set of tubes, one extra speaker and microphone, as these are the hardest to replace on the road.

The next thing to do, if you sell PM speakers, is to paint the cones (unless waterproofing has been done by the maker) with linseed oil as this waterproofs them, preventing them from warping.

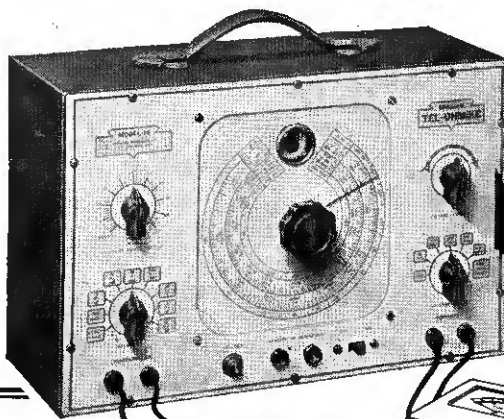
The next is to induce the purchaser to have wooden or metal cases made for the amplifier, turn-

table and horns, as this will save many dollars in the long run.

Never let the average show electrician tinker with equipment if anything goes wrong. Tell the show manager that if he does have trouble and the amplifier shuts off to turn the AC off at once, then have tubes tested. If this is not the trouble, tell him to find a good sound or radio man. ("Billboard" is starting to recommend them).

Probably all shows equipped with sound would do well to buy a good tube tester and carry it along with them.

MONEY-SAVER DeLuxe!



YOU BUY THIS

YOU ALREADY HAVE THESE

WHAT IT WILL DO

Makes more complete, more accurate tests of ALL condenser and resistor characteristics in less time than ever before . . . at any price!

Indicates "opens" and "shorts"

Shows up intermittent opens

Measures leakage current and power factor of electrolytic condensers

Measures insulation resistance up to 10,000 meg.

Measures capacity from .0001 mfd. to 2,000 mfd.

Measures resistance from 0.5 ohms to 5 meg.

Analyzes ALL condenser types at exact working voltages.

SPRAGUE TEL-OHMIKE

Sprague Tel-Ohmike IS A REAL LABORATORY CONDENSER AND RESISTOR ANALYZER—at a price within reach of every serviceman who recognizes the importance of such an instrument in helping him do better, faster work and making more money doing it. Instead of buying meters twice, you pay only for Tel-Ohmike and use the voltmeter and milliammeter you already own. The result is an up-to-the-minute, obsolescence-proof instrument worth at least \$50 . . . for a net price of only **\$29.70**. As long as there are condensers and resistors to be tested, Tel-Ohmike will be just as good, just as modern as it is the day you get it. Tel-Ohmike gives you the widest range, the most features of any similar instrument on the market at any price. Ask your jobber to show it to you, or write for free descriptive folder.

SPRAGUE PRODUCTS CO., North Adams, Mass.

SPRAGUE

A NEW PRODUCT BY THE MAKERS OF FAMOUS SPRAGUE CONDENSERS AND KOOLOHM RESISTORS

BROADCASTERS AND THE TRADE

(Continued from page 15)

visitor's voices and played these back for them.

Many other "Curtain Raiser" tie-ins were held throughout the country during the September-October period but details are not at this writing available.

News of What's Ahead

As this issue goes to press many NAB members are airing 15-minute scripts designed for general radio promotion during December and mailed to them November 27 by Joint Committee secretary ART STRINGER (1626 K Street, N.W., Washington, D.C.). One is entitled "Who's Radio is This," another "Dialer's Choice" and a third "Three into One Will Go," all specifically designed to boom radio sales and servicing and listening just before Christmas.

Along with the scripts went text of many suggested spot announcements with a similar Christmas appeal.

Details of what promotion may be ahead for 1940 are not yet avail-

able as the RMA's participation in the Joint Campaign ceases December 31. (RMA and NAB committees are to consider further cooperative plans early in the new year).

It is known, however, that a six page rotogravure section of pictures similar to those appearing in these pages may shortly be distributed to the trade, possibly to pave the way for whatever continuation of the joint promotional effort may lie ahead. It is also known that plenty of promotional ideas remained "on the hook" for possible future use as the 1939 effort closed (most of them stymied because of difficult financing problems) including a proposal to send radio dealers program-boosting window-streamers every other week, another for a possible charitable benefit broadcast on a nationwide scale and, perhaps, promotional transcription services for the smaller broadcast stations. It is further known that NAB plans a separate and possibly independent study which is to contain definite suggestions for load-building through radio by Utilities (NAB urged this group to inclose radio sales-promoting literature with power bills last October). This

may be ready by February.

Meanwhile, the joint promotional pot of ideas simmers.

EXPORTS EYED WITH INTEREST

(Continued from page 17)

say, that most important expansion is apt to come and as we write, new plans for further development of this market are everywhere in process of formation.

Exports Improve Domestic Products

Aside from its obvious importance to manufacturers here as an extra source of revenue, rapid expansion of export sales has several potentially beneficial meanings to the American retail trade.

As production is increased to cover expected export demands, production savings brought about by purchases of raw materials in greater quantities, permits manufacturing economies that may be passed along in some instances to home trade. Staggering of demand constituting the normal outcome of shipments to many climes whose seasons vary, furthermore, levels out

ELECTRICITY ANYWHERE

"GOLD CROWN"—HEAVY DUTY Power Plant. Available as follows: 32 or 110 volts D. C., also 110 and 220 volts A. C., 600, 1000, 1500 watts and up. Electric starting; air or water cooled.
 "BLUE DIAMOND"—COMBINATION A. C.—D. C. Power Plant. All new "2-in-1" electric plant supplying 300 watts, 110 volts A. C., 60 cycles; also 200 watts, 6 volts D. C.; 250 watts, 12 volts D. C. or 325 watts, 32 volts D. C. Electric starting.

PIONEER GEN-E-MOTOR CORPORATION, Chicago, Ill.

PIONEER GEN-E-MOTOR CORPORATION
 Dept. R-1L, 466 W. Superior St., Chicago, Ill.
 Please send me information about the New Pincor GOLD CROWN and BLUE DIAMOND Power Plants.

Name
 Address
 City State

Your trade will welcome this NEW

RECOTON



"AUTOMATIC" NEEDLE

Besides retaining the hi-fidelity properties for which RECOTON Needles are justly famous, this fine new number of hand-turned, specially selected steel minimizes snapping, the great weakness of ordinary needles when used on record-changers. Does not compete with our great 10-play "SUPERIOR" Needles. Samples sent.

RECORD RENEWER Going Over Big

A boon to public and trade! Cleanses, lubricates phonograph records, preserving their original hi-fidelity. Write for liberal sample.

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

factory payrolls and reduces costs made necessary where workers must be let out, later rehired and fitted into temporarily disrupted production lines.

Sets built for export must be ruggedly designed (witness the weatherproofing of parts) and experience gleaned from such manufacturing is frequently embodied in new domestic lines once export revenue has paid the machinery bill. Need for the ultimate in performance in areas remote from broadcasting brings about circuit refinement (shortwave tuning was sold for export use long before the American market demanded it) which helps manufacturers give domestic customers better products too. Styling is definitely influenced by the reaction of customers abroad (exported cabinets have to compete with foreign-designed furniture and while this is not necessarily superior to American products many of our most novel, new cabinets have obviously been influenced for the better).

New U. S. Shortwave Programs Aid

Aiding exporters in their endeavor to wean the trade in foreign lands away from competitive merchandise made in other countries (in many instances now handicapped by the war) are American broadcast stations whose influence cannot be underestimated.

Fourteen shortwave stations in the United States (their call-letters were recently changed by the FCC) are now in practically constant operation, pumping programs certain to build goodwill for our products into customer countries all over the world. Programs in six or more languages, six or more hours a day, are not uncommon and are carefully planned so that there is little danger that distant listeners will find them "too American."

The ill wind that blows over Europe is apt to blow Americans, both North and South, much radio good.

RECORDS NO CHICKEN FEED

(Continued from page 27)

business, not only in dollars, but in good-will, too.

And then (3) comes the student, and the lover of the more serious music of the masters.

Recordings suitable for this group

THE NEW MODEL 1240 TUBE TESTER

Instantaneous Snap Switches Reduce Actual Testing Time to Absolute Minimum.

TESTS ALL TUBES
1.4 to 117 VOLTS

Sockets for All Tubes—
No Adapters

Superior is proud to offer the newest and most practical tube tester ever designed. Unbelievably low in price—unbelievably high in performance.

- ★ Tests all tubes, 1.4 to 117 Volts, including 4, 5, 6, 7, 7L, octals, loctals, Bantam Jr., Peanut, single ended, floating filament, Mercury Vapor Rectifiers, the new S series, in fact, every tube designed to date.
- ★ Spare socket included on front panel for any future tubes.
- ★ Tests by the well-established emission method for tube quality directly read on the GOOD ? BAD scale of the meter.
- ★ Jewel protected neon.
- ★ Tests shorts and leakages up to 2 megohms in all tubes.
- ★ Tests leakages and shorts in all elements AGAINST all elements in all tubes.
- ★ Tests BOTH plates in rectifiers.
- ★ Tests individual sections such as diodes, triodes, pentodes, etc., in multi-purpose tubes.
- ★ Latest type voltage regulator.
- ★ Features an attractive etched aluminum panel.
- ★ Works on 90 to 125 volts 60 cycles A.C.

Model 1240 comes complete with instructions and tabular data for every known type of receiving tube. Shipping weight 12 pounds. Size 6"x7½"x10¼". Our Net Price

Portable Cover \$1.00 Additional

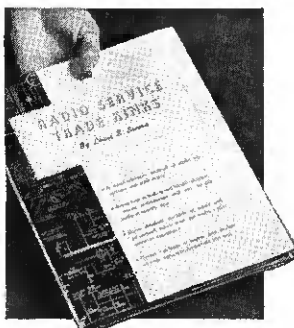
\$11.85

SUPERIOR INSTRUMENTS CO.

136 LIBERTY ST.

Dept. R.I.

NEW YORK, N. Y.



Just Out!

RADIO SERVICE TRADE KINKS

By LEWIS S. SIMON, Manager, Rexall Radio Stores, Brooklyn, N. Y. 269 pages, 9 x 11, spiral-bound to open flat, \$3.00

Your Name Stamped in Gold on this Book FREE

At no additional cost to you we will stamp your name or a friend's name on the front cover of any copy of Simon's *Radio Service Trade Kinks* ordered from this advertisement. Do you want to make a friend a gift combining personal thoughtfulness with real utility? Do you want a copy of this book that you will doubly prize? Then take advantage of this free stamping offer. Send the coupon today. (Proper remittance should be enclosed with order and, of course, stamped copies are not returnable.) This is a special Christmas offer, limited to acceptance before January 1, 1940.

- A quick-reference manual of radio set troubles and their repair
- Saves time in testing and trouble-shooting—shows weaknesses and key trouble spots of specific sets
- Gives practical methods of repair and adjustment taken from successful radio servicing experience
- Covers hundreds of makes and models of radio receivers, household and auto.

McGraw-Hill Book Co., 330 W. 42nd St., N. Y. C.

Send me Simon's *Radio Service Trade Kinks* according to the terms checked:

- With name stamped in gold. I enclose \$3.00 and understand that stamped books are not returnable. (Offer expires Jan. 1, 1940.)
- For 10 days' examination: without gold stamping. I will send \$3.00 plus few cents postage in 10 days or return book postpaid. (Postage paid if cash accompanies order.)

Print name to be stamped here

Name.....

Address..... Position.....

City and State..... Company.....

(Books sent on approval in U. S. and Canada only.)

R.R. 12-39

HOOD OPENS FROM SIDE

RADIART'S 3 in 1 AERIAL

ALLIGATOR HOOD

HINGE MOUNT

All 3 MOUNTING PROBLEMS SOLVED BY 1

RADIART AERIAL

TYPE CBH-1 . . . listing at **\$1.95**
includes all 3 brackets

TYPE CB-2 . . . listing at **\$2.95**
includes both Under-hood brackets

GET AERIAL BULLETIN 640

THE RADIART CORP.
CLEVELAND · OHIO

RADIART VIBRATORS
Guaranteed 1 YEAR

YOU ASKED FOR . . .

QUALITY at a PRICE

Here it is!

Readrite
RANGER

Model
432-A

Only \$17.85 Net

- RED · DOT Lifetime Guaranteed Triplett Meter
- Sockets for All Tubes
- Filament Voltages from 1 to 110—A Safeguard Against Obsolence
- Precision Indicating Instrument with Two
- Highest Quality Sapphire Jewel Bearings
- Separate Line Control Meter
- Neon Shorts Test
- Etched Panel of outstanding NEW Design
- Approved RMA Circuit

TODAY'S outstanding tube tester value—a guaranteed quality portable tester at a price you can afford to pay. Checks Loctals, Single Ends, Bantam Jr., Gaseous Rectifier, Ballast, the New High Voltage Series (including 117Z6G) and others recently announced. Direct Reading GOOD-BAD meter scale. Positively will not deactivate 1.4 volt or other type tubes.

WRITE FOR CATALOG!
Section 1220 College Drive

READRITE METER WORKS, Bluffton, Ohio

run into money, and it must be plain that the music which has come down through the ages can be encompassed only in a fairly broad stock plan.

These are the most profitable of all record customers to serve, though they are the most exacting too.

Albums of operas, the complete works of a favorite composer, the recordings of a preferred conductor, all can be sold to the lover of the more serious music.

Experience proves conclusively that what such customers buy, is not more than 25% of what they can be sold, sold through persistent cataloging of customer preferences, the consistent and intelligent follow-up with sound suggestions, through the use of the phone, direct mail, and even home demonstration of specially compiled albums.

Game Well Worth Candle

Skeleton stock boys may be in the record business, but they are not of it.

Furthermore, stock assortment, stock knowledge, musical knowledge, display, customer follow up—the whole gamut of sound merchandising and continuing sales promotional effort is as necessary to success in the record business as in any other business.

Dealers who think records will take care of themselves, and spread the gravy, are "barking up the wrong tree."

But, given intelligent merchandising effort, a little ingenuity, and consistent detailed follow up, records will build traffic like no other merchandise in our field, produce plus sales and profits, and make friends too.

GETTING THE JUMP

(Continued from page 29)

it is possible to have such a large list of box prospects, by March 1st, that we may have very little time to do any canvassing after the selling season begins. For we should have several hundred prospects lined up by that time.

Some salesmen keep these prospects listed in a book, crossing out the ones they fail to sell, as they call back on them. But this method never appealed to me. When we have them in a book they are still hanging fire—even after we have crossed them out: every time we are in the neighborhood we take another crack at Mrs. So-and-so, and the first thing you know we're doing nothing but playing around with stuff that is not only hanging fire but has been hanging for a long time.

I suppose the book is all right if you have the will-power to leave the crossed-out prospects alone, or the sense to admit that everybody can't be sold, but I always use cards. Not only can we shift them around, or route them, without making another list from the book—but once we actually start to work on them, we don't play around with them: we either make them or break them. Once a card is torn up, we are through with it.

Ide(a)s of March

With about three hundred of these cards in our hands on March first we are, believe it or not, practically set for the entire refrigerator season. At the least, our canvassing is

Only 8 MODELS

HANDLE 90% OF ALL SERVICE CALLS!

the makes of sets for which it is intended. When the investment is so low, why not be prepared to give prompt transformer service with the outstanding Vacuum Sealed Transformer line?

• For \$18.23 a service dealer can stock 8 models of Halldorson Transformers that will answer 90% of all radio service calls covering both power and audio requirements. And—the design of each transformer covers the requirements of all

Halldorson
Vacuum Sealed
Transformers

THE HALLDORSON COMPANY
4500 Ravenswood Ave.
Chicago, Ill.

WRITE FOR CATALOG

supplemented to the point where it is cut down to perhaps an hour or so in the morning.

We have a tremendous advantage over the man who hasn't lined them up this way. (And plenty of them don't). For it is the cutting down on our canvassing time which gives us our edge, more time to sell. Three hundred cards—of the average quality these would naturally have to be—may not seem like a lot to you. But it must be remembered that we also get leads from the ones we sell; and we keep right on canvassing—but no more than is advisable.

No more than is advisable. If that isn't a hot one. What I mean to say is this: We don't neglect our canvassing simply because we have a lot of cards; but we do neglect it when we have about fifteen *hot* prospects to be seen. And while it is true that the average quality of our cards may not be so hot when we start to work on them, it gets very hot indeed when we start our *eliminating*. And when they start to "back up" on us, they are hot enough to burn us.

This is the way it works. On March first, we have all our cards arranged nicely in a little box that we get from the five-and-dime, with an index for every day of the month. We have them arranged not with any thought of location, but in accordance with the *time* we want to make the contact. If we have around three hundred cards, that means about ten or better for each day—of March.

We have caught up fairly well with our work until, say, the 4th of March. On that day we get tied up, taking a woman or two in to see the box, or for some other reason, and we don't make all our calls. Nevertheless, the next day—up pops another group of cards! And that happens *every day*—during March.

April And No Fool

By the end of March we are probably pretty far behind schedule—which we like very much, because we wouldn't get behind schedule unless we were busy *selling* somebody.

And in spite of our tearing up, and our selling, the cards we *have* to play with, for good reasons, are filed away in the box again for a *later* date. And when *they* start to pop up, we really *have* got hot prospects!

On April first, we may find ourselves with still a hundred cards to

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When
you see the
"Magic"
* Ring *
you'll know
it's a RADIART
AERIAL



* CORONA DISCHARGE
EQUALIZER
(Patent Pending)

SEARCHLIGHT
SECTION

**FREE
RADIO
CATALOG**

ALL RADIO NEEDS
Your nationally known favorites in sets, parts and supplies, public address systems, testers and kits, etc., at lowest possible prices. Write for this big book.

BURSTEIN-APPLEBEE COMPANY
1012-14 McGEE ST., KANSAS CITY, MO.



BOOKKEEPING SYSTEM
*Especially Designed for
APPLIANCE-RADIO DEALERS*

A direct, easy-to-understand system, devised by an expert accountant in your line of business. It is in practical use by many dealers everywhere.

Provides for cost of sales, operating expenses, inventory to date, cost of repossessions, cost of rebuilding, loss on trade-ins and every conceivable situation of your very own business.

Also system for smaller store.

Write today for descriptive folder.

THE KNAPHURST COMPANY
501 S. Jefferson Street Chicago, Illinois

Now! BALLAST REPLACEMENT

made
**AMAZINGLY
SIMPLE**

- Servicemen, with only 4 standard types of Amperite AC-DC Regulators you can replace 90% (over 100 types) of AC-DC Ballast Tubes now in use! Consult your jobber.
- Amperite Regulators are equipped with a patented Automatic Starting Resistor to prevent untimely burnouts and save pilot lights.
- New Low Price on Amperite AC-DC Regulators: \$1.00 LIST
Amperite Replacements for 2V Battery Set ballasts \$1.25 list

AMPERITE
Company
561 BROADWAY
NEW YORK



WRITE
FOR
CHART
AR

AMPERITE
AUTOMATIC REGULATORS

RADIO

*When the store-front flashes
RADIO and other
modern home equipment . . .
it's a sign of the*

**LIVEST DEALER
IN TOWN!**

*He likes RADIO RETAILING best
because it helps him most in
selling everything electrical.*

be seen for the *second* time—during April. And don't think that a lot of *those* cards aren't good prospects. Provided, of course, that we had fairly good cards to begin with, and not just names and addresses of women who don't have boxes.

I don't mean sure sales. We couldn't possibly line up three hundred sure sales between the first of January and the first of March. But I don't mean sure flops either. The cards we start with should be on women who at least talked to us, said something that made us think we might sell them, at least gave us their names. And we should designate the *quality* of the prospect (in our estimation) on each card—so that when we are too busy to make all our calls, we make only the *best* ones. For instance:

We talked to Mrs. Jones on 2/11/40. She said yes, she knows they are nice, but she only spends ten cents a day for ice, and she can't afford one. So we said, well, we were going to stop back to see her, anyway, around April 15. And she laughed and said, all right, come back if you want to, but it won't do you any good! So we marked it "fair."

But Mrs. Smith, now—we're practically certain we're going to sell her a box. Look at all the information we got. We even know the size she wants. We got all this information in a casual way, of course, while we were talking to her. The 20¢ a day for ice is during the summer only—and the credit? We're not sure of that—but we'd lay ten to one on it.

We were almost tempted to try to sell her on 2/5/40, when we talked to her, but something she said made us think we'd better wait until she started to buy the ice . . . and besides, we had several radios to put in that afternoon anyway!

STABILIZING SERVICE PAYROLLS

(Continued from page 31)

be used now and then. After all, some powerful entering wedge is necessary if you are to make headway, with this "inert 35%." For this type of customer, a personal touch plus a free check-up offer are about the only effective weapons at your command.

How far should this free checking go? Only tube tests, tightening of

aerial, ground and electric leads. No actual repairs, balancing or other work of any kind. Such a plan has worked in actual operation. At a service meeting in an eastern city the writer brought this question up for debate. Several men said they had tried it in past years and found it profitable. After the meeting, they were questioned more closely and the next day their actual sales accounts were checked over.

From these figures, it was found that, in every case, a volume of business through January was maintained about equal to November, an accepted peak month. In one instance a very pronounced January "peak" was found. The organization showing the most success with this after-Christmas "revival" had sold, for example, 325, 284, and 320 tubes respectively in the last three Januarys. Yet, their average tube sales per month for the whole three years was only a little better than 200. A comparison was then made with other dealers not pushing service during this period. January tube sales were down from 20 to 25% over the preceding December.

Not Complicated

A fair number of after-the-holiday set sales were also made by this organization. Yet, its sales campaign was not sensational, or even unusual.

Files were checked over, and each morning the servicemen were given a list of old customers to call on, offering free check. At the same time, the office girl was engaged in 'phoning regular telephone listings, seeking new customers. In effect, she stated in her call that the so-and-so organization was making a radio survey. "About how many hours was the set used each day? What were the favorite programs? Was interference or static bad in that neighborhood?" Then, "Would you like to have our serviceman drop in and look the set over?" Of course there would be no charge during the current month for this service. Of course, a definite appointment time would be better.

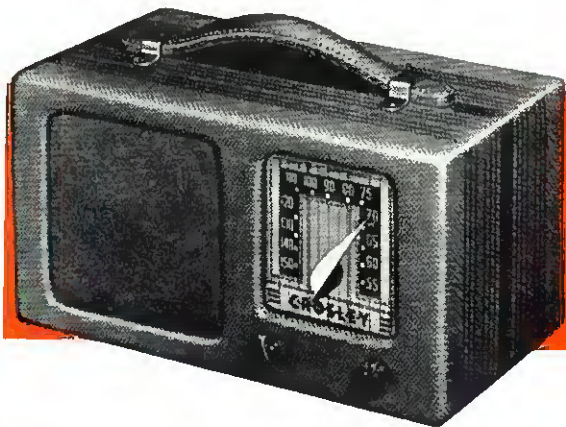
Definite appointments were made in about one call in 20. Sales were made in about 50 percent of the calls made by servicemen on their own personal visits, with the help of the phone girl.

Instead of temporarily laying off valued employees why not give this plan a whirl?

**Saving of batteries by plugging in
AC-DC current when available make
CROSLEY portables highly saleable!**

MODEL B-549A (Right) A fast seller because it has so many uses in the home and out of the home—appeals to ALL members of the family—and presents a great big value in its saving of batteries when a light socket is available to plug in the AC-DC extension. It's a splendid radio. You'll find its performance in reception and clarity of tone delight all who hear it.

The switch over from batteries to AC-DC electric current is automatic, which is a leading selling feature. Weight only 12 lbs. Complete with 200 hour batteries **\$24.95** it's "hot." It moves swiftly at



YOU'RE there with a CROSLEY

MODEL B-439A (Above) Here we have the minimum in portables without sacrificing good quality, tone, volume and performance. 11 lbs. in weight. Size 11 x 6 $\frac{1}{4}$ x 5 $\frac{3}{4}$ inches. Air-plane luggage fabric adds smartness. Sold with batteries good for 200 hours. **\$18.95**

PORTABLE COMBINATION MODEL B-5549A (Right) is an unmatched value and a strong Christmas item because it's a 24-lb. combination of the 549A chassis and a husky spring wound motor. Equipped with the automatic switch over from batteries to AC-DC current when outlets are available, it promises economy in operation. 1 to 3 records can be stowed away inside with everything snug and tight for toting anywhere. **\$39.95** Complete with 200 hour batteries.



The Crosley line is ALL fast moving with superhets at \$9.99, 2-band 7-tube superhets at \$19.99. Other table models to \$29.95. Consoles from \$39.95 to \$69.95 to deluxe combination consoles with Capehart record changers at \$114.50.

Prices slightly higher in South and West.

THE CROSLEY CORPORATION, Cincinnati Home of "the Nation's Station"—WLW—70 on your dial
POWEL CROSLEY, Jr., President

AT THE CHICAGO STADIUM
RAYTHEON PLAYS TO THE
WORLD'S LARGEST SPORT AUDIENCE

2,632,916

rabid sport fans are a fair estimate of attendance in a year's time at the famous Chicago Stadium.

Eddie Callahan and Al Soudan are the technical experts who keep that vast indoor arena in fighting trim. The sound system is their pet. They baby it like a couple of tigers with a cub. Nothing is too good for that P. A. job. So *naturally* they insisted on using genuine RAYTHEON tubes!

Callahan and Soudan are engineers—they know their electronics. You will find that almost always the experts—the men on top—recognize the dependability and quality of RAYTHEON tubes.

It isn't surprising that RAYTHEON tubes are used by set manufacturers in a greater number of circuits—where quality limits are an important factor—than any other brand.

It isn't an accident that RAYTHEONS are tops for uniformity. Nor is it an accident that servicemen and dealers who use only the best parts, feature RAYTHEON tubes—to insure their successful business! Yet RAYTHEONS cost no more!



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"WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS"