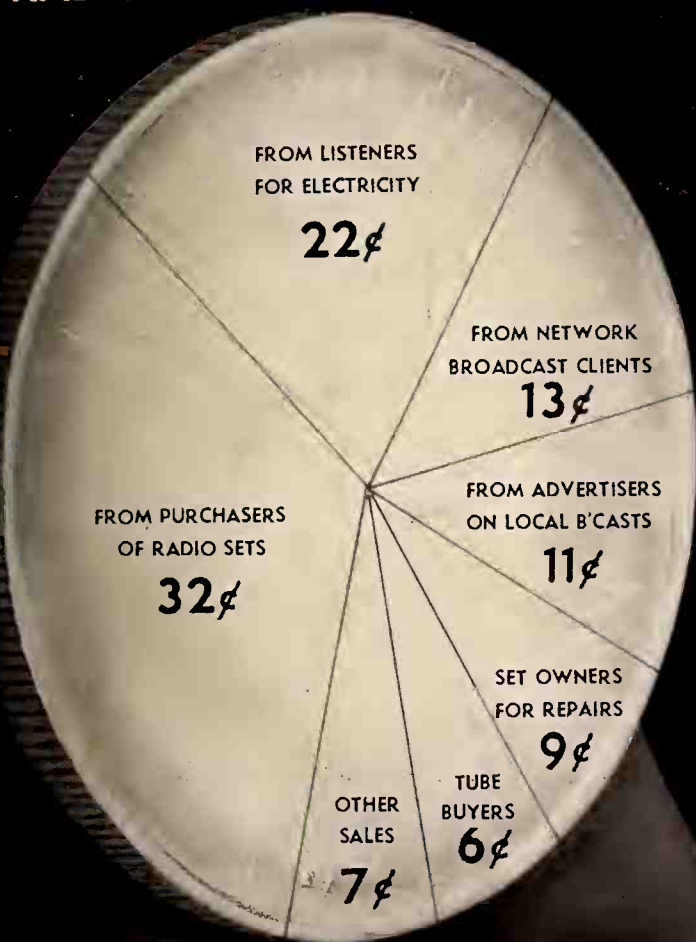
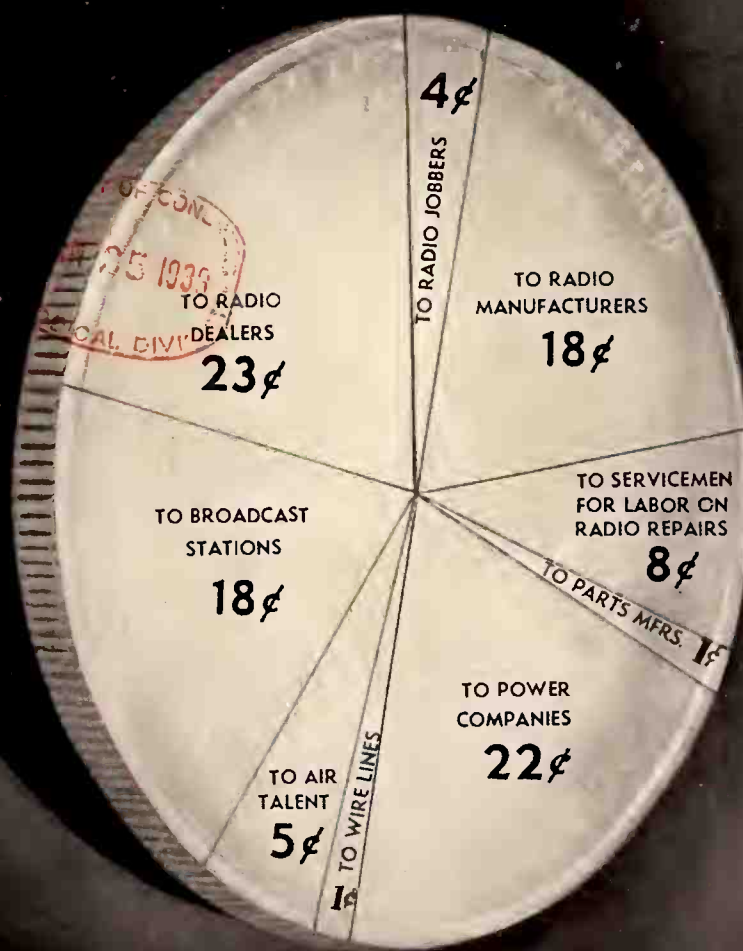


RADIO TODAY

RADIO'S INCOMING DOLLAR



RADIO'S OUTGOING DOLLAR



675 millions of such dollars were earned and paid out by radio in 1938

Statistics of Radio — in this issue
SELLING STRATEGY FOR 1939

JANUARY

TK6540
.R.28

Just Out! Spectacular New Series!



RADIOS

They've Got What It Takes!



GD-600



G-633



G-78



G-86



GD-300



GD-63



G-64



GD-610

• Have you seen the new G-E Radios? Just Out! They're hotter than hot! They're smarter than smart! They've got what it takes—in features—in design—in performance! And in price they're tagged for fast and furious action.

G-E broke their all-time sales record in 1938. It's a safe bet that 1939 will see G-E Radio sales hit another new high. Because this new G-E series offers more sheer value in every price bracket than has ever been offered in G-E history. Better phone your G-E Radio distributor NOW!

NEW G-E WIRELESS RECORD PLAYER

No Wires • No Connections to Radio



Reproduces recorded music through the loudspeaker of any radio—electrically. Operates from any location—within hearing distance of radio set. No wires—no connections to radio. Turns any radio into a modern-type radio-phonograph combination. Priced to sell in big volume.

GENERAL  ELECTRIC

For Exact Duplicates.. Save Time.. Improve Service

Insist on MALLORY
Special Replacement
"SR" CONDENSERS

P. R. MALLORY & CO., Inc.

Mallory "SR" Special Replacement Condensers incorporate latest condenser engineering developments.

Each "SR" Special Replacement Condenser is mechanically identical to the original for easy mounting and connecting. Where standard shapes and capacities may be employed, Mallory UNIVERSAL "CS" — "CN" — "CM" — "RS" — "RN" — "RM" and "UR" Condensers can be used.

Regardless of the make or model of radio you have to service, there is the right type, easily installed Mallory Replacement Condenser.

Whatever your condenser requirements are, insist on Mallory for complete satisfaction and safety. Refer to the Second Edition of the Mallory-Yaxley Radio Service Encyclopedia for complete recommendations and listings by make of set and model number. See your Distributor.

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



SR-601



SR-604



SR-609



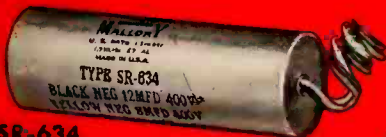
SR-610



SR-615



SR-616



SR-634



SR-619



SR-620



SR-630

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

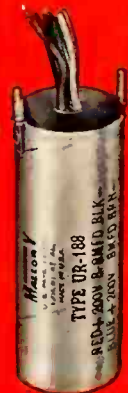


SR-617

Use
YAXLEY
 REPLACEMENT
 VOLUME CONTROLS



SR-614



UR-188



SR-628

*Mallory
 Condensers
 cost no more*

"THESE THREE THINGS YOU MUST REMEMBER"



*An important message to radio tube retailers
from Mr. Paul S. Ellison, Renewal Tube Sales
Manager, Hygrade Sylvania Corporation*

TO MY MIND there is no sleight-of-hand, no mystery or black magic concerned with building a successful radio retail sales or service business. Granted that the owner is honest, industrious, and reasonably well-trained in the fundamentals of his business, he should succeed. There are, however, three simple considerations which cannot be ignored in the selection of the merchandise to be sold:

A. COMPANY DEPENDABILITY. Buy only from companies whose reputation and general standards indicate successful and aggressive management.

B. PRODUCT DEPENDABILITY. Original research, scientific developments, and quality control in production, as well as performance in the field are absolutely essential. There are no substitutes.

C. PROFIT DEPENDABILITY. Policies over a period of years tending to establish a freedom from price cutting. Promotional and display helps that *sell*. A product that stays sold. All of these factors you must obtain, if profits are to be insured.

Test your merchandise by these three important standards and your business *will* succeed.

Paul S. Ellison

Renewal Tube Sales Manager

H Y G R A D E S Y L V A N I A C O R P O R A T I O N

STROMBERG-CARLSON
BEAT THE INDUSTRY
AVERAGE IN SALES
AGAIN!

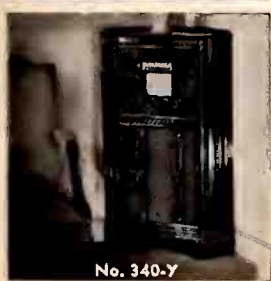
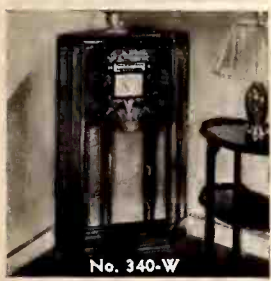


THE LABYRINTH
AND AUTHENTIC
DESIGNS
ARE THE
ANSWER!



AND A
PROFIT
ON EVERY
SALE!

Now NEW STROMBERG-CARLSONS
THAT WILL LEAD THE TREND
Still Higher!

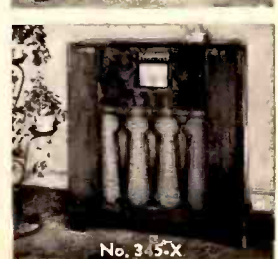


Radios that "clicked" was the reason Stromberg-Carlson sales jumped ahead with a gain of 250% in November while the Radio Industry as a whole was staging its slow come-back. And just see what you have to sell to start the New Year: New Authentic Corner Cabinets—one in mahogany, one in walnut—a Table Model alluring in its Authentic Chippendale motif; a new streamlined High Fidelity Console with ultra modern touch; two Slanting Panel Console Grands that open up a brand new market. The famous Labyrinth, biggest sales feature in radio.

These additions, to the line that "clicked," will carry the trend more strongly to Stromberg-Carlson—and to profits.

Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.

There Is Nothing Finer than a
Stromberg-Carlson



Radio Dealers: this is THE BIG WINTER MONEY-MAKING PACKAGE

We offer to the public the first radio to work on the 110-volt AC or DC lighting circuit which at the same time requires no batteries, no antenna installation, no ground connections and no outside wired connections other than the power cord.



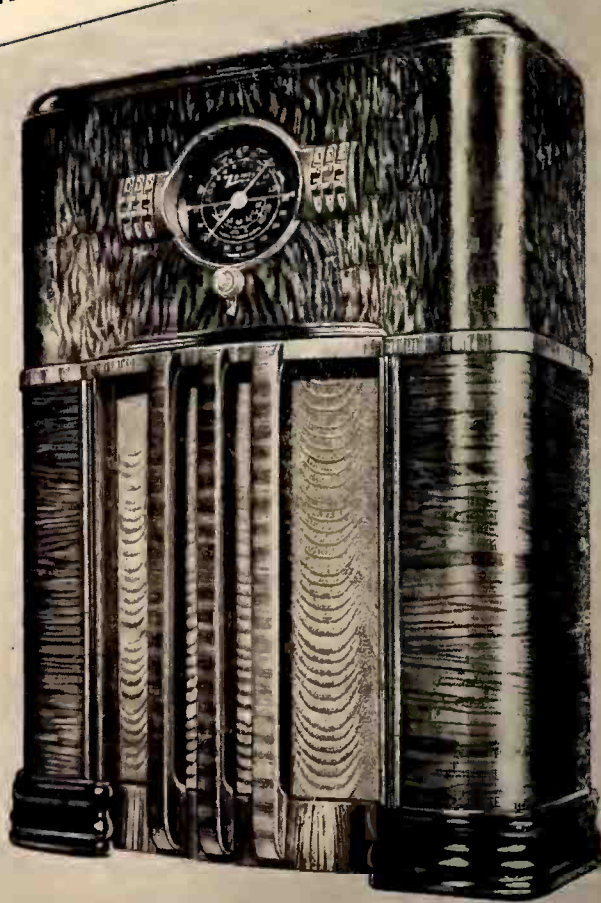
ZENITH

NEW STARTLING
RADIO WITH THE
WAVE MAGNET
in the little gold box!

**NO ANTENNA • NO GROUND
NO NOISE • NO INSTALLATION
NO BATTERIES • JUST PLUG IN
AND PLAY ANYWHERE**

AND THE NEW **BIG 8** CONSOLE

- 1 RADIORGAN TONE COLOR RECEPTION
- 2 TRANSCONTINENTAL AUTOMATIC TUNING
- 3 12-INCH FULL TONE ELECTRO DYNAMIC SPEAKER
- 4 8 POWERFUL METAGLASS TUBES
- 5 REGULAR BROADCAST & 3 BAND SHORT WAVE RECEPTION
- 6 LARGE BEAUTIFULLY FIGURED CHOICE WALNUT FINISH CABINET
- 7 OVERSIZE RUBBER FLOATED CHASSIS



*Phone Your Zenith Distributor
for Details and Climb Aboard!*

**BLOCKADE THE WEST ROAD!
TWO MEN AND A WOMAN!
BE CAREFUL! THEY'RE KILLERS!**

**WITH THE AID OF
RAYTHEON TUBES**

Illinois Police Radio Blockade Cuts Crime Careers Short!

The "radio blockades" of the Illinois State Police and police of many other states have become famous throughout the country. In Cook County, Illinois, the blockade begins in the well-equipped police station WQPC pictured below. Once the alarm is sounded, every road is blockaded immediately—cutting off all escape channels for fugitives.

Fighting crime is no game for "panty-waists." Police must be tough and efficient. Squad cars must be swift and sturdy. And radio tubes must be dependable—and ready for emergency flashes.

That's why RAYTHEONS are used by so many State Police organizations. Why RAYTHEONS are used, too, in millions of homes, in leading auto set radios, by leading Commercial Airlines, the U. S. Forestry Service, Coast Guard, Weather Bureau, etc.

Anywhere sturdiness and long life under adverse conditions are required—you will find RAYTHEONS. Yet they cost no more than the second-best tube.

RAYTHEON is your guarantee of the best turnover of any tube investment!



RAYTHEON

NEWTON, MASS. • NEW YORK • CHICAGO • SAN FRANCISCO • ATLANTA

"WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS"



RCA . . . the name symbolizing creation, progress, achievement in radio! RCA . . . Radio Corporation of America . . . a family of doers writing history with sound in the sky!

Makers of instruments for radio transmission and reception of sound, code messages and facsimile reproduction. Makers of instruments for the recording of sound on records and on motion picture film. Creators of countless radio devices vital to science, industry, medicine, telephony, and public safety.

RCA . . . creator of a nation-wide broadcasting service, The National Broadcasting Co.

RCA . . . creator of a world-wide radio communications system with direct circuits between the United States and 43 foreign countries, and with ships at sea . . . a message service with the speed of lightning.

RCA . . . pioneer in research in radio, sound and television.

RCA . . . truly American, owned by a quarter of a million stockholders in 48 states.

RCA . . . 19 years a name across the sky . . . 19 years of service to all the world.

Listen to the "MAGIC KEY" every Sunday, 2 to 3 P. M., E. S. T., on the NBC Blue Network.



Radio Corporation of America

RADIO CITY, N. Y.

RCA Manufacturing Co., Inc.

Radiomarine Corporation of America

RCA Institutes, Inc. National Broadcasting Company R.C.A. Communications, Inc.

"NO, MARY-THE ECON-O-MIZER
AUTOMATICALLY DOES
THAT DISTASTEFUL CHORE
ON THIS SPARTON"

"YOU MEAN YOU DON'T
HAVE TO DEFROST
THIS REFRIGERATOR?"



Dealers Will Profit Again in 1939 With the SPARTON ECON-O-MISER

Because it assures food savings and promotes maximum operating economy. . . . This uncanny device that shuts the current off completely for two hours and turns the current on again, automatically, before the cabinet has risen above a safe food preservation point, is furnished with a smart clock face which gives accurate electric time for the kitchen and has a second hand for recipe timing. . . . Sparton's gleaming, white, Delux finish refrigerators are available now in seven beautiful models. . . . Write for complete information and literature.

Ready Now for Immediate Delivery

THE SPARKS - WITHINGTON COMPANY, JACKSON, MICHIGAN

Just Out! The Year's Hottest Radio-Phonograph Line!

THE SENSATIONAL NEW "100 SERIES"

PHONOGRAPH *WITH* PHILCO

Three New Models with Greater Value—Lower Prices!

Here are the three models that will bring you radio-phonograph sales this spring! Sensational value! Exquisite cabinets! Exclusive selling features! And performance on both radio and phonograph you never dreamed possible except at many dollars more!



Automatic Record Changer Model 107

A BIG instrument . . . with automatic record changer and PHILCO Instant Electric Push-Button Tuning radio! Priced so that you can sell it under \$100!* Both radio and phonograph controls are concealed under top lid.

*PRICED SO YOU CAN SELL IT FOR LESS THAN \$100!**



PHONOGRAPH *WITH* PHILCO Console Model 105

\$69⁹⁵*

A full-sized console model radio-phonograph combination for less than your customers expect to pay for a radio alone! Exclusive PHONOGRAPH WITH PHILCO Semi-Automatic Reproducer—close the lid and the record starts or repeats automatically! PHILCO Instant Electric Push-Button Tuning radio.

*Prices slightly higher in the West



Table Model 101 • 5 Tubes!

\$29⁹⁵

Five-tube superheterodyne circuit . . . all five tubes work! Underwriter's Laboratory approval! Crystal Pick-Up . . . self-starting electric motor.

SEE YOUR PHILCO DISTRIBUTOR

VINTON K. ULRICH
Managing Editor

DARRELL BARTEE
GEORGE R. BROWN
G. H. MAYORGA
N. McALLISTER
M. H. NEWTON
R. NEUBAUER
B. V. SPINETTA

M. E. HERRING
Sales Manager

R. Y. FITZPATRICK
201 N. Wells, Chicago, Ill.

RADIO TODAY

ORESTES H. CALDWELL
Editor

M. CLEMENTS
Publisher

VOL. V, No. 1
Copyright 1939

CALDWELL-CLEMENTS, INC.
Tel. PLAZA 3-1340
480 Lexington Ave.
New York, N. Y.

MEMBER AUDIT BUREAU OF CIRCULATIONS

1939 SIGNS POINT TO NO WHISTLING IN THE DARK

Optimism is rife and radio dealers need not fear the road ahead. Year-end business was good; new-year sales are better. Even our bankers throughout the country report an upsurge, and business indices climb steadily. If Europe doesn't toss a monkey wrench into things with another war scare, the U. S. should have its best year since '36, say the experts.

Radio men generally report a good closing for 1938 and are hopeful that the next twelve-month will see a rise in dollar volume as well as unit sales. Most of them are adding electrical appliances and/or record departments to hold up sagging sales. Later in the year there should be some sales in television and facsimile receivers. Around New York and San Francisco, the two fairs undoubtedly will pep up business.

Portable, self-contained sets, auto radios, radio-combinations and home recorders will be good sellers. Statistics compiled by RADIO TODAY, given completely on pages 12 and 13, tell graphically radio's rise, indicate future growth.

SALES WENT DOWN IN '38 BUT NOT PAYROLLS

Checking 243 typical U. S. radio shops, the Bureau of Census reports they lost 22.4 per cent business in the first half of 1938. In 1937 they did \$3,897,000 from January to July, and last year, sales totaled \$3,024,000 for the same period. For all of 1937 they did \$8,080,000.

These same stores in 1935 sold \$5,602,000 worth of radio goods, and by 1937 their sales had jumped 44.2 per cent. So even with the 1938 slump, they probably did more business over other years. At the same time, 209 of them reported a payroll of \$1,035,000 for 1937, a jump of 34.6 per cent for this service over 1935. But in the

first half of 1938, payrolls slumped 6.1 per cent over 1937.

In the sales cut for 1938, the East North Central Division was off 36.7 per cent, West North Central, 12.4, while the West South Central Division reported a gain of 5.9 per cent, and the West and East South Central Divisions as well as the Mountain Divisions combined to show an increase of 10.8 per cent.

HAPPY OLD YEAR— BC BIZ UP!

Business slump of 1938 to the contrary, two of the country's major broadcast networks report spectacular revenues for the past 12 months.

National Broadcasting Co.'s gross income topped 40 million; for the first time in history, recording a rise of 7.3 per cent over the prior year. The exact total was \$41,462,679 compared to \$38,651,286 for 1937.

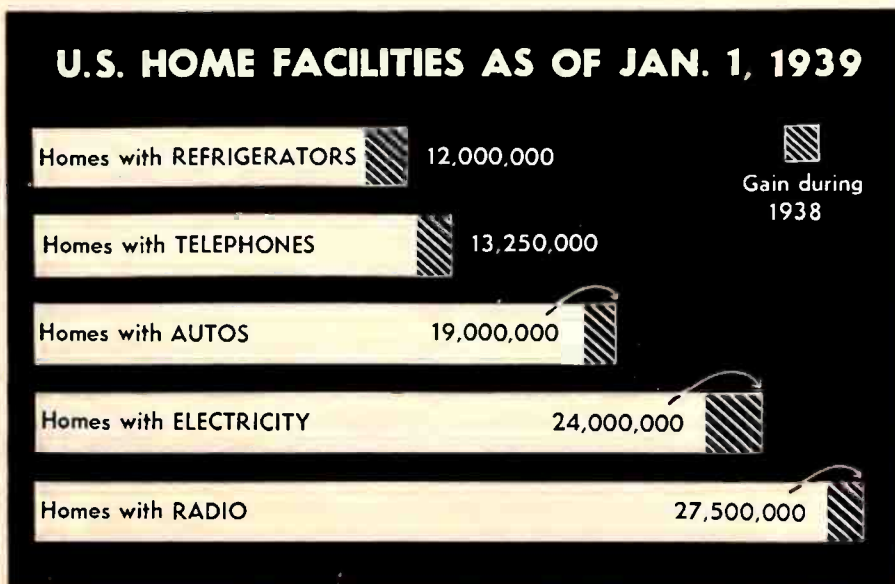
Mutual Broadcasting System reports billings of \$2,920,323 for 1938, largest since the network started, and 30.4 per cent more than the 1937 total of \$2,239,077.

RMA RENEWS DEMAND TO SCRAP 5 PER CENT 'NUISANCE' TAX

After a conference with Treasury Dept. bigwigs, directors of RMA have hopes for the repeal of the 5 per cent "nuisance" tax on radio receivers when the law runs out on June 30.

Headed by President A. S. Wells, the directors put forth a six-point blast to prove why the excise tax should be scrapped. Radio is a service like newspapers and magazines, which are tax free and enjoy a mail subsidy. It is a universal necessity and not a luxury. The tax is giving less each year to the U. S. because of the trend toward smaller sets. Repeal of the tax would sell more radios. Present tax is hard to collect and has caused plenty of headaches. These are some of the points presented to Undersecretary Hanes, who said they would be given "careful and sympathetic consideration."

Treasury Dept. reports on tax collections reflect the industry for 1938. This November \$567,687 was paid in, 20 per cent below the 1937 figure of \$711,146. On this basis, RMA pre-



Complete statistics on radio production and use, appear on following pages. Six million receivers were sold in 1938.

dicts taxes for the year will be less than four and a half million dollars, or about the same as 1935 when some 6,000,000 sets were sold.

DISC MAKERS GET UP STEAM FOR BANNER YEAR

Records have a banner year ahead in 1939. RCA-Victor is putting on full steam to keep up with the growing demand, while Columbia Broadcasting System, sensing the trend, bought American Record Corp. recently and has announced vigorous selling plans.

Edward Wallerstein, pioneer disc man and recently sales manager for RCA-Victor, is president of the CBS affiliate, while Frank Walker, broadcast transcription manager for Victor, has been moved into Wallerstein's place at Camden.

Predictions are for 45,000,000 records to be sold this year. In 1938 some 35,000,000 discs went over retail counters, an increase of 12 per cent over the previous annual report. More sales of radio-combinations, wired and wireless playing attachments are also expected.

"READO" IS THE LATEST

Further news of facsimile comes from Crosley Corp., which announced commercial production of "Reado," a facsimile set to sell for \$150 complete, \$79 with no radio part, at its Jan. 6-8 convention of 200 distributors in the Netherlands Plaza Hotel, Cincinnati.



Heading American Record Corp., new affiliate of CBS, is veteran disc seller Edward Wallerstein.



With the new year, RMA pioneer Donald MacGregor dealt himself a new job as sales manager of Webster Co., Chicago.

Reado will catch facsimile broadcasts from Crosley station WLW in the wee hours, using the Finch system. There is a clock to set the reception and shut it off. Unless one has a radio with a 5-watt audio output, the entire set is needed, otherwise the printer is sufficient. When shown to newspapermen, it created a sensation, but President Powel Crosley, Jr., termed the product a "novelty" and refused predictions on its future use. For the present, "Reado" is restricted to amateurs and experimenters. It reproduces type or pictures in 2-column width on specially-treated paper

RADIO CLIMBS AMONG ADV. MEDIUMS

Nearly two billion dollars was spent on advertising in the United States last year, according to figures compiled by L. D. H. Weld, research director for the McCann-Erickson agency. Of the above amount \$200,000,000 is represented by mechanical costs, commissions, art expenses, etc.

Comparing the five principal media used, the figures are as follows:

Newspapers	\$570,000,000
Radio	165,000,000
Magazines	165,000,000
Outdoor	50,000,000
Farm papers	18,000,000

Direct mail, premiums, etc., make up the estimated direct total of \$1,768,000,000, which was 2.6 per cent of the national income for the same year.

VAST POCKET RADIO MARKET SEEN BY DOLLAR-WATCH KING

Between 200,000 and a million pocket radios could be sold within a year if the set were practicable and cost \$5 or less. That's the opinion of William H. Ingersoll who used to market the famed dollar watch at the rate of five million a year.

The pocket set could not be temperamental and would have to be advertised widely and carefully merchandized, Mr. Ingersoll, now a marketing consultant, believes. He sees a great potential market in a compact radio that would fit into a pocket or pocketbook.

Figures compiled by the Associated Press show that about ten million pocket watches of the inexpensive variety were produced between 1935 and 1937. While this is a fairly saturated field, pocket radio would have virgin territory.

Sampling dealer opinion, RADIO TODAY learned that many think a pocket radio should weigh less than a pound and should sell for about \$5. Larry Goetzman, president of Harger & Blish Co., Des Moines, Iowa, distributors, sums up his opinion this way:

"I feel that such a radio must be even less than a pound in weight and so designed as to fit the general contour of pockets and pocketbooks. As to price, I hardly believe, having only local reception in mind, that the price should be over \$3, and battery life possibly to be at a cost of 25 to 35 cents per month."



RCA Victor has moved Frank Walker up to manage its record division and plans full speed ahead for 1939.

RCA AND GE TO EXHIBIT AT BOTH WORLD FAIRS

Already signed up for New York's World Fair 1939, RCA will also have an exhibit at San Francisco's Golden Gate International Exposition, President David Sarnoff reports.

Opening with the West Coast show on Feb. 18, the display will feature experimental television, facsimile, new automatic SOS and improved direction finder as well as new home receivers. RCA, Radiomarine, RCA Communications, NBC and RCA Mfg. will be represented. The exhibit will occupy 15,000 sq. feet in the electrical and communications building



General Harboard, chairman RCA, and distinguished AEF commander, who was married during the month.

with M. F. Burns, West Coast manager, RCA Photophone, in charge.

General Electric also announces it will exhibit in San Francisco as well as New York with a "House of Magic," featuring such scientific oddities as radio fever machines, stroboscope, and a "magic carpet" to float in the air, defying Newton's law of gravity.

NOW IF THEY CAN DO SOMETHING ABOUT THE OLD SNOW SHOVEL

Snowtime in the Sierras is now lots of fun—thanks to radio.

Time was when snowplow operators nearly went nuts seeing nothing but mountains of white and hearing only the roar of a tractor day in and day out. Radio technician John Raar changed that by selling the State of California a radio for every plow, using the loneliness angle as his sales point.

Now, plowmen can tune in the latest world news, or even receive an SOS if anything goes wrong and they are needed urgently.



By the now-familiar perisphere, Powel Crosley, Jr. (right) talks about Crosley Corp.'s exhibit with N. Y. World's Fair president, Grover Whalen.

68 NEW TUBE TYPES REGISTERED IN 1938

Recent release from R.M.A. points out that registration has been made for 68 radio tube types during 1938, of which 10 are metal and the balance glass. Incidentally, seven new 150 mil. 12-volt and 50-volt types are not included in this list. Television tubes are also omitted.

It looks as though the octal and loktal type bases are here to stay for 65 of the 68 tubes use these types of

bases, and the remaining three tubes employ a 4-prong or UX-type base.

Fortunately for the radio servicemen most of the added types are not radically new, so with slight changes, tube testing equipment in the field can be used. 25 per cent of the new tubes are the bantam type having an equivalent in the octal-glass. Likewise the new single-ended tubes are equivalent to types with a top cap. But jobbers and dealers are not so fortunate, for it is necessary to stock many of these to meet every-day replacement requirements.



Eyes on the tube, gentlemen. It's the millionth midget GT type made by Arcturus Tube Co. of Newark, N. J., and gazing fondly at it are, left to right, V.p. J. A. Stobbe, Chief eng. Abbott Feindel, Plant Super A. E. Lyle and Sales Manager Jack Geartner.

STATISTICS OF RADIO

UNCLE SAM'S ANNUAL BILL FOR RADIO

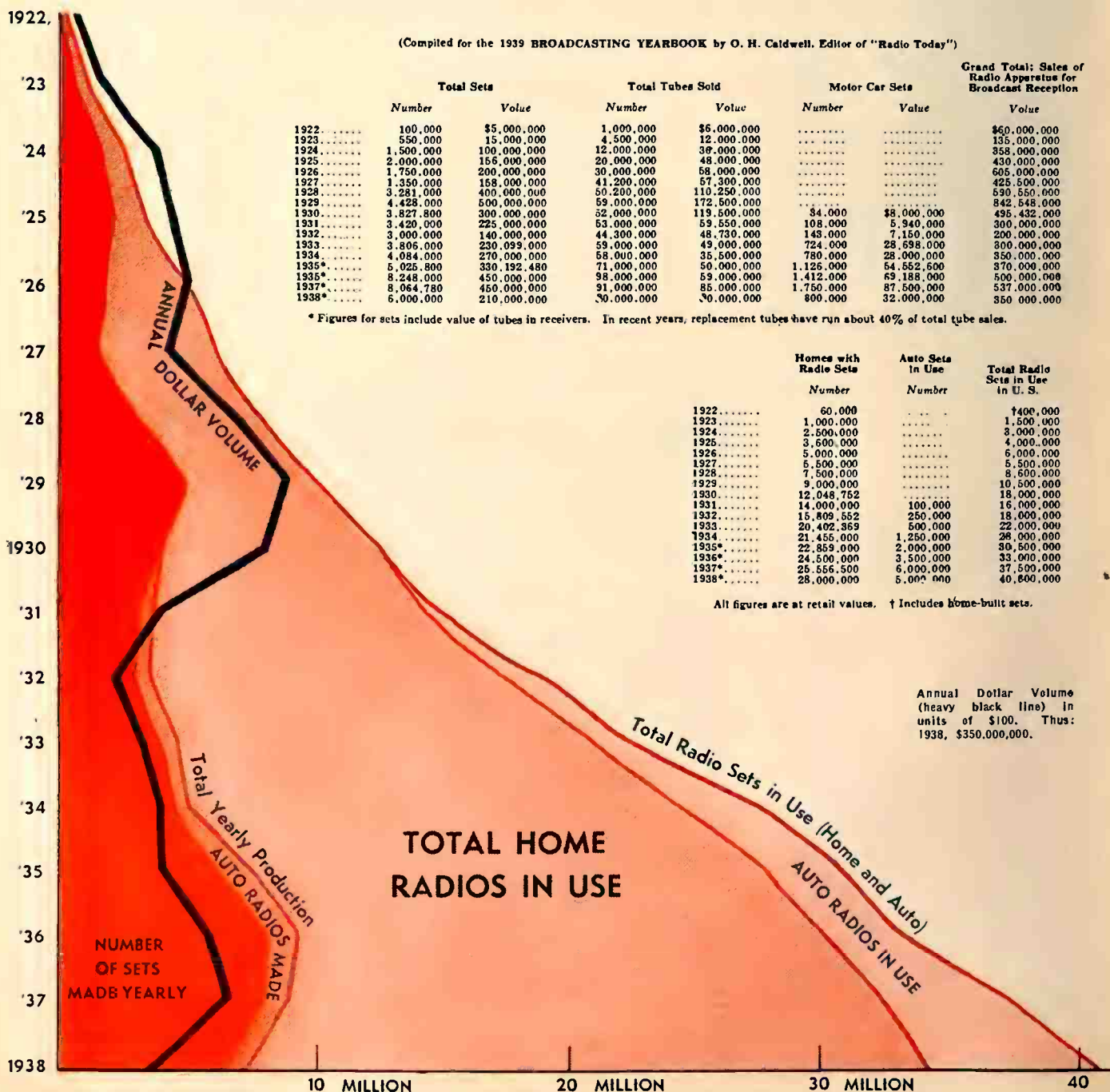
Sale of time by broadcasters, 1938.....	\$140,000,000
Talent costs, 1938.....	30,000,000
Electricity, batteries, etc., to operate 35,000,000 receivers.....	150,000,000
6,000,000 radio sets sold in 1938.....	210,000,000
33,000,000 replacement tubes.....	40,000,000
Radio parts, supplies, etc.....	45,000,000
Servicing radio sets.....	60,000,000
U.S. Public paid for radio in 1938.....	\$675,000,000

RADIO SETS IN USE

	Jan. 1, 1938	Jan. 1, 1939
U.S. homes with radios.....	26,666,500	27,500,000
Extra and "second" sets in above..	6,000,000	7,500,000
Automobile radios in use.....	5,000,000	5,800,000
Total radio sets in use, U.S.....	37,666,500	40,800,000
Total homes with autos.....	18,500,000	19,000,000
Total residence telephones.....	12,000,000	13,250,000
Total homes with electricity.....	22,500,000	24,000,000
Total homes in U.S.....	32,000,000	32,250,000
Population U. S.....	129,500,000	130,600,000

THE GROWTH OF RADIO FROM 1922 TO 1939. ANNUAL SALES; HOMES WITH RADIOS

(Compiled for the 1939 BROADCASTING YEARBOOK by O. H. Caldwell, Editor of "Radio Today")



RADIO-SET AND TUBE SALES, FOR YEAR 1938

	Number	Retail Value
Total radio sets sold during 1938...	6,000,000	\$210,000,000
Radio sets exported.....	600,000
Automobile radios.....	800,000	32,000,000
Home radios sold in U.S.....	4,600,000	160,000,000
Consoles.....	1,000,000	62,000,000
Table models.....	3,500,000	85,000,000
Combinations.....	200,000	13,000,000
Home sets sold as replacements.....	2,100,000	84,000,000
Home sets sold to homes previously without radios.....	1,000,000	40,000,000
Home radios sold as extra sets.....	1,500,000	36,000,000
Battery sets.....	800,000	32,000,000
Tube replacements.....	33,000,000	40,000,000
Tubes, initial equipment.....	35,000,000	43,000,000
Total tubes sold 1938 including exports.....	75,000,000
Parts, supplies.....	45,000,000
Phonograph records.....	35,000,000	16,000,000

ROLL-CALL OF RADIO INDUSTRY, JAN. 1, 1939

Manufacturers of radio receivers.....	116
Manufacturers of radio tubes.....	12
Manufacturers of radio parts.....	705
Manufacturers of test equipment.....	60
Manufacturers of broadcast and amateur equipment.....	102
Manufacturers of sound equipment.....	98
Radio-set and parts distributors.....	2,021
Manufacturers' agents.....	239
Retail outlets selling radios.....	58,000
Dealers doing 85% of radio business.....	14,000
Servicemen, including dealers' servicemen.....	40,000
Radio amateurs and experimenters.....	81,000
Broadcasting stations, Jan. 1, 1939 (operating).....	763

SALES OF REPLACEMENT PARTS, 1938

At manufacturers' selling prices

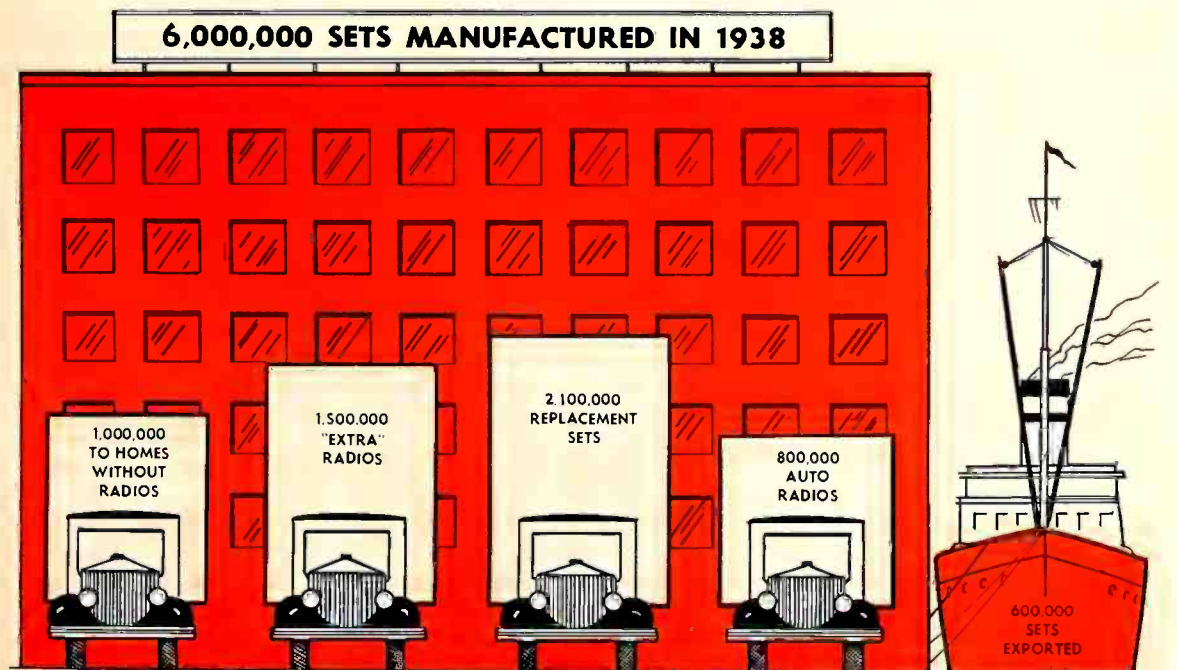
Transformers.....	\$1,500,000
Condensers.....	\$1,500,000
Vibrators.....	\$750,000
Resistors.....	\$600,000
Volume controls.....	\$370,000
Speakers.....	\$300,000
Service instruments.....	\$3,500,000

SOUND SALES, 1938

	Units	Retail Value
Sound systems (complete).....	25,000	\$5,000,000
Microphones.....	55,000	\$1,000,000
Intercommunicators.....	15,000	\$500,000

HOMES WITH RADIOS BY STATES

Ala.....	387,700	Maine.....	210,100	Okla.....	463,400
Ariz.....	81,100	Md.....	366,600	Ore.....	290,900
Ark.....	264,800	Mass.....	1,058,200	Pa.....	2,266,300
Calif.....	1,771,000	Mich.....	1,164,300	R. I.....	158,500
Colo.....	243,500	Minn.....	577,900	S. C.....	211,300
Conn.....	419,200	Miss.....	215,000	S. Dak.....	135,650
Del.....	58,800	Mo.....	849,300	Tenn.....	469,400
D. C.....	160,900	Mont.....	116,500	Texas.....	1,073,600
Fla.....	308,900	Neb.....	294,000	Utah.....	113,000
Ga.....	383,300	Nev.....	29,900	Vt.....	90,350
Idaho.....	100,700	N. H.....	126,900	Va.....	408,200
Ill.....	1,912,100	N. J.....	1,063,000	Wash.....	452,300
Ind.....	841,900	N. Mex.....	63,800	W. Va.....	355,200
Iowa.....	598,800	N. Y.....	3,217,300	Wisc.....	635,200
Kan.....	380,300	N. C.....	421,500	Wyo.....	50,900
Ky.....	514,900	N. Dak.....	122,100	Total	
La.....	308,500	Ohio.....	1,693,000	U.S.....	27,500,000



LICK 1939 WITH SALES PUNCH

Phone 'em; go get them, still are A-1 sales maxims. Below, sell radios for every room is 1939 strategy.



Radio's merchandising minds tell how to beat bugaboos and make this a banner year.

Radio has plenty of selling punch for 1939. Gilt-edged plans for getting some of that prosperity due in the next twelve months.

Life has been no bed of roses, lately, for the average radio dealer. Console jobs found a shrinking market in 1938. Everyone clamored for smaller and cheaper sets. When television was announced in some areas, higher-priced receivers took another one on the chin.

After surveying the 1938 wind-up, RADIO TODAY went into a huddle with manufacturers, jobbers and dealers throughout the country. What—we asked—can be done for 1939? Tell us your strategy for nicking sales, for pushing up unit sales as well as volume.

The answers came pouring in, and they ran along strangely similar lines. Everyone agreed, for instance, that the radio-phonograph was the logical "big buy" for 1939. Mr. Customer is no longer taking "just a radio receiver" when he spends over a hun-

dred dollars. His music appreciation upped by broadcasts of symphonies; his yen for certain dance bands not confined to any station schedule, he has learned to want records of his favorites.

At the crossroads

If he buys a radio-combination, he wants to get records, too. Like the Gold Dust twins, the two go hand in hand. So the radio dealer will do well to install a record department in 1939, our informants say, pointing out that it can be done without any great outlay of money. Disc companies sell on liberal credit, and fixture companies are getting out low-priced store units which permit a radio dealer to put in a record department at a small cost.

In other words, the radio man is at the cross ways. He can diversify his business by selling music—or he can add electrical appliances and get the cash that way. But he just can't depend on radio alone!

Don't put all your eggs in one basket. That's the watchword for the coming year. But there are some fundamental things the average dealer can do—basic principles he forgets—that will help business.

He must keep his store neat and attractive, and display his wares. Covering up console models, not having them connected for immediate demonstration, never helped sales. Show all of the quality lines and keep as many as possible hooked up for try-out.

When a customer enters a radio store these days, he doesn't come for the ride, our survey has shown. He wants to buy a radio. But don't ask him how much he wants to pay. That's a good way to kill a big sale. One dealer has found it profitable to have what he calls a "pivot set" on his floor. This set contains all the manufacturer's selling points, but is medium-priced. Demonstrating this set, the salesman soon finds out his prospect's price class and desires.

If television is mentioned, point out that television, still in its infancy, will augment radio, not displace it. But don't blast the new art too hard. It is better to sell a prospect on the idea that his radio receiver can be converted for television, than to risk ruining a sale by pooh-poohing video. Besides, television will be marketable later in 1939. And facsimile receivers also will be ready for sales. Here, then, are two new things that may well give radio a shot in the arm. But there is no reason why they should hurt the sale of radio receivers,

Time-tried methods click

From personal calls and numerous letters, RADIO TODAY finds all agreed that the time-tried methods of getting prospects are still good. Call up the old customers and suggest a new, improved receiver. Use your service calls as a basis for putting a new radio into the home for demonstration. Send out direct-mail advertising. Study your promotion media. Does newspaper advertising pay? Do you have specialized problems? For instance, a dealer near New York's Grand Central Terminal found that ads in a suburban time-table bring him a large commuter trade.

The main thing is to go out and get the business. And that means personal calls, phone calls, advertising or promotion stunts. Study the market and decide which get best results.

Credit buying will help

There are other ways to do more business in 1939. Portable, self-contained radio receivers will be a best seller. Requiring no antenna or electrical connection they are sure-fire articles for traveling folk, sports people, campers, or those who go a-sailing in southern waters at this time. Some 13 manufacturers are turning out these sets now, sensing that their utility and convenience will sell them. In some places, stunts have sold these sets. At a restaurant party, one dealer put a portable receiver on the table and drew much attention from nearby guests. Another hired several lads to carry receivers through the streets. The radio played, and amazed listeners peered closely to see a placard on the set with the dealer's name and address thereon.

Home recording devices will boom in 1939. Push them. Budding musical artists can record their efforts, then correct their faults on the playback. A dealer can make records at

(Continued on page 50)



Smart radio dealers plan to sell plenty portables this year to folks who get around, like above.

Our chic friend at right swings to her radio - combination, the big buy in '39. Records, too, will go well.



Below, hook up fine sets and show them FIRST is a good way to "sell up" from pee-wee profits.



TELEVISION LOWDOWN

Where service will begin this Spring Complete list of licensed stations

Open season for television starts in April for New York's millions when NBC goes on the air with regular broadcasts. Program material for many weeks of telecasting has already been arranged for, so if the engineers finish ahead of schedule, the program directors will be ready to go.

Other stations to provide service in the New York area are to be operated by CBS and DuMont. Columbia hopes to be on the air from the Chrysler tower in May, while DuMont plans to start some experimental broadcasts from Passaic, N. J., in February and regular program broadcasts at a later date.

Another immediate prospect for television is the Don Lee station in Los Angeles which has been operating for many months. This station, formerly with low-definition images is now going to the R.M.A. standard of 441 lines.

Getting ready

Jumping back to the East, one finds facilities in Philadelphia and Camden, N. J., that could soon be put into service. Likewise is true at Boston. Two significant construction permits are held by G-E, one for a station at Bridgeport, Conn., and the

other for Albany, N. Y. In Chicago Zenith is getting its transmitter ready, but judging by the company's frigid attitude to television, it is for experimental work in program telecasts.

Super-power station

The G-E transmitter for Albany-Schenectady district will be built on top of a 1,500-foot hill with an antenna strung on 100-foot towers. This station will be at least 250 feet higher than the one atop the Empire State building in New York. With a power output of 10 kilowatts, it will cover a combined population of more than 500,000 and will be put into operation in three months.

Tabulated on this page is list of the stations licensed for television by the F.C.C. Since only those stations operating on the 4 and 6½ meter bands are suitable for broadcasting, they are printed in boldface type. Wavelengths less than 4 meters at present are used only for relay broadcasting and experimental purposes. The 150 meter transmissions are insignificant insofar as high definition television is concerned, being a holdover from the early experimental days.

None of the 6½ meter stations

should be overlooked, however, for with a license to operate, only money and hard work by the engineers are needed to start telecasting entertainment programs.

For Mr. and Mrs. Public in New York and Los Angeles television is just around the next corner—for some half dozen other cities it is just a bit further away. And by next Fall there may be a dozen or more large cities with television service.

NEW YORK DEALERS "GO" FOR TELEVISION SETS

Interest is white hot in television. Dealers want "sight and sound" receivers for prestige and "to be first". They don't mind investing money for several months until telecasts become a reality.

That's the experience in metropolitan New York of the Allen B. DuMont Laboratories of Passaic, N. J., who have sold 150 television receivers in the past two months. Seventy-five of these sets are already on dealer floors; the rest are in production, and there is a backlog of 200 orders for television receivers to be delivered when broadcasts begin—expected this spring from the NBC station atop the Empire State tower and from the CBS transmitter on the Chrysler Building.

Sets only on display

The sets are generally not being sold to homeowners. They are used for demonstration and display, although dealers, of course, can sell them if they wish. Despite this, radio stores are not hesitating to put down a ten per cent deposit on the \$237 dealer cost, and are paying the rest 30 days after delivery. Using six salesmen—one each in Brooklyn, Long Island, Manhattan, The Bronx, Westchester and nearby New Jersey, the DuMont people report no trouble in finding sales.

Dealers are interested in a multitude of questions about the new art. Once assured that the set will augment rather than displace present radios, they want to know all about it. What does the cathode ray tube do and how long will it last? What is the replacement cost? Can television broadcasts be extended beyond the present 50-mile limit? Why so many tubes? Does the height of a building affect the reception? Must a room be entirely dark for television? Is a coaxial cable needed for the lead-in?

These and a host of other "stick-

(Continued on page 53)

TELEVISION STATIONS IN U. S. LICENSED BY FCC

Location	Call	Wave Length		Power in KW		Owner
		Video	Audio	Video	Audio	
Boston, Mass.	W1XG	6½ & 4	½	0		Gen'l Tel.
Bridgeport, Conn.	†W1	6½ & 4	3	3		G. E.
New York, N. Y.	W2XAX	6½ & 4	7½	7½		CBS
New York, N. Y.	W2XBS	6½ & 4	12	15		NBC
Camden, N. J. (Portable)	W2XBT	3 & 1¼	0.4	0.1		NBC
New York, N. Y.						
Long Island City, N. Y.	W2XDR	6½ & 4	½	½		Radio Pictures
Passaic, N. J.	†W2XVT	6½	.05	.05		Dumont
Schenectady, N. Y.	†W2	1½				G. E.
Albany, N. Y.	†W2	4	10	10		G. E.
Camden, N. J. (Portable)	W3XAD	2½	½	½		RCA
Philadelphia, Pa.	W3XE	6½ & 4	10	10		Philco
Camden, N. J.	W3XEB	6½ & 4	30	30		RCA
Philadelphia, Pa.	W3XP	1½	.015	0		Philco
Springfield, Pa.	W3XPF	6½ & 4	¼	1		Farnsworth
Los Angeles, Calif.	W6XAO	6½ & 4	1	0.15		Don Lee
Manhattan, Kansas	W9XAK	150	½	½		Kan. State Coll.
Kansas City, Mo.	W9XAL	6½ & 4	0.3	0.15		First Nat. Tel.
W. Lafayette, Ind.	W9XC	150	1½	0		Purdue Univ.
Iowa City, Iowa	W9XK	150	0.1	0		Univ. of Iowa
Iowa City, Iowa	W9XU1	6½ & 4	.1	0		Univ. of Iowa
Chicago, Ill.	W9XZV	6½ & 4	1	1		Zenith
Mobile—Portable	W10XX	6½ & 4	.05	.05		RCA

†Construction permit. Bold face type shows stations operating on 4 and 6½ meter bands.



Photo courtesy Grace Line

RADIO SAILS TO FOREIGN PORTS

American receivers find ready acceptance in other lands

Himself leading the world in ownership of radio sets, Uncle Sam is still no slouch when it comes to finding radio acceptance abroad. During the last year the United States exported 618,710 receivers to 123 different foreign countries.

In terms of saturation, the foreign market has a rich aspect compared with conditions here; there are 37,-

666,000 receivers in use in this country and only about 40,500,000 sets operating in the rest of the world combined. Radio ownership for U. S. is reported as 290.15 sets per 1,000 people. The world's next highest saturation point is in the little country of Denmark, where there are 189.96 radios among every 1,000 Danes. Germany ranks second in the total num-

ber of radios owned, having 9,087,454.

Below are presented the figures on the "world of radio," with countries ranked according to importance as buyers of American sets. Our 20 best customers are included, followed by other nations of interest. Figures came from the International Broadcasting Union, the U. S. Dept. of Commerce, Broadcasting, and NBC.

	RANK AS BUYERS OF U. S. SETS	NO. OF SETS PER 1,000 POPULATION	WORLD RANK IN SETS PER 1,000	FEEES FOR SET OWNERS	SETS IN USE
Mexico	1	20.83	40	None	350,000
Brazil	2	11.11	44	None	500,000
United Kingdom	3	183.58	3	Set Tax	8,479,500
Union of S. Africa	4	88.18	22	Set Tax	180,227
Cuba	5	25.34	35	None	105,543
New Zealand	6	174.19	4	Annual license	279,054
Venezuela	7	21.25	39	None	85,000
France	8	99.35	16	Set Tax	4,163,692
Portugal	9	9.4	47	Set Tax	65,280
Colombia	10	6.4	—	None	58,000
British India	11	0.18	—	Set Tax	48,000
Chile	12	17.5	—	None	75,000
Canada	13	97.85	18	Set Tax	1,103,768
Peru	14	6.3	—	None	39,000
Turkey	15	1.5	—	—	21,500
Egypt	16	4.6	—	Set tax plus tube fee	70,000
Uruguay	17	59.5	—	None	125,000
Philippines	18	1.7	—	None	25,000
China	19	0.81	—	None	300,000
Sweden	20	170.55	5	Set Tax	1,074,473
Italy	—	18.36	41	Set Tax	795,000
Germany	—	133.99	7	Set Tax	9,087,454
Japan	—	34.79	31	Set and monthly tax	3,402,489
Russia	—	22.12	37	Set Tax	3,760,400

Selling Sound

INTERPHONE TRAPS BAD MONEY PASSER AT THEATRE

An intercommunicating system installed between the cashier's booth and the manager's office of a Phoenix, Arizona theatre defeated an attempt to pass off a counterfeit five dollar bill, and opened up a new field for such systems in theatres, skating rinks, dance halls, amusement parks, and other places where tickets are sold to the public.

Business was normal at the Fox Theatre in Phoenix one day recently when a woman approached the cashier to purchase a ticket with a bill which the theatre employee suspected was spurious. The resulting conversation was heard through the interphone system by Manager Louis B. Christ in his office.

Hurrying to the booth, Mr. Christ questioned the woman, who thereupon produced a good bill, bought her ticket and entered the theatre. The manager phoned F.B.I. agents, but before they could arrive the woman had disappeared.

The system, installed by Culver

Radio Service, RCA Victor Commercial Sound Distributors at Phoenix, consists of a master control unit on the manager's desk and remote units in the projection booth and at other locations, including the cashier's office. The system is arranged so that the line from the cashier's booth is always open, for just such emergencies as that which occurred.

AMPLIFIED CHIMES

Mysteriously, chimes are ringing out in church belfries all over the country. Towers are certainly for chimes and it is certainly appropriate that the electronic art has now brought to life the "voice of the church." All churches using these chimes, who have reported on their congregations over this last Christmas, advise that they had the largest attendance that they ever had.

The ease with which these chimes speak out is, of course, no mystery to servicemen; amplification and the tower projection of tones is the right answer. Not only is it the right answer because of economics, but it need not take second place to any other method for producing chime tone, states Maj. R. H. Ranger of Rangertone, Inc., manufacturer of amplified chimes.

There are two general methods of electronic chimes; the first and



Ex-foreign secretary "Tony Eden of England uses Western Electric's new noiseproof cardioid mike to blast the dictators before U. S. bigwigs.

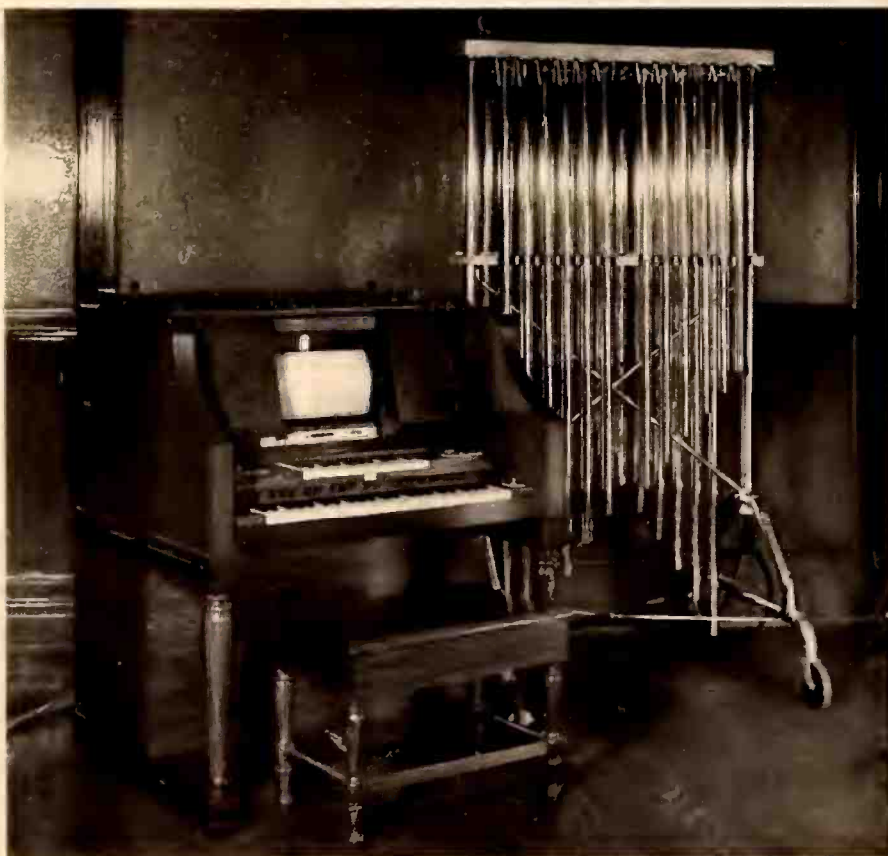
more complete, where funds and facilities are available, is the use of standard tubular chimes, preferably placed in a sound proof room with a microphone pickup and appropriate tone projection. Where chimes are in the organ already, it is possible to pick these up with a microphone in the organ chamber.

The second method, and one that is becoming increasingly attractive, is the use of sensitive records which have been made for this purpose. These records provide a very inexpensive method of getting the tone source and also makes chiming that is automatic and frees the organist at particularly important times in his work before and after services.

SMART SHOPS USE SOUND TO SELL XMAS THINGS

Smart Fifth Avenue shops went overboard this season in using sound to help Christmas sales. Leading the parade was Lord & Taylor's "bell window" which drew record crowds. The department store startled competition last year by keeping every window clear of merchandise. Store fronts were filled with white, Christmasy scene and tolling bells. Bells were synchronized with phonograph-played chimes. This year they repeated.

Not to be outdone, Franklin Simon's promotion people put in an impressionistic display with angels playing organs. White and gold was the color motif, and again, not a bit of things to buy. A sound system furnished organ music. S. H. Kress's deluxe dime store, compromised by setting one window aside for a realistic scene of The Nativity. Sacred music, via records, poured out of a grilled panel above.



Amplified chimes at any time over the speaker system in church belfry is possible with this Rangertone set-up using an automatic playing mechanism.

PUSH THOSE PORTABLES

Something new for a radio-jaded public—where to sell 'em and how

For a selling "shot-in-the-arm" try the portables in 1939. That's the word going around. And it's based on solid facts, for the self-contained receivers, needing no antenna or electrical connection, have been a sales sensation.

For the coming season, they're going to go even faster. So fast they'll make the well-known hot cake look as slow as a Floradora girl in a streamlined night-club chorus. Smart radio dealers are thinking up new ways to sell these sets to cash in on their wide possibilities.

Sixteen manufacturers are turning out portables at an average retail cost of \$30, including batteries. They weigh about 15 or 17 pounds (although some are as light as 12) and are ideal for traveling. New, efficient tubes, better batteries give them another strong sales point. In fact, the juice providers will usually last long for the entire summer without a replacement.

Plenty of prospects

There are plenty of prospects for these small, compact jobs. One man who has sold 260 sets in the last several months told us he found vaudeville, night club and other actors anxious to buy a portable for use backstage in their dressing-rooms or while traveling. Salesmen on the road are other candidates for a sale. They are ideal for camping trips, for use at the beach, and in this weather,

PORTABLE PROSPECTS

Traveling salesmen, executives
Actors, entertainers for dressing rooms and trips
Business men for part-time office use
Campers, picnic fans, vacationers
Skiers and other outdoor sports followers
Servicemen, dealers to locate interference

PORTABLE PLACES

Motorboats, sailboats, canoes, yachts
Autos and trailers, hotels, overnight camps
Football, baseball games, races, beaches
Sleigh rides, bicycles, motorcycles

while skiing is so popular, they can be sold to the outdoor fans. In Seattle, Philco dealers got together on a newspaper advertisement and pushed the "Pal" portable radio as just the thing for the skiers.

In New York City, where a Xmas sell-out made them almost impossible to get, Alfred Tuffery of Wurlitzer's took a portable to a nearby restaurant for an office party. Guests were attracted and amazed when the portable turned out tunes with no electrical or aerial connections. Another merchandiser, J. M. A. McGuire, sent lads through the street with the tiny sets. On each receiver was a placard with McGuire's address, and while being carried, the sets played.

Where permanent installations are not wanted, the new portables can

be sold for trailers, motorboats, automobiles, hotels, overnight camps. They are ideal, too, for places where no power supply is available such as sailboats, canoes, football and baseball games, bicycles, motorcycles, on sleds.

Another use for them is as interference locators for dealers and servicemen. The business man, too, is a prospect, as he can often use a portable in his office, bringing it there to tune in on some special newscast or other important event. Race-track followers also are buying them to get results at one track while visiting another.

Most dealers are featuring the portables in their window and floor displays as well as in direct-mail and newspaper advertising. Neat in appearance, covered with sturdy wear-resisting fabric or leather, the portables almost sell themselves. For 1939 they're going to be an important sales factor.

Listed to date as making portable receivers are Philco, RCA, Westinghouse, Sentinel, Mission Bell, Wells Gardner, Continental, Belmont, Howard, Crosley, Emerson, Fada, Dewald, Pilot, Warwick, and Espey.

NO S.R.O. ON THE RADIO

"S.R.O." signs may be up at the Metropolitan opera, but for the radio listeners there's always a seat in Box 44. That's the theme of a new promotion brochure released by NBC's E. P. H. James.

Which would seem like a good selling point for radio dealers. Just think of the millions represented in the Metropolitan Opera's shows and audience. Yet any music lover, no matter what his economic status, may have a front-row seat—if he buys a radio receiver.

SMART, COMPACT, LIGHT WEIGHT, CONVENIENT—DESCRIBES THESE NEW PORTABLE RECEIVERS



WESTINGHOUSE



MISSION BELL



ESPEY



EMERSON



RCA VICTOR



FADA



SENTINEL



PILOT

IT'S A RECORD YEAR

**CBS entry into disc field announced;
Sale of 45 million platters forecast**

CBS BUYS RECORD FIRM, PLANS BIG EXPANSION

There's a swing to records, bigger each year. Radio dealers are adding it to their line as radio-phonograph combinations and player attachments, growing in popularity, provide a better market for sale of discs.

In 1939, there will be 45,000,000 records sold, say those in the know. Anxious for some of that business, Columbia Broadcasting System in December purchased the American Record Corp., producers of Columbia, Vocalion and Brunswick labels.

First step in Columbia's annexation was to appoint Edward Wallerstein, pioneer record man and RCA-Victor's sales manager for Bluebird and Victor discs, as president of the new CBS affiliate. Other officers, these on a temporary basis, are: Frank K. White, treasurer; C. C. Boydston, assistant treasurer; Ralph F. Colin, secretary.

Said CBS President William Paley: "The popularity of home records has grown tremendously during the last few years and there is every indication that future increases are assured. Our primary purpose will be to find new patterns for both serious and popular music. . . . We plan to accelerate sales by both vigorous business management and by innovations in production and marketing. Spe-

cial interest will be paid to the field of education."

LOW COST RECORD SET-UP

Radio men are turning to record departments more and more as the sale of radio-combination sets goes speedily ahead. Others hesitate because they think it means too much capital.



Holds 135 records on the counter.

To offset this fear, along comes A. Bitter Construction Co., 27-01 Bridge Plaza North, Long Island City, N. Y., with news of low-priced installations. The Bitter firm is offering a metal disc display unit for \$4.50 and another one that may be hung on the wall or put on the counter, for \$6.75. Then there is an upright wooden rack, holding 1,000 records, available at \$40 (the metal racks hold more than 100 discs).

Sound-proof demonstrating rooms may be had from the same outfit at \$200. These and the racks are in unit system, so a radio man may start modestly and add to the department as business gets better.

RCA SEES DISC SALES AT NEW HIGH FOR 1939

RCA Victor's year-end record business was so good that it required three shifts, six days a week to keep up with the demand, reports President G. K. Throckmorton. With Frank Walker as recently-appointed manager of Bluebird and Victor disc sales, 1939 should be even better, says RCA Mfg. prexy.

High artistic standards and the expenditure of approximately \$1,500,000 in advertising and promoting records and RCA Victrolas helped create the demand, Throckmorton believes. He sees full speed ahead in the next twelve months.

Commenting further on Walker's appointment, Throckmorton says:

"In his added responsibilities, Mr. Walker will be assisted by the group of specialists and their staffs who have been largely responsible for the development of the company's record and Victrola business: W. T. Walker, manager of record manufacturing (no relation to Frank Walker); Max Batsel, in charge of recording research activities which in addition to records includes sound motion picture films; Fred Wilson, director of field sales activities; Vance Woodcox, vice president in charge of package good sales; Eli Oberstein, in charge of popular recordings; Charles O'Connell, director of Red Seal recordings; Tom Joyce, advertising and sales promotion manager; Julius Haber, publicity director.

"This group of men, and others, together with the more than fifty RCA Victor wholesalers and thousands of loyal RCA Victor dealers, under Frank Walker's leadership will assure the continued progress and leadership of RCA Victor in the recording field."

WAX WORTH WATCHING

RUDY VALLEE and his Connecticut Yankees playing Surprises, No. 1 with VR by Red Stanley, No. 2 with VR by Cyril Smith—Bluebird B10069.

GENE KRUPA and his orchestra playing Jeepers Creepers with VC by Leo Watson and Say It With a Kiss, with VC by Irene Daye, both from "Going Places"—Brunswick 8280.

EDDIE DELANGE and his orchestra playing What This Country Needs Is Foo, with VR by Elisse Cooper, and I Ups to Her and She Ups to Me with VR by Eddie DeLange—Bluebird B10074.

SAMMY KAYE playing The Umbrella Man with VR by the Three Barons and chorus, and You're Gonna See a Lot of Me with VR by Charles Wilson—Victor 26117.

GUY LOMBARDO and his Royal Canadians playing The Girl Friend of the Whirling Dervish from "Garden of the Moon" and I Must See Annie Tonight, both with vocal trio—Decca 2195.

MARY MARTIN with Eddy Duchin and his orchestra, singing My Heart Belongs to Daddy and Most Gentlemen Don't Like Love—Brunswick 8282.



As smart as these folks' evening clothes is the new G-E wireless record player which sends music through the nearby radio without wiring fuss.

“CROSLEY

is the line for '39”

... that's the echo from Cincinnati. That's the echo of the most enthusiastic distributors' meeting in Crosley history, when new merchandising plans for the Shelvadors, appliances and radios were disclosed. Full cause for cheers are found in:

- 1 Carefully planned merchandise to entice and enthuse the 1939 prospect.
- 2 Three separate lines of Shelvadors to cover every price bracket and win every competitive situation!
- 3 Promotion ideas that promise better profits and great volume to all classes of dealers.
- 4 Disclosure of where plenty of prospects for 1939 Shelvadors can be found.
- 5 Information about *new* Crosley products which greatly enhance the value of a Crosley franchise.

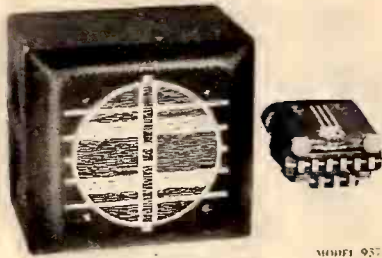
Distributors cannot reach all dealers at once. Don't wait. Go to them. Write the factory. Hear the 1939 story now. Get an early start. Now is the time to get going, for
CROSLEY'S THE LINE FOR '39.

THE CROSLEY CORPORATION

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

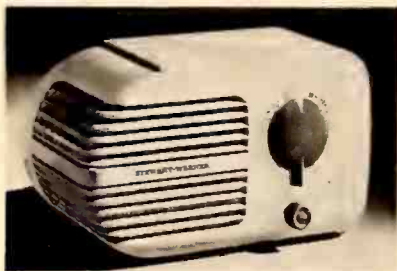
NEW RADIO MERCHANDISE TO SELL

Latest news of radio products from manufacturers



Philco auto radio

★ Advance 1939 receiver for use in any model auto. 6-tube superhet chassis tuning 550-1580 KC. Illuminated push buttons for 5 stations and dial tuning. Reception control with 3 illuminated buttons. Controls mounted at bottom of instrument panel. Full-wave vibrator. Model 937. Philco Radio & Television Corp., Tioga & C Sts., Philadelphia, Pa.—RADIO TODAY.



Stewart-Warner receivers

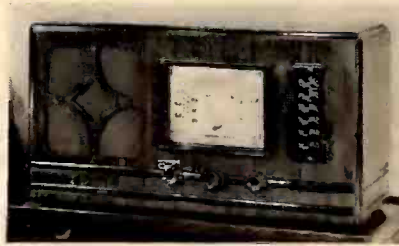
★ Eight models have been added to the S-W line, The Campus model lists for \$9.95. AC-DC operated with 5 tubes—tunes 540-1750 KC. Illuminated tip-pointer type dial. Power output of 2.1 watts—4-inch dynamic speaker. Plastic cabinet.



8-tube console with magic keyboard tuning for 6 stations. Tunes 540-1750, 5280-16,050 KC in 2 bands. Phonograph terminals. Output of 6 watts—10-inch dynamic speaker. Model 01-817—list \$69.95. Stewart-Warner Corp., 1826 Diversey Pky., Chicago, Ill.—RADIO TODAY.

Record player

★ Portable-type record player with built-in amplifier and speaker. Plays 10 and 12-inch records at 78 r.p.m. AC operated. Output of 3 watts, 6-inch speaker. Volume and tone controls. Leatherette-covered case. Radolek Co., 601 W. Randolph St., Chicago, Ill.—RADIO TODAY.



Stromberg interim models

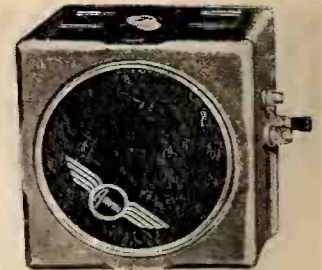
★ 8 authentic Period design radios including 2 table sets, 2 corner models, 2 slanting-panel consoles. Model 325H illustrated has dual band coverage, push-button tuning—superhet chassis.



Console with acoustic labyrinth and flash tuning. Cathode-ray indicator for manual tuning. 3-band coverage. Circuits stabilized against drift to prevent detuning. Model 350S. Stromberg-Carlson Telephone & Mfg., Co., 100 Carlson Rd., Rochester, N. Y.—RADIO TODAY.

G-E 1939 models

★ Series of five table models and three console sets and a wireless record player. Model G-86 all-wave console has 8 tubes and incorporates the beamscope. Model G-78 with 7 tubes has the same features as the G-86 except for the omission of the beamscope and cathode ray tuning indicator. The table sets included AC-DC models with 5 and 6 tubes, some with plastic cases in color. General Electric Co., 1285 Boston Ave., Bridgeport, Conn.—RADIO TODAY.



Arvin auto radios

★ 6-tube superhet at top with phantom filter and 8-inch speaker unit. Model 44C with universal remote control—list \$46.10. With custom instrument panel control—\$49.95. 6-tube push-button receiver with manual tuning. Phantom filter to eliminate noise pick-up. Mounts to right or left of steering post. Model 8A—list \$29.95. Model 6 without manual tuning but with station variator lists for \$22.95 including aerial. Noblitt-Sparks Industries, Columbus, Ind.—RADIO TODAY.



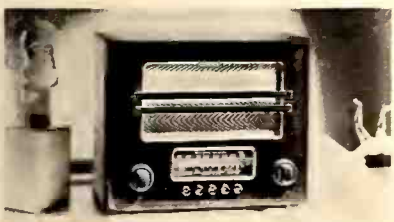
Phonograph with Philco

★ 5-tube combination with semi-automatic phonograph. Push-button tuning for popular stations. Balanced field speaker with inclined sounding board. Bass compensation and continuously-variable tone control. Model 107 illustrated. A table set known as the model 101 with a 5 tube chassis is available. Model 105 is a 5-tube console combination listing for \$69.95. Philco Radio & Television Corp., Tioga & C Sts., Philadelphia, Pa.—RADIO TODAY.

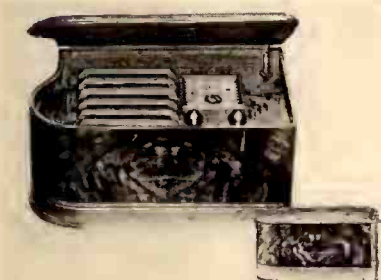


RCA 1939 models

★ Line of 6 low-cost table sets and 2 consoles. Model 97K2 illustrated has 7 tubes. Features electric tuning, 3-band coverage with temperature-compensated circuits. Magic eye indicator, Victrola push-button switch. Variable tone control. List \$75.



5-tube AC-DC dual-band superhet. Push-button tuning for 5 stations. Beam power output tube, vernier tuning, AVC, Underwriters' approval. Continental style cabinet. Model 96T-4—list \$29.50. RCA Mfg. Co., Front & Cooper Sts., Camden, N. J.—RADIO TODAY.



Emerson chest receiver

★ 5-tube AC-DC superhet receiver in chest model cabinet with curved ends. Staybent construction with continuous veneers. Power switch controlled by raising and lowering lid. Dynamic speaker, automatic volume control. Model 238—list \$24.95. Emerson Radio & Phonograph Corp., 111 Eighth Ave., New York, N. Y.—RADIO TODAY.

Thordarson amplifier

★ 8-watt amplifier for portable or permanent installations. Individual mike and phono controls and tone control. Supplies 6-watts field excitation for speaker. Variable output impedances. Model T-20W08—list \$39.50. Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill.—RADIO TODAY.

Sound console

★ Mobile sound system to provide special sound effects via recordings and direct pick-up. 4-channel input, 3 professional turntables with "spotting" mechanism. 2 complete 30-watt amplifiers. High and low filter networks. Complete manual control of all functions. Wholesale Radio Service Co., 100 Sixth Ave., New York, N. Y.—RADIO TODAY.



Zenith wireless record player

★ AC record player for use with any radio set. Constant-speed 78 r.p.m. motor. 540 KC oscillator adjustable to meet local conditions. Crystal pick-up. Plays 10 and 12-inch records. Use anywhere in house within hearing range of radio set—no connections to set. Model S6622. Zenith Radio Corp., 6001 Dickens Ave., Chicago, Ill.—RADIO TODAY.

Amplified chimes

★ Chimes for use in churches, schools, etc. using amplifier equipment instead of actual bells. Recorded chimes ideal for low cost installations. Tubular chimes with manual and automatic players for more flexible installations where cost is not primary factor. Complete set-ups available with speaker units and amplifiers. Rangertone, Inc., 201 Verona Ave., Newark, N. J.—RADIO TODAY.



Sentinel compact

★ 5-tube superhet receiver tuning 540-1730 KC. Output of 2 watts. Drum dial with direct drive. AC-DC operation 3½-inch dynamic speaker. Model 177UT—list \$9.95. Sentinel Radio Corp., 2222 Diversey Pky., Chicago, Ill.—RADIO TODAY.



Admiral phonograph-radio

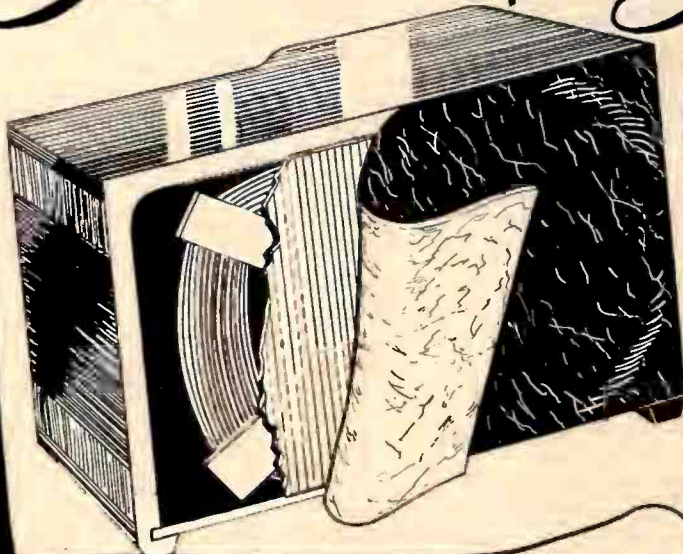
★ 6-tube AC combination tuning 560-175 and 54-16½ meters. Slide-rule type dial. Push-button wave-change switch. Permeability push-button tuning. Crystal pick-up with self-starting motor. Model 549-6G. Continental Radio & Tel. Corp., 3800 W. Cortland St., Chicago, Ill.—RADIO TODAY.



Six-tube G-E model G-64 provides touch tuning and two-band coverage with 6½-inch stabilized dynamic speaker.

NO AERIAL! NO GROUND!
WITH THE

NEW
Aeroscope
ANOTHER *Admiral*



1ST

AT THESE
SENSATIONALLY
LOW PRICES

Think of it! A completely built-in aerial and ground in a line of radios that sell for as low as \$9.95. And that's not all! In the series 5D and 6K, the Aeroscope introduces a unique interference shield that effectively reduces static and other noise. Nothing like it ever before! Only Admiral could do it!

THIRTEEN new radios . . . a baker's dozen of money-makers for the winter and spring months. Features galore! Aeroscope . . . the built-in aerial and ground with unique interference shield . . . is only one of them! Colorful cabinets smartly molded of Plaskon . . . automatic tuning . . . portable battery radios and phono combinations styled like modern airplane luggage. You'll find them all in our new circular opposite. Keep it for future reference . . . or ask your jobber for a supply for distribution to your customers.

See

**SPECIAL
CIRCULAR
FOR NEW**

Admiral
**MONEY
MAKERS**

CONTINENTAL RADIO & TELEVISION CORP.
3800 WEST CORTLAND STREET • CHICAGO, ILLINOIS

NO AERIAL! NO GROUND!

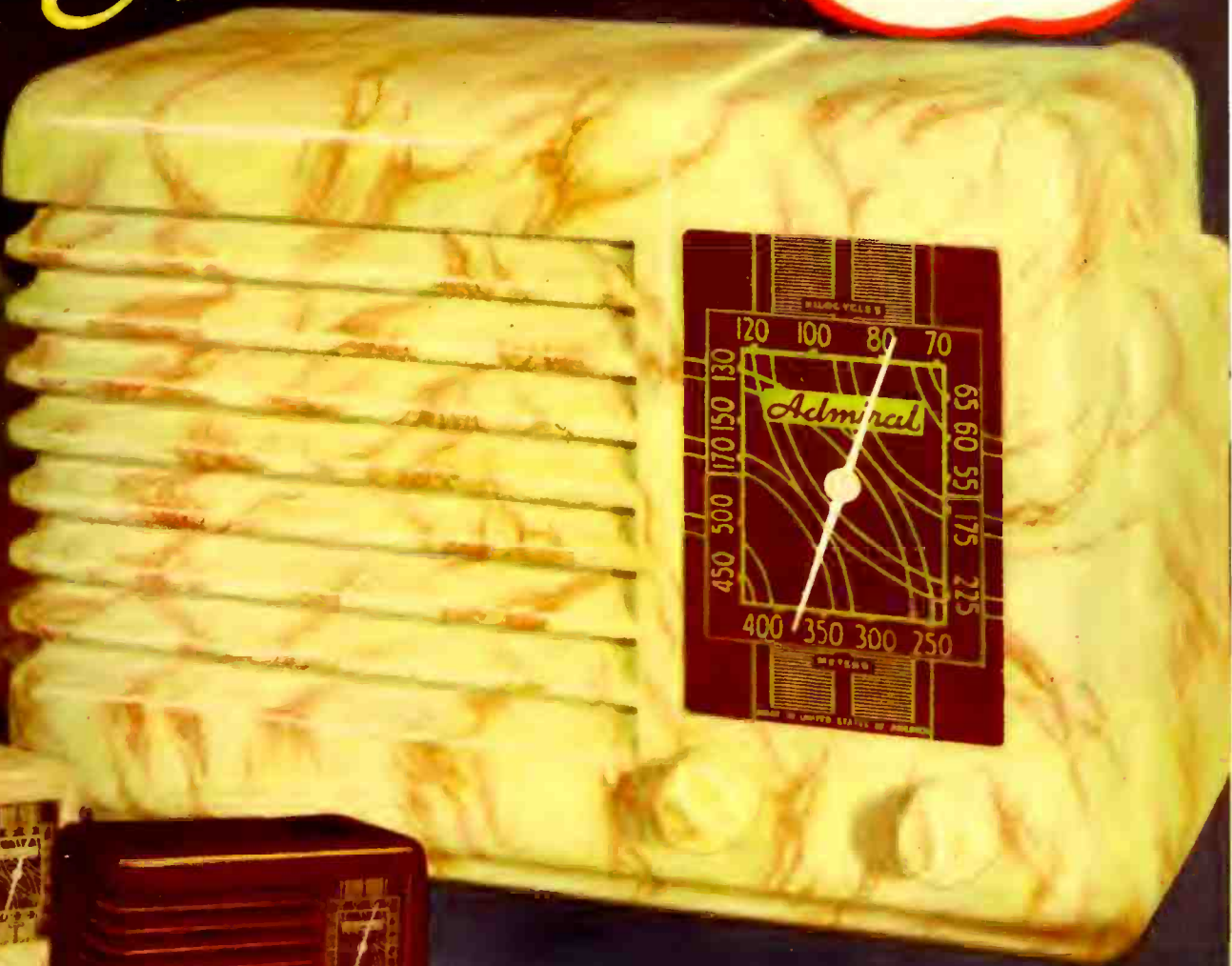
WITH THE NEW

Admiral* Aeroscope

Model 161-5L
Walnut Plaskon Cabinet

\$9.95

162-5L Ivory \$12.95
163-5L Onyx \$15.95



162-5L A

161-5L >

ADMIRAL "SMART SET" 6-TUBE (INCLUDING BALLAST) AC-DC SUPERHET

We call it the Admiral "Smart-Set"—a fitting name for its smartly styled molded plaskon cabinet of cream onyx, cream ivory or rich walnut. Tunes complete broadcast band (535 to 1730 K.C.). Exceptional tone quality of super electro dynamic speaker enhanced by louvre type tone chamber. Complete with built-in Admiral Aeroscope! No aerial or ground required.

ADMIRAL RADIO PHONOGRAPH COMBINATIONS →

Admiral sounds a new note in radio phonograph combinations. A 6-Tube radio (including ballast) tunes complete broadcast band (535 to 1730 K.C.). Delightful tone quality of super electro dynamic speaker enhanced by louvre type tone chamber. Complete with built-in Admiral Aeroscope. No aerial or ground needed! Phonograph has new light weight crystal pick-up with quiet self-starting electric motor. Plays 10" and 12" records. For AC operation only.

Model 153-5L. Admiral "Gypsy". Completely portable in modern airplane luggage case with convenient pocket for records. (As Shown) **\$36.95**

Model 159-5L. Straight grain walnut cabinet with piano finish (Not Shown) **\$32.95**



153-5L

IN CABINETS (MODERN PLASK)
 Model 166-5D (walnut) \$16.
 Model 167-5D (ivory) \$19.
 Model 168-5D (onyx) \$22.

Model 169-5D. Beautiful straight grain and buff walnut wood cabinet \$24.95
 Aeroscope. No aerial or ground required.
 Tunes entire broadcast band (535 to 1730 K.C.). Complete with built-in Admiral
 denser . . . super electro dynamic speaker . . . attractive etched glass dial.
 stations . . . full automatic volume control . . . specially designed tuning con-
 What a rod! Has "feather touch" automatic push-button tuning for four

**ADMIRAL "STREAMLINER" AC-DC
 6-TUBE (INCLUDING BALLAST) SUPERHET**



Aeroscope



Another Ad-
 miral first at
 these sensa-
 tional prices!
 Say good-
 bye to troublesome aerials and unsightly
 ground wires. Admiral's new "Aeroscope"
 . . . completely within-the-radio set
 itself . . . picks up distant signals with ease
 . . . gssbres full volume, and power.



Admiral

**NO AERIAL! NO GROUND!
 WITH THE NEW**



**ADMIRAL 6-TUBE AC SUPERHET
 In Beautiful Walnut Cabinet**

Model 148-6K. Has all the latest features!
 Feather touch automatic push-button tuning for
 four stations . . . unique ribbed wheel type station
 selector and an-off switch with volume control in-
 stead of conventional tuning knobs . . . super
 electro dynamic speaker . . . attractive slide rule
 etched glass dial . . . full automatic volume control.
 Tunes entire broadcast band from 535 to 1730 K.C.
 Complete with built-in Admiral Aeroscope. No
 aerial or ground required **\$27.95**



PORTABLE BATTERY RADIO

Model 164-4D. Modern airplane luggage case.
 4-tube, 1½ volt superhet battery radio has 5" perma-
 nent magnet type speaker. Tuning range 535 to 1730
 K.C. Complete with built-in Aeroscope. No aerial or
 ground required **\$24.95**



5-TUBE AC-DC SUPERHET

5 full-working tubes! Tunes entire broadcast band
 (535 to 1730 K.C.). Has full vision dial, vernier tuning,
 4" electro dynamic speaker, automatic volume control.
 In compact, smartly styled plastic cabinets.

156-5J (walnut) . \$9.95 157-5J (ivory) . \$12.95
158-5J (onyx) . \$14.95

**NO AERIAL! NO GROUND!
 WITH THE NEW *
 Aeroscope**

ANOTHER
Admiral
FIRST
 AT SENSATIONALLY LOW PRICES

CONTINENTAL RADIO & TELEVISION CORP.
 3800 W. CORTLAND ST. CHICAGO, ILL.

MORE NEW THINGS

Transmitter kit

★ Multi-band transmitter kit with instantaneous band switching from the front panel for 3 bands. 100-watts input on all bands from 10 to 160 meters. R.F. and power supply on one chassis. Speech equipment with its power supply on separate chassis. Uses standard parts. Described in bulletin SD-378. Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill.—RADIO TODAY.



Andrea television kit

★ 16-tube television receiver kit using 5-inch short-neck picture tube. Set uses push-button tuning. Supplied with step-by-step assembly instructions. Performance equal to factory-built set. Six controls on front of set. Complete with video and audio channels. F. A. D. Andrea Corp., 48-02 48th Ave., Woodside, L. I., N. Y.—RADIO TODAY.



Tube seller

★ Emission-type tube checker in large counter stand with 9-inch meter. Hot-cathode leakage test with neon tube. Line-voltage adjustment read on meter. Free-point tube analysis. Electronometer model 815—net \$49.95. Precision Apparatus Co., 821 E. New York Ave., Brooklyn, N. Y.—RADIO TODAY.



Parts cabinet

★ Wooden parts cabinet for use in the shop. Model 1740 has 40 drawers with removable partitions. 24 drawers measure 2½ inches high x 4 x 14 inches deep. 16 drawers measure 2½ x 6 x 14 inches. List \$29.80. Other types available to suit all applications. J. D. Warren Mfg. Co., Montpelier, Ohio—RADIO TODAY.



Arvin home radios

★ Additions to the 1939 line include 9 new models at popular prices. Model 89 illustrated is a 6-tube AC set tuning broadcast and short waves in 2 bands. Push-button tuning for popular stations—cathode-ray tuning indicator for manual. List \$44.95.



Centralized sound system

★ Low-cost compact sound system for schools, industrial plants, etc. Provides coverage for up to 30 rooms, and may be extended to cover auditorium, gymnasium, etc. Separate controls for each room, allowing program distribution or conversation with any desired rooms. Vocograph Sound Systems, 164 N. May St., Chicago, Ill.—RADIO TODAY.



Compact multi-range meter

★ Multi-meter with 5,000 ohms-per-volt sensitivity and 3-inch meter. AC and DC ranges of 0/6/30/150/600 volts; DC current of 0/3/6/30/150 mils; resistance, 0/2M/20M/200M/2meg ohms. Also calibrated in decibels. Weighs but 23 ounces with self-contained batteries—3 x 5¼ x 2 inches. Model 542. Supreme Instruments Corp., Greenwood, Miss.—RADIO TODAY.



Cardioid microphone

★ Directional-type microphone with dead spot at rear. Designed for installations where it is desirable to reduce pick-up from rear and sides, yet where a wide-angle pick-up is necessary. Directional properties equally good for bass and highs. Employs non-directional pressure unit and bi-directional ribbon of new design. Western Electric Co., 195 Broadway, New York, N. Y.—RADIO TODAY.

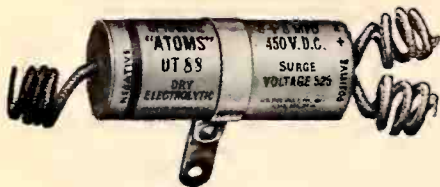


Philco wireless record player

★ AC-type record player requiring no connections to set. Transmits on frequency of 1550 KC from self-contained aerial within radius of 60 feet. Crystal pick-up with illuminated tone for ease in placing needle on record. Plays 10 and 12-inch records. Model 39RP1—list \$19.95. Philco Radio & Television Corp., Tioga & C Sts., Philadelphia, Pa.—RADIO TODAY.

8-tube console tuning 3 bands. Electric eye tuning indicator, push-button tuning. Phonograph terminals on chassis. 12-inch dynamic speaker—power output of 11 watts. Model 92—List \$99.95. Noblitt-Sparks Industries, Columbus, Ind.—RADIO TODAY.

NEW THINGS



Dual atoms

★ Dry-tubular electrolytic condensers in dual sections with 50 to 450-volt ratings Capacities with 8, 10, 12, 16 mikes. Proofed against blow-outs, yet hermetically sealed. Sprague Products Co., North Adams, Mass.—RADIO TODAY.



Ballastron plug-in resistors

★ Line of three plug-in resistors to replace line-dropping resistors in AC-DC sets. Three types replace 98 per cent of units bearing R.M.A. type numbers plus about 300 special manufacturers' numbers. Micamold Radio Corp., 1087 Flushing Ave., Brooklyn, N. Y.—RADIO TODAY.



Kontak mike

★ Contact-type microphone with high output so that it can be used with home radio set. Output level of -30 DB. Flat response within 1 DB from 60-8,000 cycles. Applied without tools by means of adjustable clamp. Model SKH—high impedance—list \$12. Amperite Co., 561 Broadway, New York, N. Y.—RADIO TODAY.

Hermetically-sealed attenuators

★ Glass-sealed attenuators with perfect protection against all atmospheric conditions. Furnished to match impedance of any line and give any loss from 1/4 to 40 DB. Fitted with radio-tube base to fit standard socket. Obtainable in H, pie, T, and L pads for low wattage applications. Ohmite Mfg. Co., 4835 Flournoy St., Chicago, Ill.—RADIO TODAY.

Clarion sound system

★ 15-18-watt portable sound system. Beam-power output stage. Dual 10-inch speakers in baffles. Choice of microphone. Multi-output impedances. Fabricoid carrying case. Model C-416—complete ready to operate—list \$108.60. Transformer Corp. of America, 69 Wooster St., New York, N. Y.—RADIO TODAY.

Replacement speakers

★ Line of replacement speakers with uni-match transformers that cuts down inventory. Transformer mounted on speaker by means of 2 self-tapping screws. Rotary switch adjusts transformer to hi, lo, or medium impedance. Operadio Mfg. Co., St. Charles, Ill.—RADIO TODAY.



High-voltage resistors

★ Line of metallized resistors for high voltage. Available in 4 and 150-watt ratings with 5,000 and 100,000 volt capacities. Metallized element applied in spiral on ceramic base. International Resistance Corp., 401 N. Broad St., Philadelphia, Pa.—RADIO TODAY.



Amcon condensers

★ Line of transmitting capacitors, impregnated by a process that combines safety factor of oil and economy of wax impregnation. Sealed in steel cans with high-melting point wax. American Condenser Corp., 2508 S. Michigan Ave., Chicago, Ill.—RADIO TODAY.

Electronic switch

★ Combined square-wave generator and electronic switch. Switch permits simultaneous study of 2 separate waves on the oscilloscope. Switching rate of 6 to 2000 times per second. Switching impulses or tails reduced to degree where they are no longer objectionable. Square-

wave generator operates between 60 and 400 cycles per second and is useful for checking amplifiers. Allen B. Dumont Labs., 2 Main Ave., Passaic, N. J.—RADIO TODAY.

Coil repair service

★ Repair and rewinding service for all types of radio coils. Prompt, efficient service. Simply send the defective coil accompanied by as much pertinent information as possible. Coil will be repaired for a flat rate of \$1 per unit. Meissner Mfg. Co., Mt. Carmel, Ill.—RADIO TODAY.



ATR vibrators

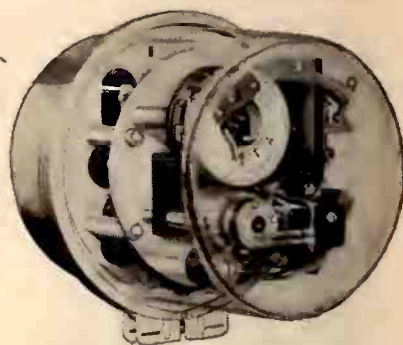
★ Line of replacement vibrators with 3/16 diameter tungsten contacts. Perforated reed of Swedish spring steel. Highly-efficient magnetic circuit. Mica and metal stack spacers. Vibrator replacement chart available on request. American Television & Radio Co., 300 E. 4th St., St. Paul, Minn.—RADIO TODAY.

Portable amplifier

★ Sound system with 2 mike inputs and 1 phono input. Separate gain controls permit mixing. Bass tone control peaking at 100 cycles, treble peaks at 7,000. Volume indicating meter. Illuminated dial calibrated in decibels. 12-inch p.m. speaker in peri-dynamic baffle. Attractive leatherette carrying case. Universal Microphone Co., Inglewood, Cal.—RADIO TODAY.

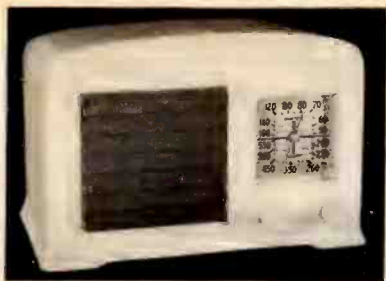
Communications receiver

★ 8-tube receiver with r.f. amplifier on all band. Ceramic coil forms. Electrical band spread—crystal filter. Tunes 540-43,000 KC. in 4 bands. Model 438, Howard Radio Co., 1735 Belmont Ave., Chicago, Ill.—RADIO TODAY.



Ultra-sensitive relay

★ Microtrol relay with weather-proof case. Input relay operates on 2 microamperes. Contacts of power relay will handle 5 amps. AC on non-inductive circuit. Plug-in type glass case houses sensitive relay, power relay, and clock motor. Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.—RADIO TODAY.



Fadalette receivers

★ AC-DC table type sets in onyx and alabaster cabinets. 5F50 series has a 4-tube T.R.F. chassis with 2-watt output, 4-inch dynamic speaker. Tunes 545-1650 KC. List \$15.95. Series S5F50 has 5-tube superhet chassis with 2-watt output. Both sets similar in appearance. List \$19.95. Fada Radio & Electric Co., 30-20 Thomson Ave., Long Island City, L. I., N. Y.—RADIO TODAY.



Sound-level meter

★ Portable acoustic sound-level meter for use in making sound surveys and measurements of levels in all types of sound installations. Calibrated from plus 50 to 130 DB accurate to 1 DB. Self-contained and battery operated. Model 15—net \$60. John Meck Instruments, 164 N. May St., Chicago, Ill.—RADIO TODAY.



Frequency meter

★ Precision frequency meter and monitor for checking transmissions of amateur transmitters. Calibrated for the 5, 10, 20, 40, 80, 160 meter bands. 7 3/4-inch dial. Stabilized electron-coupled oscillator for AC-DC operation. E. I. Guthman Co., 402 S. Peoria St., Chicago, Ill.—RADIO TODAY.

150 mil Bantam tubes

★ Line of glass bantam tubes having lowered current drain and increased filament voltage to avoid use of line dropping resistor. Tubes equivalent to standard types except for filament rating. New types are: 12A8GT, 12F5GT, 12J7GT, 12K7GT, 12Q7GT, 35L6GT, 50L6GT, 25X6GT, 35Z4GT. Hytron Corp., 76 Lafayette St., Salem, Mass.—RADIO TODAY.



Hi-capacity electrolytics

★ Low-voltage, high-capacity dry-electrolytic condensers for use with A eliminators, and other low-voltage power supplies requiring filtering. Housed in round aluminum cans. Seven units ranging from 500 mfd. at 12 volts to 2,000 mfd. at 25 volts. Type HLV. Sprague Products Co., North Adams, Mass.—RADIO TODAY.

Prodlight

★ Ingenious device designed to aid servicemen in repair work. Clamps onto any test prod, to illuminate area being tested. Unit is easily carried in pocket. Furnished complete with focussing type bulb, flexible cord, standard flashlight battery, and switch equipped case. Priced at 40 cents. Radio City Products Co., 88 Park Place, New York, N. Y.—RADIO TODAY.

Meissner receiver kits

★ Midget receiver kits for battery operation using plug-in coils for tuning to all wavebands. Sets use 1.4 volt tubes with single 45-volt B battery and dry cell. 1, 2, and 3 tube models—all built on same chassis, so the 1 and 2-tube sets may be enlarged to 3 tubes. Complete 3-tube kit less tubes and batteries—list \$6.25. Meissner Mfg. Co., Mt. Carmel, Ill.—RADIO TODAY.

Oscillograph wobulator

★ 3-inch cathode ray oscillograph with electronic frequency modulator with variable bandwidth. Wobulator fundamental frequency of 1,000 KC. Horizontal and vertical amplifiers. Linear sweep circuit for waveform observations. Model 830—net \$69.95. Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.—RADIO TODAY.



Precision resistors

★ Ceramic-jacketed, fully-sealed precision resistors. Non-inductively wound using reversed pie sections. Resistance values up to 3 megs in 1/2, 1, 1 1/2, 2-watt ratings. Standard tolerance of 1 per cent. Wide variety of terminal styles. Clarostat Mfg. Co., Inc., 285 N. 6th St., Brooklyn, N. Y.—RADIO TODAY.

Alligator tip clip

★ Clip with phone-tip soldered to lower jaw. Permits clip connection or phone tip connection with single end to test probe. Clip may be had with rubber insulator. Type 85-T. Mueller Electric Co., 1583 E. 31st St., Cleveland, Ohio.—RADIO TODAY.

Eicor dynamotor

★ DC generator of the dynamotor type for all mobile applications. Units operate on 6 and 12 volts. Supply voltages from 200 to 600 at currents up to 250 mils. Model C20 for 6 volts with filter supplies 150 mils at 350 volts—list \$68.50. Eicor, Inc., 515 S. Laffin St., Chicago, Ill.—RADIO TODAY.

Transmitting inductor

★ Hi-Q coil for transmitters with a rotating coupling coil at the electrical center. Works into 75 ohm transmission line. Coils are wound on ribbed ceramic forms and available for all bands. E. F. Johnson Co., Waseca, Minn.—RADIO TODAY.



Field-strength meter

★ Meter for measuring field intensity of antennas on frequencies from 1750 to 60,000 Kc. Uses diode tube rectifier powered from single dry cell. Wavechange switch selects 6 bands. Meter indicates relative field strength. Phone jack for monitoring. Radio Transceiver Labs., 8627 115th St., Richmond Hill, N. Y.—RADIO TODAY.

Only RCA Makes
and Does Everything
in Radio and
Sound

IT PAYS TO GO

RCA All the Way!

Because public
acceptance
means bigger
profits

RCA Victor begins the New Year with a **BANG!**

...with this great
new **ELECTRIC**
TUNING VALUE... **\$49⁹⁵***

Here's the splendid new radio with
which you can really "go to town"!
In features, in price, it's the radio
buy of the New Year!

**LOOK AT ALL THE FEATURES
THIS FINE NEW RCA VICTOR
RADIO ENABLES YOU TO OFFER
AT AMAZINGLY LOW COST!**

RCA Victor Console Model 96K5. This instrument has Electric Tuning for six stations, Victrola Button, 3-band Super-Sight Straight-Line Dial, Plug-in for Victrola Attachment, Continuously Variable Tone Control, Automatic Tone Compensation, Automatic Volume Control, Magnete Frequency-Locking Transformers, and a tuning range from 540 to 22,000 kcs., providing domestic and foreign short wave reception on 49, 31, 25, 19, 16 and 13 meter bands plus amateur calls. There are many other features too—all of which will prove of great sales advantage to you.



RCA presents the "Magic Key" every Sunday,
2 to 3 P. M., E. S. T., on the NBC Blue Network
*l.o.b. Camden, N. J., subject to change without notice



RCA Victor

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

Only RCA Makes
and Does Everything
in Radio and
Sound

IT PAYS TO GO

RCA All the Way!

Because public
acceptance
means bigger
profits

There's **BIG** Profit in RCA Victrolas!

With sales of Victor and Bluebird Records hitting new peaks each week public interest in RCA Victrolas mounts at an accelerated pace. Selling these splendid instruments is a highly profitable business for you—not only because of the tremendous public interest in recorded music—but because in RCA Victrolas people get the styling and the features they want—at prices they can afford to pay! In addition, this merchandise is backed up by advertising and promotions that bring people into your store—*anxious* to buy! Get behind these outstanding instruments and it will pay you—well!



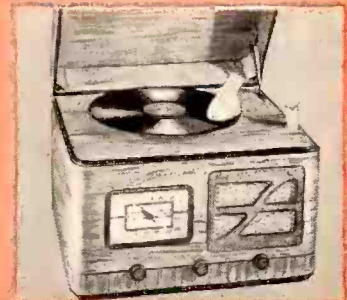
RCA Victrola Model U-134A—a masterpiece of beauty. This magnificent instrument enables you to offer the customer such outstanding features as High Fidelity, new Gentle Action Automatic Record Changer for 10" and 12" records, extended frequency range, Feather-touch Crystal Pick-up, top needle loading, RCA Victor Electric Tuning, Electrical Magic Voice, Overseas Dial, and many others. It's a 16-tube instrument that turns prospects into buyers! **\$355⁰⁰***

*All prices f.o.b. Camden, N. J., subject to change without notice.



RCA Victrola Model U-115—a fine table instrument that plays 10" and 12" records with the lid closed, provides Feather-touch Crystal Pick-up, True Tracking Tone Arm, Self-starting constant speed electric motor, Automatic Stop, RCA Victor Electric Tuning and many other fine features—all at the sensationally low price of **\$59⁹⁵***

RCA Victrola Model U-112—an outstanding Victrola value! At its low price of \$39.95* you can offer your prospects this beautiful table model which plays 10" and 12" records with the lid closed, has Feather-touch Crystal Pick-up, True Tracking Tone Arm, Synchronous Electric Motor and powerful super-heterodyne radio. **\$39⁹⁵***



RCA Victrola

A SERVICE OF THE
RADIO CORPORATION
OF AMERICA

COMBINES RECORD AND RADIO ENTERTAINMENT

Only RCA Makes
and Does Everything
in Radio and
Sound

IT PAYS TO GO
RCA All the Way!

Because public
acceptance
means bigger
profits

**The Record Business is a PROFIT Business—
WHEN YOU SELL VICTOR
and BLUEBIRD RECORDS!**

Here's Why

**VICTOR BROUGHT RECORDS
BACK—AND THEY'RE
BACK TO STAY!**

**THE WORLD'S GREATEST
ARTISTS ARE ON VICTOR
AND BLUEBIRD RECORDS!**

**POWERFUL ADVERTISING
THAT SELLS FOR YOU
YEAR IN AND YEAR OUT!**

★
Back in 1932 the record business was virtually "dead." Nearly everyone in the business had given up on records, but RCA Victor felt that the record market of the future was potentially greater than the record market of the early 1920's. So RCA Victor instituted an advertising and publicity campaign in newspapers, magazines—and on the radio—to revive the record market. The Victor Record Society was organized. What has happened is now history. The record business today is tremendously ahead of the record business in 1933—promises to grow even greater in the years to come.

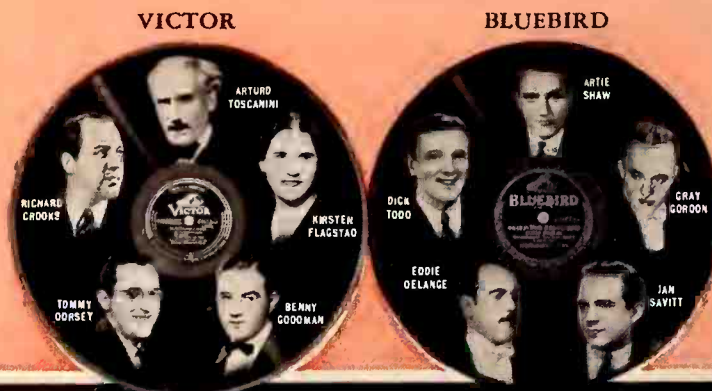
RCA presents the Magic Key Sundays, 2 to 3 P.M., E.S.T., on the NBC Blue Network.

★
Like any other entertainment business, the business of selling records depends to a large extent on WHOM you have to sell. The public demand is invariably for recognized stars. And the world's greatest artists are on Victor and Bluebird Records. Some of these include Arturo Toscanini, Kirsten Flagstad, Richard Crooks, Benny Goodman, Tommy Dorsey, Eddie DeLange, Artie Shaw, Dick Todd.

★
Year in and year out RCA Victor spends huge sums of money promoting the sale of Victor and Bluebird Records. Powerful magazine and newspaper campaigns—the famous Magic Key, on the air every Sunday—and the amazingly popular Victor Record programs which are broadcast nightly in 17 cities—create new Victor Record enthusiasts, maintain the interest of "oldsters"—send them

to your store to buy. Forceful cooperative advertising even further enhances your own business.

If you're *not* in the record business the success of Victor and Bluebird Records should convince you that you're missing something.



VICTOR & BLUEBIRD RECORDS

Victor Division • RCA Mfg. Co., Inc., Camden, N.J. • A Service of Radio Corporation of America

Only RCA Makes
and Does Everything
in Radio and
Sound

IT PAYS TO GO

RCA All the Way!

Because public
acceptance
means bigger
profits

**RCA Victor Radio Tubes offer you the
BEST KNOWN NAME and
OLDEST TRADEMARK**

in the business!



THERE IS NO DOUBT about the public acceptance of RCA Victor Radio Tubes. Millions of dollars have been spent to popularize and create public acceptance for products bearing the RCA Victor Trademark.

That's why there is a tremendous market for RCA Victor Radio Tubes—a market which is constantly growing—a market which is conscious of the quality that has been built into products bearing the RCA Victor Trademark. Because of this it will pay you to keep on hand an adequate stock of these tubes at all times. See your RCA Victor Distributor.

• • •

RCA presents the Magic Key every Sunday, 2 to 3 P.M., E.S.T., on the NBC Blue Network.



RCA Victor RADIO TUBES

RCA Manufacturing Co., Inc., Camden, N. J. • A Service of the Radio Corp. of America

**IN TEST
EQUIPMENT
Successful Service Men**

Stick to fundamentals

Successful servicemen stick to test equipment which measures in fundamental quantities. The reasons are obvious:

Fundamental test equipment *never* grows obsolete . . . eliminates those frequent, costly equipment replacements due to circuit changes. The pointer on a good instrument tells, *exactly*, the true condition in the circuit under test . . . leaving nothing to chance or guesswork. In addition, *it's simple for any serviceman to check a fundamental instrument for accuracy.*

Remember, when buying your next equipment, that all WESTON test units measure in radio fundamentals. That's why WESTON radio instruments remain serviceable for years . . . *never discarded, never idle*, because of changes in receiver circuits. Remember, too, that WESTON instruments are used by practically all leading manufacturers because of their greater dependability . . . greater economy. This name also is *your* best assurance of dependability and satisfaction in radio test instruments. The coupon will bring you complete data.

**WESTON
Radio Instruments**

WESTON ELECTRICAL INSTRUMENT CORPORATION
581 Frelinghuysen Avenue, Newark, N. J.

Send full information on WESTON fundamental test instruments and WESTON tube checkers.

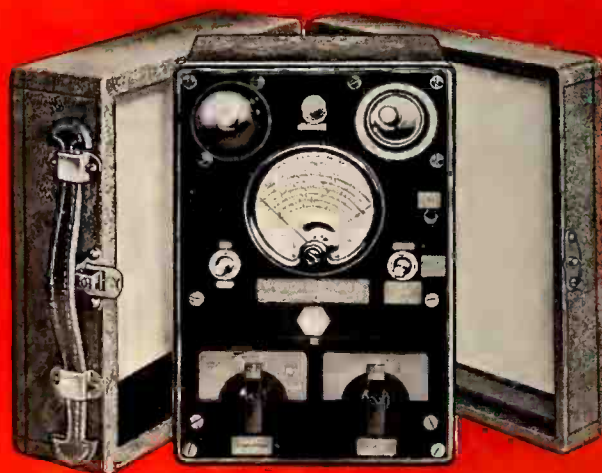
Name.....

Address.....

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



WESTON Model 772 Super-Sensitive Analyzer (sensitivity 20,000 ohms-per-volt). Big, dependable 50 microampere WESTON meter. Broad ranges meet every test requirement for receivers, transmitters, auto testing, television, sensitive relay circuits, etc.



WESTON Model 669 Vacuum Tube Voltmeter. Direct reading, measures gain per stage—r.f. amplitude in oscillator circuit of superhets—all test on AVC circuits, PA systems, and all measurements where high frequency is a factor.



**WESTON 773 "quick-test"
Tube Seller**

Like WESTON fundamental instruments, this attractive counter-tube checker has been designed for speed, simplicity and dependability. Minimum number of proved switches assures long, trouble-free operation. Rotator tube chart simplifies test procedure. Makes all tests on all tubes. Impressive looking, in polished wood case. Also available in portable carrying case.

MORE PROFITS IN SERVICING

Radio Today conducts first nation-wide survey of repair costs and profits.

To help radio servicemen operate their businesses on a paying basis and increase the net profits, RADIO TODAY is making the first survey of service operating costs and income ever undertaken on a national basis.

The questionnaire shown below is a sample of that being mailed to servicemen everywhere. The form is based upon the ideas of many leading men in the service industry. And

those servicemen who have not previously requested a questionnaire may send the coupon at the bottom of this page to RADIO TODAY.

While the listings may seem rather involved, it was decided that all the items should be included so that each participant in the survey would be sure of including all the necessary data.

From the information received,

RADIO TODAY will compile averages of expenses and profits, operating costs per hour and per service call. These figures will be announced in future issues, together with suggestions on how to overcome weaknesses. In addition to averages, we shall show the extremes, so that each serviceman can see how his own costs and profits compare with others.

Each serviceman sending in a *completely filled in* questionnaire will receive an individual analysis of his own figures.

The figures shown for a sample shop are those for a one-man shop operating in a New England city.

For a detailed analysis of your own operating figures, be sure to participate in RADIO TODAY's survey of operating expenses and profits.

RADIO TODAY'S SURVEY OF RADIO REPAIR COSTS AND PROFITS

(Confidential—will be used only for compilation of averages)

Do you sell sets, appliances, etc.? Yes..... No.....

If so, what per cent of your business do these sales represent?.....%

If you are a dealer, is your service department operated for a profit or as a convenience in conducting your sales? Profit..... Convenience.....

How long have you been in the radio service business?Years

If you have any business other than radio service, charge only the proper percentage of the costs to the service department. (Example: If the service department consumes half of your electricity, then charge only half of your electric bill in the space provided below)

OPERATING EXPENSES FOR ONE YEAR PERIOD

(Chargeable to service shop)

Item	Sample shop	Your figures	Item	Sample shop	Your figures
1. Rent (yearly)	\$120	\$	15. Depreciation of store fixtures if owned by you (lamps, signs, etc.).....	\$ 6	\$
2. Telephone (yearly)	24	_____	16. Delivery and shipping charges (express, parcel post, etc.)	36	_____
3. Electricity and gas (yearly).....	36	_____	17. Salary of office help.....	_____	_____
4. Heat, if not included in rent	_____	_____	18. Cost of service manuals, books, magazines.....	20	_____
5. Car depreciation for year	150	_____	19. Depreciation of service equipment (25% of cost).....	125	_____
6. Garage rent (yearly)	15	_____	20. Tools and shop supplies.....	5	_____
7. Gasoline and oil	60	_____	21. Bad debts	20	_____
8. Car repairs	35	_____	22. Other expenses	10	_____
9. Tires for car	10	_____			
10. Auto license	3	_____	TOTAL ANNUAL EXPENSES	\$769	\$
11. Auto insurance (Pub. liabil., etc.).....	44	_____			
12. Workmen's compensation	_____	_____			
13. Social security, unemployment insurance.....	_____	_____			
14. Advertising expenses incl. postage.....	50	_____			

WAGES PAID

23. Non-technical wages (helper, chauffeurs for servicemen, etc.).....	\$	_____
24. Salesmen's wages and commissions, if any (for service department only).....	_____	_____
25. Technical wages (servicemen and technicians only, do not include owner).....	_____	_____
State number of servicemen employed.....	_____	_____
26. Owner's salary (state nature of owner's duties so that we can properly classify this item).....	\$1927	_____
Duties	_____	_____

HOURS WORKED AND HOURS SOLD

27. Total number of hours worked per week by all servicemen including owner solely for service.....	54 hrs.	_____ hrs.
28. Percentage of servicemen's time chargeable to customer for work performed	25%	_____%
(This is your productive time, or time sold to customer)		

INCOME FROM CUSTOMERS

Item	Sample shop	Your figures
29. Dollars paid by customers for tubes (yearly)....	\$ 600	\$
30. Dollars paid by customers for parts, antennas..	516	_____
31. Dollars paid by customers for labor.....	2,092	_____
TOTAL INCOME FROM CUSTOMERS.....	\$3,208	\$
32. Income from set dept. for "free servicing" and installation of sets sold.....	\$	\$
33. Approximate no. of calls made, for which you were paid (omit free repeat calls).....	700	_____

COST OF TUBES AND PARTS

Item	Sample shop	Your figures
34. Net value of new tubes in stock at beginning of year	\$145	\$
35. Net value of new tubes in stock at end of year..	145	_____
36. Net value of tubes purchased during year.....	244	_____
37. Net value of new parts in stock at beginning of year	363	_____
38. Net value of new parts in stock at end of year...	415	_____
39. Net value of parts purchased during year.....	293	_____

This information will be treated with utmost confidence—you will not be identified with the figures in any manner. These figures will be used to compile average figures for the radio service industry.

MAIL IT NOW 

VINTON K. ULRICH, Service Editor, RADIO TODAY,
480 Lexington Ave., New York, N. Y.

I wish to participate in RADIO TODAY's survey of costs and profits in radio servicing. Please send me a questionnaire so that I may send you figures pertaining to my costs.

Name..... Co.....

St. and No..... City..... State.....

FOUR BILLIONS TO GO!

That's the market for electrical appliances and smart radio men are getting some of it

HAPPY DAYS AHEAD

Radio dealers looking for other lines to augment the sale of receivers can take heart. According to the National Electrical Manufacturers Assn., there is a four-billion-dollar potential market for electrical appliances.

So far the surface has been only scratched. Vacuum cleaners, refrigerators, waffle irons, toasters, clothes washers, etc., etc., still have a fertile field, says NEMA.

Basing their figures on a U. S. yearly income of \$59,000,000,000—actually, it is more than that, the appliance men flash “go” signals for dealers everywhere.

1939 REFRIGERATORS AIMED AT LOW-WAGE GROUPS

No gadgets, but good solid improvements are contained in the 1939 refrigerators released in the past several weeks by nine manufacturers, Crosley, General Electric, Gibson, Hotpoint, Kelvinator, Norge, Stewart-Warner, Westinghouse, Universal Cooler, Frigidaire.



Via radio, Westinghouse's Ruth La Verne peps up interest in kitchen appliances.

New features to be ballyhooed include increased-point temperature control, sterile lamp, lighted dials, added space for bottles and ice cubes, better sealed units, speedier freezing, improved cabinet construction, more pottery, more efficient meat conservers and light-touch latches.

In 1939, the merchandising accent will be placed on the lower-income group, a practically virgin field for sales. Since NEMA has set a possible market of 8,458,000 units for re-

SILVER JUBILEE “BOX”



Marking its 25th refrigerator year, Kelvinator emerges with this new, improved streamliner which features an inclosed, bother-less unit.

frigerators, dealers are sharpening pencils to figure 1939 deals.

Points for the dealer to remember are: 1. Almost half of the better homes have refrigerators four years or more old. 2. Therefore promote replacement sales in this bracket, stressing new features. 3. About 70 per cent of the incomes are less than \$3,000 a year. 4. Thus, hit this group for new sales.

PHILCO'S 1939 “BOXES” TO BE READY SOON

Philco soon will be ready with its 1939 line of Conservador refrigerators, Vice-President Sayre M. Ramsdell announces. Promotion plans, based on a survey of the refrigerator market, are now being prepared, and are to be released shortly.

“We feel assured the Conservador is a product that will contribute a

FOR WINTER SUN TAN



Since most folk can't fly South with the birds, G-E has brought out this new ultra-violet lamp with automatic timer to provide that smart bronze.

great deal to the refrigeration industry,” says Ramsdell. “We also feel assured it will meet with wide public favor.”

Philco also will continue its air conditioning business, begun last year. Since only 31 per cent of installations were personal, while 65 per cent were commercial and industrial, Mr. Ramsdell believes a great future for sales lies in the home field. Philco's portable unit is expressly designed for such use.

FRIGIDAIRE SHOW TELLS STORY OF NEW MODELS

To ballyhoo its 1939 models, Frigidaire has three sales crews on the road demonstrating to dealers and salesmen all over the country how to sell the new products.

The latest thing in theatrical equipment is being carried by these crews who will be on the road for four weeks, visiting 20,000 Frigidaire representatives. Secret rehearsals of the demonstrators have been held for weeks.

Thirty-nine men, headed by Lee A. Clark, H. J. Walker, Jr., and Elsworth Gilbert, will visit 33 cities to give their “Performances.”

SPECIFY INTERFERENCE-LESS APPLIANCES

“It is not enough to call upon the owner of a radio set to eliminate interference which may be caused, but rather must we educate the public to purchase electrical devices which cause no interference,” comments Arthur Moss of Solar Manufacturing Corporation, New York. “The manufacturer of equipment which causes interference should take steps to eliminate such interference before the appliance is sold. Already there is a growing tendency on the part of manufacturers to take the necessary steps. With the advent of television this will become more and more important.”

**IMPROVED DESIGN
PROVIDES 20%
EXTRA SPACE**

New, Streamlined 6 cu. ft. Gale requires no more kitchen space than conventional 5 cu. ft. model!



Look to the new Gale
(formerly Briggs)
for the answer to to-
day's biggest refriger-
ator problem — a truly
FINE product to sell at
a competitive price!

GALE PRODUCTS

OUTBOARD, Marine & Manufacturing Company—builders of Johnson Sea-Horses, Evinrude and Elto Outboard Motors, Iron Horse Generators, announce a *separate* division for Gale Electric Refrigerators (formerly Briggs) and Gale Space Coolers (formerly Johnson).

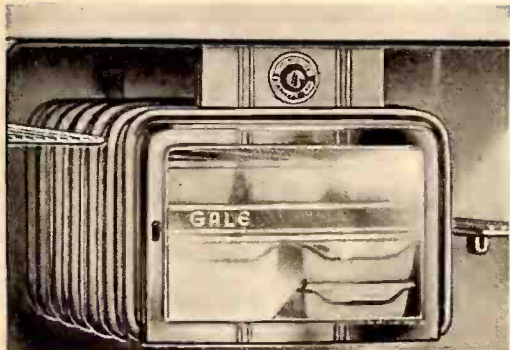
Increased plant facilities and personnel, necessary to meet the growing demand for these quality appliances, have been provided at Galesburg.

The development of this Division is another step in the

parent Company's long range program to make GALE PRODUCTS a great factor in refrigeration.

UNUSUAL DEALER OPPORTUNITY

Seven years successful operation in refrigeration have proved the soundness of the Company's policy of building *high grade* products and marketing them through channels that permit *moderate* resale prices, with *big volume* for dealers. Write for full details. Dealer territories open.



FEATURING A GREAT NEW DEVELOPMENT

GALE PRODUCTS presents an entirely new line for '39. New beauty throughout! New "streamlined" design for *extra* capacity! And featuring the new Sealed Evaporator! This remarkable development (exclusive with Gale) seals the ice compartment from food odors, makes for utmost sanitation, prevents sticking of trays, induces freer circulation with proper food temperature, while *preserving lower temperature* within the freezing compartment. This lower temperature is so effectively maintained that ice does not melt away when coils are defrosted! . . . Porcelain enamel housing, with glass door and chromium trim have great eye appeal, while actual demonstration has powerful sales appeal!

GALE PRODUCTS, 800 MONMOUTH BLVD., GALESBURG, ILLINOIS

PRACTICAL DYNATESTING OF SETS

Case histories of how service problems were rapidly solved using dynamic testing procedure

By VINTON K. ULRICH, Service Editor

This twelfth installment of the dynamic servicing procedure is to show the radio man how the method may be used for every-day radio repair work. Typical examples illustrate that dyna-testing is a simple and most logical method of analysis.

In the articles appearing in RADIO TODAY for the past year, much emphasis has been placed on dynamic rather than static tests. The latter type of analysis should not be overlooked by the practical radio man, for in many instances it is an essential test. However, it is the writer's viewpoint that dynamic tests should always be made first, for if the dynamic conditions are proper, the static conditions are satisfactory—and the reverse is not true. Thus, with a single dynamic test it is possible to check both the static and dynamic conditions—if either one or the other condition is not proper, it will be shown up by a dynamic analysis of the stage or stages under consideration.

Stage-gain requirements

The readers who have been following RADIO TODAY have by this time discovered that Dynamic Testing is not just a measurement or indication of stage gain, but a method for testing many of the individual circuit components and circuit conditions within a stage.

In order to avoid the necessity of taking actual stage gain measurements the test procedure starts at the loudspeaker and works toward the antenna. The only gain or amplification requirement for a stage is, that the stage will drive the following one to its proper level or output. This idea is in keeping with the design practice of many engineers. For instance, the radio set engineer decides a set must deliver 5 watts output. Requirement is that the output tubes de-

liver the power and the speaker handle the output. Suitable output tubes are then chosen. Next step is to drive the output tubes to full capacity. This means that the driver tube must be capable of supplying the necessary signal voltage without distortion. And likewise, the previous stage must be capable of supplying the driver tube with sufficient signal voltage or excitation.

If the driver stage can deliver the required sock and each preceding stage enough signal voltage to properly drive the next one, then the stages have sufficient gain or amplification. In dynamic testing as developed by the writer, this principle is basic. *As long as sufficient gain is present, it does not matter what the actual value of the gain is*—and because of this relationship it is possible to neglect actual values of gain with dynamic testing. As described in previous articles, it is necessary to move the signal generator from stage to stage in order to accomplish the desired results. Movement of the signal generator from stage to stage has the additional advantage that signal voltage measurements in critical circuits are unnecessary—thus simplifying the tests.

Receiver dead

The first receiver difficulty to be discussed is that of a set that was dead. Set was inoperative—all tubes tested okay. Signal generator (audio) was connected to grid of output tube—no signal. Next connection made to voice coil, which showed speaker was operative. Finally the audio oscillator was connected to the primary of the output transformer as shown in Fig. 1-A—signal was still present. Obvious conclusion was that the output stage was dead. Voltages of output stage were checked—none was present. Since the field was used for a filter choke and it was properly excited, it seemed

that the B plus might have been shorted. Actual inspection showed the second filter condenser to be shorted.

Time consumed for the analysis was but two minutes. Static tests would have provided the same conclusion, but it is not likely that the serviceman would have started at the defective stage. With six tubes in the set, the chances are only one in six that the voltages or resistances of output stage would have been tested first.

Intermittent receiver

Case two is that of a set which operated intermittently. The volume would suddenly decrease after several minutes operation—turning lights on and off in house would bring it back to normal sometimes. Set had stumped several servicemen and manufacturer's jobber. First step was to connect audio oscillator to grid of output tube as shown in Fig. 1-B—no intermittents were noticed after quite a few minutes' operations. Next the oscillator was connected to the plate of the first audio tube. After a few minutes the decrease in volume occurred—symptoms same as those reported by owner. Coupling condenser was suspected as the cause—unit replaced and set performed okay. Condenser later checked on a standard condenser tester which showed unit to have no defects. However, replacement of condenser, additional tests showed, was the proper cure, which indicated that it was one of those rare cases where a defective condenser tests okay.

The third example was also an intermittent—but different from the usual type. Set would sometimes operate properly for a week and then go mushy. Because of the rare occurrence of distortion, it was decided to try using an autotransformer with an over-voltage to hasten the phenomenon. This time luck was present. After about 3 minutes' operation with a line voltage of 122 the set went mushy. With the set in a continuous state of distorted reception (Fig. 2 shows wave form), the tests were handled in the usual manner. The output was undistorted when the oscillator was directly connected from grid of output stage to ground. Circuit of set shown in Fig. 3-A. Output became distorted when oscillator was connected to plate of first audio tube. The ear was used to determine the presence of distortion and the scope used for a visual record.

Next the coupling condenser was checked for leakage—none was present. Grid resistor was of proper value. Lowering value of grid resistor reduced distortion but also decreased gain. Even though the tube tested okay, it was replaced with a new one. New tube gave perfect results under all line voltage conditions. Later tests with the old tube showed grid was as-

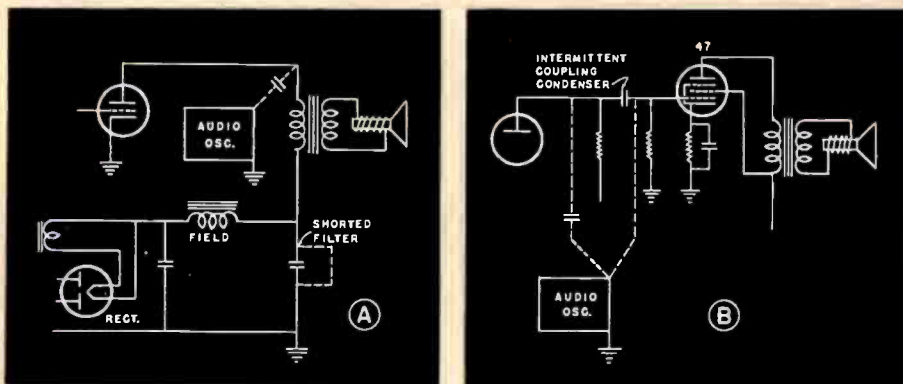


Fig. 1—In circuit A the audio oscillator was connected to the primary of output transformer and resultant signal showed speaker to be okay, yet output stage was dead—fault was shorted filter. In B an intermittent coupling condenser was discovered by moving the oscillator from one terminal of condenser to other.

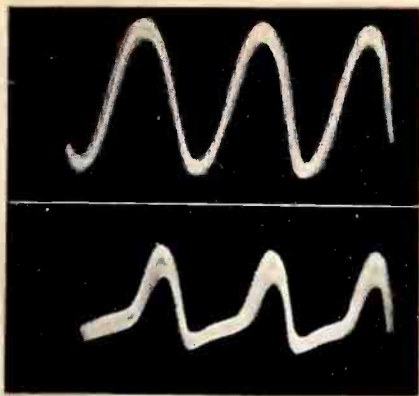


Fig. 2—Top waveform shows receiver capability before distortion occurs. Lower wave pictures output during intermittent distortion condition.

suming positive value when line voltage increased—no usual tube checker would show up this condition, however. This particular set was "serviced" and pronounced perfect by a N. Y. dealer, before being brought to RADIO TODAY'S Laboratory, because of its extremely unusual type of intermittent distortion.

Case four involves a \$10 midget (AC-DC) that was dead. In order to first check the speaker the signal generator was connected across the voice coil, and it was determined that the speaker and its excitation were satisfactory. Next check was to connect audio oscillator to primary of output transformer as shown in Fig. 3-B—result: no signal. This indicated the transformer was defective. A resistance measurement showed the primary to be open. Replacement of the output transformer effected a repair. Again this is a condition that could be discovered using static methods. But as in case one, the odds are against the serviceman—for it is likely that the numerous static tests will be made before making the one which shows up the defect.

Tinny sounding set

Fig. 3-C shows the circuit of a set that sounded tinny from the time the owner purchased it. Problem was to improve the tone. When tuned to a station, it seemed that the set lacked

in bass response. An overall variable audio frequency test was made that showed the bass response fell off badly. Since it seemed that possibly the grid coupling condenser was too small, it was tested by connecting the oscillator first to the plate of the first audio tube and then to the grid of the output tube. There was no change in response at the bass, which showed the grid coupling condenser was okay. Since there was no cathode resistor, fixed bias being used, degeneration could not be taking place due to too small a cathode bypass.

Next step was to try an additional .01 condenser across the output transformer, in the belief that the one used might be open. Result was that the frequencies above 6000 cycles were attenuated, giving a pronounced peak from 3500 to 6000 cycles in the response. Since this seemed to help, various values of capacitance were used. The .05 condenser shown connected in the circuit by dotted lines, reduced the high frequency peak so that response was essentially flat from 200 cycles up to 4000 cycles.

With such a response the set sounded very well. The tonal response was very well balanced for a table type set. Owner was very pleased with results.

Again a true dynamic test was of extreme value. Without a variable frequency audio oscillator, it would have been difficult to place one's hands on the source of trouble. Quite a bit of experimenting while listening to a broadcast signal might have been required.

The examples given are but a few of those that might be listed. From actual servicing experience, it is the writer's firm belief that if dynamic testing is used, it will save much time and increase the serviceman's profits.

HOW PROPERLY TO INSTALL A REPLACEMENT CONE

The dynamic speaker has for a number of years been a service problem with which the average service shop has avoided rather than contend with the uncertainties of centering, cleaning, etc., states Carron Mfg. Co.'s engineering department. The fact that there has been so much mystery about speaker repairs, plus the general lack

of repair parts has resulted in lost profits and dissatisfied customers.

Cone diaphragms used either in dynamic or magnetic speakers, have been made of either fabric or paper. Humid weather invariably will dry out or stiffen the cone to the point, where all its resiliency is lost, and when the resiliency is gone, it loses its flexibility and causes a considerable amount of noises such as rattles, etc. No cone diaphragm can be efficient indefinitely. Adverse conditions such as unusual dust or moisture may seriously affect the operation of a cone in less than a year making replacement a necessity for proper results.

New cones are not expensive in the light of the customers reaction to the noticeable improvement. Speaker engineers strive to develop a perfectly balanced speaker, balanced as to the weight of the cone, the impedance of the voice coil, and resistance of the field.

When checking a customer's set Carron strongly urges that the serviceman check the operation of the speaker. The quickest, cheapest and best method for determining rubs, scrapes, etc., is available right in the receiver chassis. Most speakers have a voice coil impedance low enough to give a satisfactory signal when the filament or heater voltage is applied directly to it. The resulting 60 cycle hum should be absolutely pure, no higher frequencies appearing. Speaker centering is simplified since the results are immediately noticeable.

Our experience has shown us that there is only one way to properly install a cone, say Carron's engineers.

First: Remove old cone and voice coil.

Second: Clean pole piece thoroughly, using a small hand pump. An excellent suggestion for removing obstinate

(Continued on page 40)

In performing the work for dynamic testing, service equipment made by the following manufacturers is being used in RADIO TODAY'S laboratory: Weston Electrical Instrument Corp., United Transformer Corp., Supreme Instruments Corp., RCA Mfg. Co., Monarch Mfg. Co., International Resistance Co., Hickok Electrical Instrument Corp., AeroVox Corp. The editors wish to thank these companies for their cooperation in helping further dynamic testing.

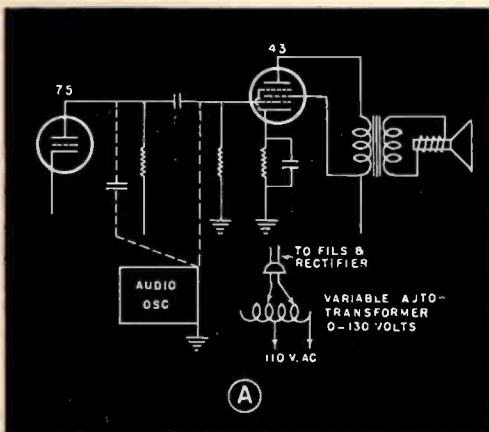
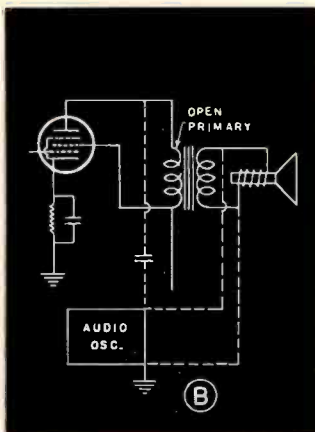
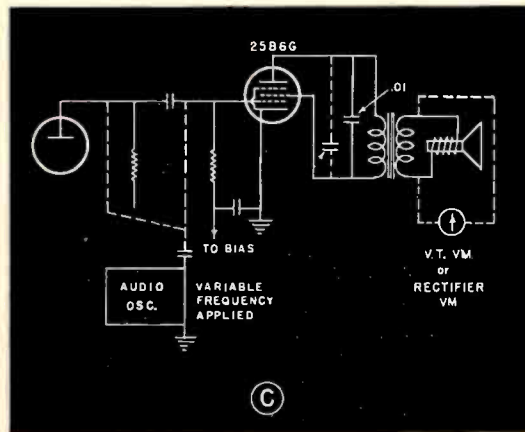


Fig. 3—For circuit A the intermittent distortion pictured in Fig. 2 was made continuous by stepping up the primary voltage with an auto transformer.



Circuit B shows simple connections required to find open primary in output.



Poor tone quality in C was traced to insufficient capacity across the primary of the output transformer. Difficulty rapidly located with use of variable frequency audio oscillator.

SERVICING FOR PROFITS

(Continued from page 35)

filings is to use a piece of ordinary adhesive or scotch electrical tape which may be pushed into the gap with a piece of wire or centering shim.

Third: The correct position is such that the voice coil extends an equal amount on either side of the upper pole piece. This may be determined by eye since this may be done with sufficient accuracy.

Fourth: If a spacing ring is necessary it should be cemented to the speaker first applying a coat of radio cement to both surfaces. The upper spacing ring may be applied at this time.

Fifth: After the cement has set, speaker centering shims should be used to properly center the voice coil. While cementing (step four) the voice coil is centered by eye.

Sixth: Tighten spider center screw if the cone is of the type in which the spider is held by one or more screws.

Seventh: Remove centering shims.

Eighth: Feed a sine wave 60 cycle signal to the voice coil as mentioned before. The output should be absolutely free from frequencies other than the fundamental and the power line frequencies are an exceptionally good source.

P.M. dynamics

P. M. dynamic speakers require special care in removing any particles of magnetic material from the gap, as in step two above. It is inadvisable to disassemble the speaker since the magnet will lose some of its magnetism in most cases. Speakers which are badly rusted from out-door operation should be cleaned and remagnetized. Most P. M. speakers made today have an enclosed voice coil assembly. A paper spider having concentric corrugations is cemented to a ring and this must be done at the same time as the rim of the cone is

cemented to the speaker. In some cases an inside spider is found on the original speaker. These cones are supplied with an extra spider which replaces the original. It is important that in cases such as these the speaker centering shims must be put in position while cementing in order to properly position the spider. Ample cement should be used to insure a good bond. After testing, the dust button or felt dust cover may be cemented in place.

WORDS OF SERVICE MEN HAVE DRAG

When a service man is called upon to repair a recently-purchased receiver, it is a foolish idea to make any kind of an unfavorable remark about it, to the owner. This is an important aspect of business procedure, according to Charles Golenpaul of Aerovox, who brought up the matter at a recent RSA meeting.

It is well for the service man to remember the endless time, effort and money required of the set manufacturer before the receiver finally reached the consumer. The fact that the instrument requires fixing is bad enough, without the radio man implying that the buyer is stuck with shoddy merchandise. It is much better tactics to compliment the customer on his choice.

Service men are likely to make sour cracks about receivers because they want to appear to be expert, because they are sore at some particular set manufacturer, or because they are just careless. But every time they open their mouths in this vein, thousands of dollars worth of radio promotion is abruptly cancelled.



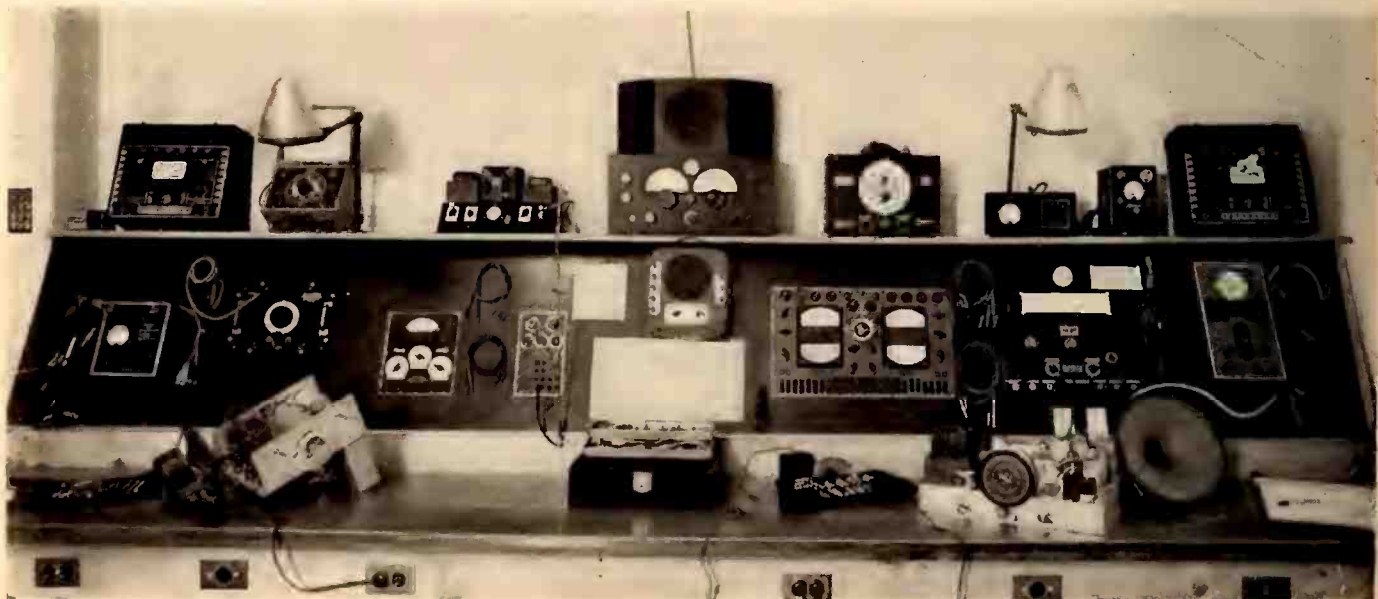
The Voder shown in operation actually creates its own speech.

MACHINE CREATES TALK

Newest development from the Bell Telephone Labs is the Voder, an electronic device which can talk in understandable English, French, German, etc. The device does, however, have a slight electrical accent.

Unlike previous devices, the Voder pictured herewith actually creates sound just as the human vocal chords do. The synthesis of speech and other sounds is controlled by the extremely rapid fingering of 23 keys. A foot control gives inflection to the sound.

Basically the device consists of a continuous tone generator (saw-tooth oscillator) and a hiss generator together with numerous band pass filters. From the two basic sounds and proper use of the filters (selected by the operator at the keyboard), it is possible to construct any sound. The inflection control changes the pitch



Neat and convenient service bench of Radio Sound Service Engineering Co. in Washington, D. C. Note that use of sloping panel and shelf keeps most of the test equipment off the bench, thereby stepping up efficiency.

slightly, thereby giving expression to the speech. The sounds created electrically are reproduced over a sound system.

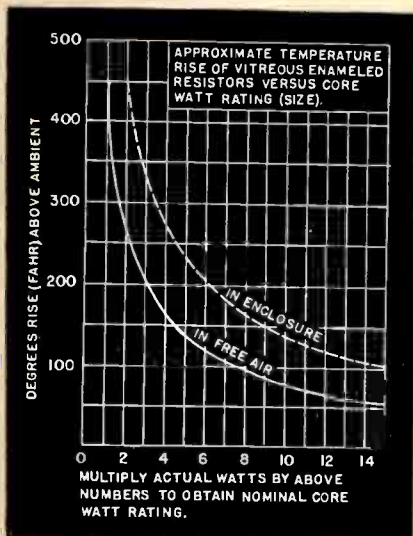
While the Voder was built primarily as a demonstration device for the Golden Gate Exposition and N. Y. Worlds Fair, it may have practical uses in providing sound effects. The imitation of a train and the bellowing of a calf are but two of its unlimited sound possibilities.

To the radioman this invention should be most significant, for it shows that not only can man reproduce actual sounds, but also that man can artificially create them. As some see it, the Voder foreshadows many of the future possibilities of (radio) tube operated devices.

TEMPERATURE VERSUS RESISTOR SIZE AND MOUNTING

The determination of the physical dimensions of a resistor to fit a particular application ordinarily involves the consideration of three factors: wattage to be dissipated, maximum temperature allowable, and mounting conditions; plus the consideration of certain graphical data, states the engineering department of Ohmite Mfg. Co. The actual wattage to be dissipated in the resistor is first calculated by means of any of the variations of Ohm's Law such as, $Watts = I^2R$, where I is the current in amperes and R the resistance in ohms.

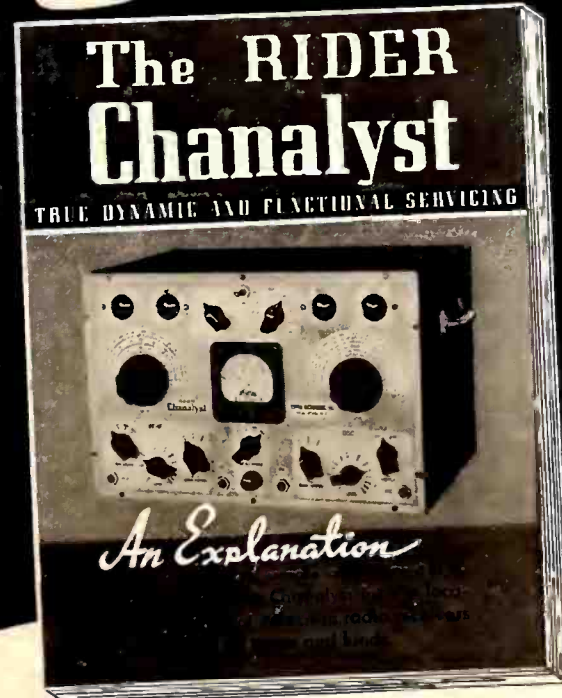
Next, the maximum temperature which the resistor can be allowed to attain is stipulated. This temperature is generally below the maximum (450° F. above the ambient or room temperature) which is allowed by the N. E. M. A. standards for vitreous enameled resistors. The presence of other nearby equipment often necessitates much lower temperatures.



The third step is to consider the mounting conditions of the resistor, i.e., whether the unit is mounted in free air (the basis of the nominal resistor rating) or mounted enclosed so that air circulation is restricted.

A reference to the graph illustrated herewith will now tie these three factors together with the graphical data (based on observations of typical re-

Stop



Don't Buy Any Instrument until you know all about the CHANALYST

Actual size 8½ by 11 inches HEAVILY ILLUSTRATED

Get This 80-Page Book Tells Everything About True Dynamic Testing

Ordinarily when you buy a piece of test equipment you use it for months before you know what it will do for you. This means you must first make the investment BEFORE you find out if it is profitable. But not so with the Rider Chanalyst! We want you to know exactly what this instrument can do for you and how you operate it. We want you to be sure it's a good investment—BEFORE you buy it. So, we have prepared an 80-page (8½" x 11") book, loaded it with illustrations and written it so you can understand ALL about the Rider Chan-

alyst and true dynamic and functional testing the first time you read it. This book with hard covers would ordinarily sell for \$2.50. We will mail it to you for 25 cents in stamps or coin—a fraction of its preparation cost. We do this for we believe a serviceman should have the real facts on what he can expect of an instrument BEFORE he buys it. We know you will want a Chanalyst after you read this book. Send for it today!

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Enclosed find 25 cents (in stamps or coin) for the 80-page book completely explaining the Rider Chanalyst and True Dynamic Testing.

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SERVICING



The AMPERITE ACOUSTIC COMPENSATOR

gives you
HIGH OR LOW PITCH
WITH THE SAME MICROPHONE

With the flip of a finger you can now: (1) lower or raise the response of the microphone. . . (2) adjust the microphone for most desirable response for close talking or distant pickup. . . (3) adjust the system to any "taste", room condition, or equipment.

MODELS RBHk, RBMk, with Acoustic Compensator, frequency range 40 to 11000 cps, output, -65 db., complete with switch, cable connector and 25' of cable. \$42.00 LIST

NEW! MODEL RSHk (hi-imp); RBSk (200 ohms) Frequency range 60 to 8000 C.P.S. Output -68db. Chrome or Gun-metal \$32.00 LIST

NEW LOW-PRICED CONTACT "MIKE"
\$12.00 LIST



The new popular-priced Amperite Contact Microphone can be used on most radio sets made since 1935 and on all P.A. systems. It "makes an ordinary violin sound like a Strad" . . . gives a small piano the tone of a Grand. And yet, there is no distortion. No unnatural effects. No "fingering noises." No changes in strings or instrument. Attached without tools.

Operates with either high or low gain amplifiers. Has frequency response of 40 to 9000 cps. Output, -40 db. 20' of cable.

MODEL SKH (Hi-imp); SKL (200 ohms), \$12.00 LIST
Professional Model KTH (or KTL) . . . \$22.00 LIST

NEW COMPACT "MIKE"



A new velocity microphone of compact size, having a head only 1 1/4" x 2 3/8" x 1 3/8". Good for speech and music. May be used as hand mike as well as for stand mounting. Completes with output transformer, cable connector and switch. Output, -70 db. into open line. Frequency response 60 to 7500 cycles.

MODEL ACH (Hi-imp); ACL (200 ohms) \$25.00 LIST

MODEL RAH...\$22.00 LIST

P.A. Men, you can improve those "price" jobs by using the popular Amperite Model RAH (or RAL). You will get better results because (1) it is excellent for both speech and music; (2) has flat response without undesirable peaks; (3) reduces feedback; (4) stands up under rough handling and changes in temperature, pressure or humidity. . . . Frequency range 60 to 7500 cps. Output, -68 db.



MODEL RAH (Hi-imp); with 12' of cable; RAL (200 ohms) with 8' of cable, ONLY \$22.00 LIST

Write for Complete Illustrated Bulletins and Valuable Sales Helps.

AMPERITE Co. 561 BROADWAY, N. Y. Cable Address: Alkem, New York

AMPERITE Velocity MICROPHONE

sistors) so that the approximate resistor size can be determined. For example, let us assume a case where the actual resistor watts is 10 and the maximum temperature attained is to be 310° F. Subtracting an assumed ambient (room) temperature of 70° F., the temperature rise is 240° F. Assuming the resistor to be mounted in free air, the intersection of a horizontal line at 240° F., and the "IN FREE AIR" curve occurs opposite a multiplying factor of 2.5. Hence, a resistor of 2.5 x 10 watts or 25 watts rating is required. This happens to be a stock size and the dimensions of the core are 9/16" x 2", for this example.

Enclosing a resistor so that the air circulation is restricted raises the temperature for a given watt load markedly. The exact amount depends upon the shape, size, surface, color, etc. of the enclosure. The graph is for a typical condition. Note that for the same 10 watt load, and 240° F. temperature rise as before, a 9/16" x 4", 50 watt rating, resistor is required when enclosed instead of the 25 watt size for free air. For equal temperatures, an enclosed resistor must ordinarily be at least twice as large as when operated in free air.

HOW BEAMSCOPE OPERATES

The Beam-A-Scope is a shielded loop antenna designed for noise reduction. This is accomplished in three ways. In the first place, the well-known directivity of the loop is used, the loop being rotated so that the principal source of noise is in the direction of zero response of the loop. In the second place, the shield around the loop removes its capacity to ground (See Fig. 1), so that noise, which would otherwise be picked up in the ground return path, is eliminated. In the third place, the shield, by eliminating electrostatic pickup, makes the loop insensitive to the strong electrostatic field which is present around all noise sources of the dipole radiator type.

The electrostatic shield around a

loop in a Beam-A-Scope is cylindrical in form, the ends being two metal discs, and the side consisting of a woven material in which the vertical threads are metallic. All the vertical threads make contact with the top disc, but only one makes contact with the bottom disc. In this way there are no closed conducting circuits parallel to the loop, so that the Q of the loop is not damaged and the magnetic pickup of signals is still possible.

Ordinarily the sensitivity of a loop would be small, but in the case of the Beam-A-Scope the sensitivity of a normal indoor antenna is retained, because the loop is tuned and has a high Q. Since the loop size is determined in the design of the receiver, the condenser which tunes it can be ganged with the condensers of the RF and oscillator circuits.

Besides the noise reduction obtainable with a Beam-A-Scope, there is also the additional, very practical advantage that no external antenna or ground connection is required.

ADAPTING TRIUMPH TESTERS FOR SINGLE-ENDED TUBES

To accommodate the new 6sQ7 tubes, all Triumph Model 420 and Model 430 Tube Testers should have the following additions made in their wiring: Terminal No. 1 of the special octal socket should be connected to terminal No. 1 of the standard octal socket, and terminal No. 2 of the special socket should be connected to terminal No. 8 of the regular octal socket. This additional wiring brings these testers strictly up-to-date. Model 430 with serial numbers above 1056 are factory wired to accommodate the 6SQ7 tubes. New tube index charts are available.

PORTABLE SERVICE LAB

Exceptional ingenuity and craftsmanship, as well as utility, are incorporated in a novel rolling Radio-X-Ray Service Lab. constructed by Ernest Moore, a leading radio technician who operates his own modern service shop at Chickasha, Oklahoma.

In order to impress both his cus-

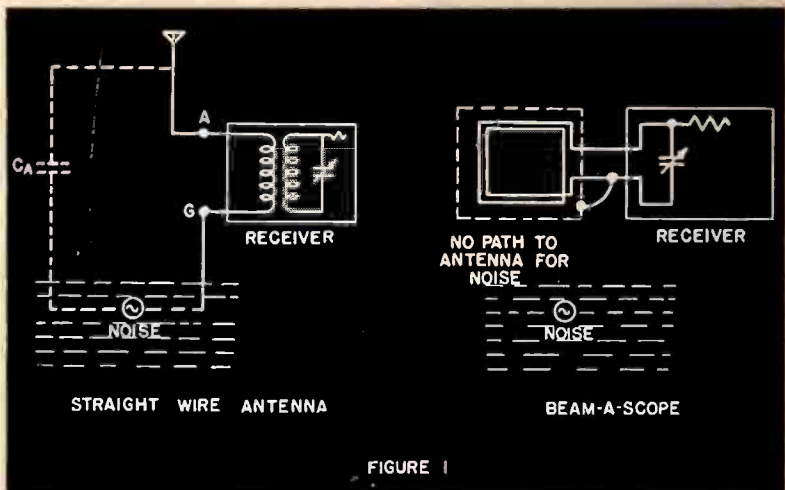


FIGURE 1

By electro-statically shielding the loop in the G-E beamscope receiver, local noise pick-up is eliminated because there is no noise path to the antenna.

RADIO TODAY—*and Tomorrow*

*The Big
Double Issue*

WORLD'S FAIR and DIRECTORY NUMBER

March 1939

- **Dramatizing** radio today and tomorrow in special editorial features and institutional advertisements.
- **Marking** radio's new milestone, Television, and important trends in radio and sound.
- **Combining** the Radio Trade Directory and World's Fair Number in one big Double Issue with world-wide interest and year-round life.
- **Sensing** the business impetus of two world's fairs simultaneously.
- **Conditioning** the trade for a new and lively selling season.
- **Arousing** all radio men to a new realization of opportunity and optimism.
- **Blanketing** ALL radio markets with regular and extra circulation, including 25,000 dealers and service dealers.
- **Rendering** a notable merchandising service at no increase in advertising rates.

The big March Double Issue will be the time and place for inserts, spreads and color advertisements showing the achievements of individual companies, their records of development, engineering advances, merchandising policies, strong personalities, etc.—facts seldom covered by field salesmen but which nevertheless enable the dealer to make a wiser choice of products or do a better job.

**MARCH
1939**

CALDWELL-CLEMENTS, Inc.
480 Lexington Avenue
New York, N. Y.

Because of the special makeup of the March issue, advertisers are urged to make reservations at the earliest possible moment.

WORLD'S FAIR Number of RADIO TODAY Combined with RADIO TRADE DIRECTORY

SERVICE NOTES

tomers with the completeness and modernity of his service equipment and to make it freely available at a number of bench positions in his shop, Moore has installed his major service instruments in a roller-mounted cabinet of eye-arresting design and proportions.

The advertising that his customers have given him, as well as time saved through bringing his laboratory to the work as needed, instead of vice versa, has more than repaid cost of construction.

For a complete receiver check-up in his service work Moore employs latest time-saving dynamic methods with cathode ray, and so makes certain of

turning out a perfect job at pleasing prices to the customer. At the same time he assures a worthwhile profit for himself.

Included in his rolling instrument assembly are a frequency-modulated r-f oscillator, oscillograph, capacity analyzer, vacuum-tube voltmeter, 15-watt amplifier, and a variable dummy antenna.

BLIND MAN CHECKS TUBES, FIXES RADIOS BY BRAILLE

Cecil Minard of Sandusky, Mich., is a man to remember. As far as we know he is the only radio dealer who tests tubes by Braille. Since 1925, Mr. Minard has serviced and sold sets. Yet he can't see a thing.

For checking tubes he uses a Supreme 506 Push Button Tester with a hinged meter case that permits him to feel where the needle rests. There is also a special jack so he can hear if a tube is leaky or shorted. Also by listening to the hum of the transformer in the tester he can tell whether a tube is good or bad. Instead of the usual roll chart, he uses a special Braille tube card that gives him needed data.

Mr. Minard also services radios by listening to their reproduction or by using batteries and an earphone. Thirteen years in radio, he has steadily increased his business despite the terrific handicap of blindness, now owns his store and employs a service man.

BOOK REVIEWS

THE HISTORY OF RADIO TO 1926

By GLEASON L. ARCHER, LL.D.
President of Suffolk University

Starting with fire beacons in ancient times the author hurries through important developments in communications to the discovery of radio. He gives the olive wreath to Guglielmo Marconi for discovering practical wireless, but recognizes Henry, Faraday and Maxwell as the scientists who first found electro-magnetic impulses travelling through space.

It was Henry Hertz in 1887 who unlocked the wireless secret and proved electric waves could be sent at will. Then Crookes in 1892 prophesied "telegraphy across space" in a magazine article and Edouard Branly in the same year devised a detector.

DYNAMIC

Mutual
Conductance

TUBE TESTER*

• • •

Push-button Operation Designed
for Individual Voltage Application
to Each Tube Element under
Working Conditions . . .



MODEL 1615
\$6334*
complete in
carrying case

•

True dynamic mutual conductance tube tester with simplified push-button control, the ultimate for a complete tube test. Amplifier and power tubes checked under operating conditions. Direct GOOD-BAD tube reading on two-color scale. Both filament connections are made through push-button switches, allowing for roaming filaments. Same is true of plate screen, C. G. location switches, etc. Rotating chart has data for more than 200 receiving tubes—plus ballast tubes. Up-to-date replacement charts available at any time on a nominal cost exchange basis.

- Tests All Receiving Tubes, Including New 50-Volt Series, Loctal Types and Gascous Rectifiers.
- Separate Plate Tests on Diodes and Rectifiers.
- Neon Short and Leakage Test.
- Illuminated Dial and BAD-GOOD Scale.

★ ★ ★ ★ ★

*WITH THE 5 TRIPLETT SAFEGUARDS
AGAINST *Obsolescence*

THE TRIPLETT ELECTRICAL INSTRUMENT CO.
192 Harmon Ave., Bluffton, Ohio

Please send me more information on

Model 1615. I am also interested in

Name

Address

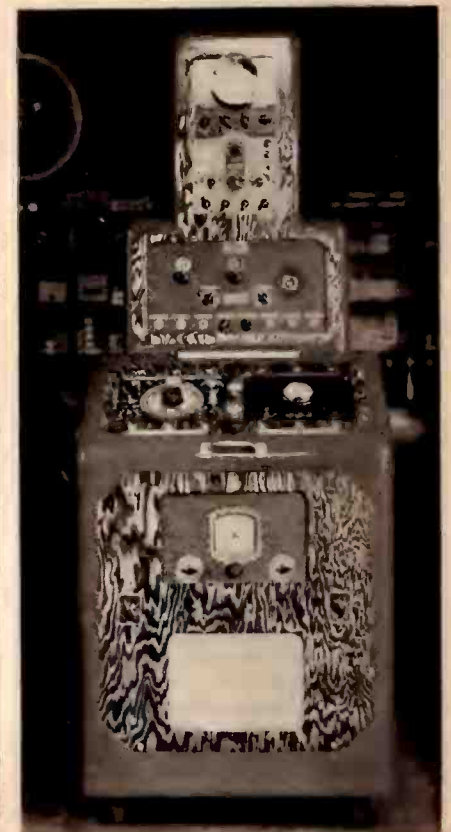
City

State

*All Triplett Testers Selling for Over \$25.00 Are Available on Attractive Time Payment Plans.

See Your Jobber or Write for Details

TRIPLETT
Precision
ELECTRICAL INSTRUMENTS



Portable service lab designed and built by Ernest Moore of Chickasha, Okla., saves time, impresses customers.



Servicing by touch for 13 years, blind man Cecil Minard of Sandusky, Mich., has built up a thriving radio business.

Big names like Owen D. Young, Gen. James G. Harbord, former President Herbert Hoover and others are brought into play for the important places they filled in the cavalcade of one of the twentieth century's greatest industrial achievements.

Although the book is historical and academic, it is easily read. The author's style is engaging, his vocabulary not at all pedantic. He now is writing a history of radio from 1926 to the present.

Published by American Historical Society, Inc., New York, N. Y., 421 pages, priced at \$4.—H. J.

FUNDAMENTALS OF RADIO

By FREDERICK E. TERMAN

★ *Fundamentals of Radio* is an abridged edition of the Terman's well-known *Radio Engineering* with a simplified treatment so as to make the book more applicable for an introductory course in basic radio principles. The text has been shortened and many problems added for classroom work.

Assumption is made that the reader understands at least elementary principles of alternating current and high school mathematics.

The subject is covered in an orderly, easily understandable manner. Numerous drawings, charts, and curves supplement the mathematical treatment so as to make the book valuable also to those who are more interested in answers rather than the reasons behind the answers.

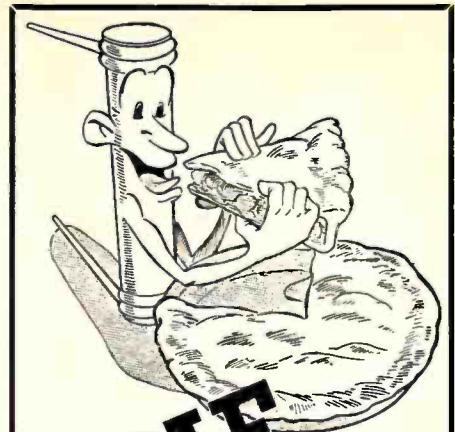
Besides the principles of radio, chapters devoted to applications of the basic theory to receivers, transmitters, antennas, acoustics, and television are included.

It is the reviewer's feeling that *Fundamentals of Radio* is a must item for the radioman—serviceman or engineer—if he does not have already Terman's *Radio Engineering*. Price \$3.75—450 pages. Published by McGraw-Hill Book Co., 330 W. 42nd St., New York, N. Y.—RADIO TODAY.

Eveready models
30, 40

High volume
oscillation

★ Check the line voltage making sure that it is not over 110 volts. Adjust the variometer for no oscillation by loosening the mounting screws on the end of the condenser gang shaft and turning its stator.



IT'S "PIE" FOR CENTRALAB

• If we were to show the replacement business of the serviceman as a pie, the failure of the average Fixed Resistor would account for a slice that is more than a quarter of the whole pie. That means, of course, that Old Man Centralab plays an important part in the replacement business.

And with a resistor, hard as stone, impervious to moisture, shocks, excessive temperatures, and vibration, the wise serviceman finds it "easy as eatin' pie" to completely satisfy that resistor need with CENTRALAB.

Always specify, nay, insist on Centralab at your jobber.



Baptized in fire at 2500 degrees . . . hard as stone. Center core and ceramic jacket fired together to form a single shock-proof unit. Pure copper covers resistor end for wire lead contact.

Centralab

Milwaukee, Wis.

Division of Globe Union, Inc.

BRITISH CENTRALAB, LTD.
Canterbury Rd., Kilburn
London N.W. 6, England

FRENCH CENTRALAB CO.
118 Avenue Ledru-Rollin Paris XI, France

A GOOD NAME
GOES A LONG WAY

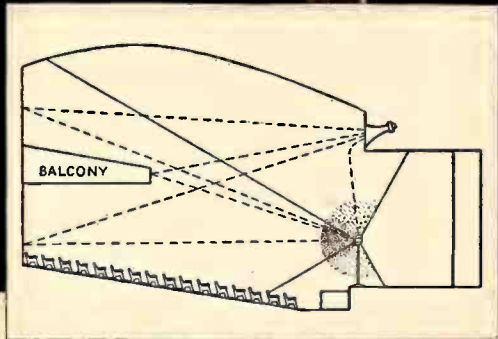
Ken-Rad Tubes have a good name because of their long-time dependability and high standards of quality and performance.

KEN-RAD TUBE & LAMP CORP.
OWENSBORO, KY.
Export Dept., 116 Broad St., New York
Cable Address: Minthorne, N. Y.

KEN•RAD

DEPENDABLE RADIO TUBES

NEW MIKE



No feedback from rear of room

gives new Pick-up Control

IT'S the Western Electric 639A Cardioid Directional Mike—combining dynamic and ribbon units in one mike—giving you clarity, fidelity and control unmatched by either type alone! With both units in operation, its pick-up is equally good through 120°. By turning the 3-way switch, you make it either a dynamic or a ribbon mike. In addition to its recognized superiority for studio pick-up, it is also particularly good for Public Address work because it reduces feedback. Send for full details.

Western Electric CARDIOID DIRECTIONAL MIKE

GRAYBAR ELECTRIC CO., Graybar Building, New York, N. Y. RT-1-39
Please send booklet describing Western Electric's New 639A Mike.

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

IF YOU ARE A *Better than Average* DEALER

The so-called average dealer and service man meets some of our requirements, but he seldom meets them all. The very things which make the Tung-Sol Consignment Plan so valuable depend on selected distribution.

READ THEM CAREFULLY

- Have you an established radio service business? ✓
 - Is your location free from interference with already established Tung-Sol agents? ✓
 - Have you the necessary technical knowledge and equipment to service radio? ✓
 - Is three months' supply a sufficient tube stock? ✓
 - Will you agree to make a monthly stock report on standard forms provided by the wholesaler? ✓
 - Will you regularly use display and advertising material furnished by us? ✓
 - Will you maintain Tung-Sol established retail prices? ✓
 - Have you sufficient capital to meet your obligations promptly when due? ✓
- If you operate your business on these principles, you are a "better than average dealer."

Write today

We want you!

TUNG-SOL LAMP WORKS Inc., (Radio Tube Division)
DEPT. C.

SALES OFFICES: ATLANTA
CHICAGO • DALLAS
DENVER • KANSAS CITY
DETROIT • LOS ANGELES
NEW YORK • GENERAL
OFFICES, NEWARK, N. J.

TUNG-SOL
RADIO TUBES *Vibration Tested*

SALES HELPS

STAND SELLS DISC CLEANER

ARCTURUS DEALER AIDS

Arcturus Radio Tube Co. plans a liberal dealer policy for 1939 with tested selling ideas and free material included in a well-rounded program that will provide greater store and shop efficiency and aggressive sales effort.

Better-than-ever display pieces, window streamers, direct mail material, newspaper ads, electric signs, stationery, etc., will be offered, most of them free to Arcturus dealers.

Arcturus Equipment Deals again will provide an easy, economical way for dealers to build customer goodwill and increase tube profits through efficient service facilities. This equipment includes latest models of tube and set testing instruments, electric clocks, charge and cash registers, neon sign with dealer's name, portable typewriters.

CHART EXPLAINS CATHODE RAY

So even John Doe can understand cathode-ray tube principles, Allen Dumont Labs., 2 Main Ave., Passaic, N. J., have issued a two-color lithograph showing cross-section of tube and explanatory notes. Chart is 2½ x 3½ feet, suited for wall display and is in two colors. Copies available direct at 50 cents each.

5-COLOR SIGN FOR DEALERS

A colorful metal sign, 20" x 15" is offered its dealers by Tung-Sol Radio Tube Division of Newark, N. J. Painted in five colors and coated with varnish, sign features radio repairs and is a silent salesman for tubes.



With the selling accent on discs for 1939, Recoton Corp., 178 Prince Street, New York City, which sells record players and accessories, has brought out a colorful 10 x 13 display stand featuring their record renewer. Stand with bottle fits nicely on a counter and ballyhoos the liquid as "three-purpose" as it "cleans, lubricates and protects" the playing disc.

DISPLAY RACK FOR PA

A new display rack for PA has been put on the market by David Bogen Co., 663 Broadway, N. Y. City. The rack handles four amplifiers, and is supplied with a phonograph motor on a switching panel. Use of it cuts the need for space and tables, says the maker.

Switching panel is arranged with two microphone inputs and four-point selector switches for connecting phonographs, amplifiers and speakers as wanted.

Here's the First Radio Made for the Sportsman



WORKS ANYWHERE!

Carry it with You—You don't have to plug it in to any light circuit!

HAS SELF-CONTAINED AERIAL



BRAND NEW PHILCO PAL RADIO

Twenty-two Seattle dealers upped sales recently with a newspaper ad urging ski fans to buy portable sets, "the first radio made for the sportsman."

How to Win New Customers

and INFLUENCE SALES—

Stewart

AUTO RADIO
REMOTE
CONTROLS
1934-1939

Make Money—

SELL REMOTE CONTROLS!

GET THIS CATALOG FREE

USE COUPON BELOW

TION
19018

STEWART AUTO RADIO REMOTE CONTROLS

for practically any car 1934 to 1939

Stewart not only offers a complete line of Custom Built Panel Plates for all popular cars from 1934 to and including 1939 but also gives you the advantage of easy installation, economy and customer satisfaction.



Typical Stewart Model. One control unit allows either peep-hole or airplane dial installation.

Stewart remote control unit affords individual instrument panel installation for all popular cars from 1934 to 1939 inclusive.



F. W. STEWART MFG. CORP.
340 W. HURON ST. CHICAGO, ILL.

Name

Address

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

RT

The NEW IRC GUIDE Is Here!



IT'S FREE!

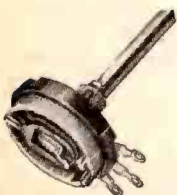
Right now is the time to ask your jobber (or write to us) for the new IRC Guide to All Standard and Special Volume Control Replacements. The finest, most complete Guide yet! Just off the press—just waiting to go to work for you. Get yours today!

SAVE MONEY THIS YEAR

The new IRC Guide tells exactly what replacement to use on practically any radio receiver. Best of all, it saves you real money by showing how to use less costly IRC standard controls on many so-called "special" jobs. Exact duplicate replacements are listed for use where standard controls will not answer the requirements. Time and again, however, a standard control will fill the bill merely by cutting the shaft, grounding a terminal or adding grid bias. IRC tells you how to do it—saves you time and money. Other Guide features include complete listings of the new IRC Midget Controls (available March 1); new Universal Plug-in Shafts having adjustable flat location; new Wire Wound Controls; new Control accessories, etc. Get your copy at once!

ANNOUNCING

Wire Wound CONTROLS



Just out . . . for low power volume control and rheostat use. Equipped with famous IRC Silent Spiral Connector. Complete listings included in the new IRC Guide.

INTERNATIONAL RESISTANCE CO.
401 N. Broad Street • Philadelphia, Pa.

PARTS JOBBERS MUST TIG

"Compact, complete service" needed

The nation's radio dealers and servicemen are well-served geographically by parts jobbers. As with auto repair parts, even the small cities have radio parts wholesalers. No part of the country is far from either mail or personal-service parts jobbers. The economic results are extreme competition, with weak or unnecessary parts jobbers failing.

In the next few years radio-parts jobbing will become stabilized. These jobbers will be radio-parts firms primarily. If they handle radio sets it will not be their chief activity. The major-appliance jobbers with aggressive radio-parts departments will be the exception, not the rule. Whole-



"Specialize on lines in demand."

sale hardware jobbers and automotive wholesalers should not be important in radio-parts jobbing. The compact, complete, competitive parts jobber will win out, not the firm with size, resources, and age, that does not specialize in parts.

Drawing the line

There will be a line of demarcation between houses mostly wholesale with some retailing, and the converse. The backbone of the industry—the serviceman and dealer—will swing to the former. No one expects a 100 per cent wholesaler (viz. the rules of membership in National Radio Parts Jobbers Association recognize that a member may do a minor part of his business at other than wholesale). But the firms doing a promiscuous, nationwide business will have to look to the experimenter and casual customer more and more. Economic reasons will bring this about; also developments like labor-union organization of servicemen, trade associations, legislative licensing, will have their effect.

Hit-and-miss radio-parts jobbing, abetted by hungry parts manufacturers, will disappear, along with these parts manufacturers who cannot secure their own position. Consolidation will occur all along the line—in stable manufacturing, sound jobbing, and full-time serviceman and full-fledged dealers. Radio amateurs and experimenters will not be discriminated against, but they will not set the pace for trade demands and practices. Their purchases will shift in the direction of complete factory-made products, and as happened in other fields, the larger, complete fabricators will take over the field formerly left to smaller materials manufacturers. The smarter parts jobbers will level out their activity accordingly. For example, photographic supplies are now being adopted by many radio parts jobbers. This is a specific case of successfully implementing parts.

Who will survive

We can look forward to a confident future for the able, alert, and acclimated parts jobber. He is necessary, and his success is limited mainly by himself. The misfit, unneeded, weak parts jobber will vanish and his demise will have no great effect. The following points will distinguish the surviving group from the others:

1. Specialization on well-established, in-demand lines, avoiding duplication and excess. To illustrate—\$50,000 annual volume business can

TEN COMMANDMENTS FOR PARTS JOBBERS IN 1939

- Specialize on lines in demand
- Limit competing stocks
- Make a sales program
- Plan ahead, execute plan
- Cut out easy credits
- Collect money due
- Take cash discounts
- Add parallel lines (as cameras)
- Carry complete stocks
- Put wholesaling first

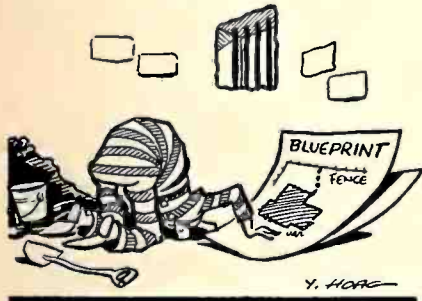
EN METHODS

ceed in 1939

be done properly with one tube line, one or two control lines, one or two transformer lines, and one or two condenser lines. Jobbers doing between \$50,000 and \$100,000 can handle two competing lines, but unless a jobber goes over \$100,000 a year he should not handle three condenser lines, three control lines, two tube lines, etc. The thinking jobber has learned that he cannot get turnover with four or five condenser lines, three tube lines, etc.

Easy credit is "out"

2. Easy credit extension will vanish just as marginal servicemen and



"Make a plan and follow it out."

dealers vanish. There is a satisfactory margin in jobbing parts and if credit losses and lost cash discounts were avoided the parts jobbers net earnings would quickly ascend.

3. Too many jobbers, whether working through catalogs or salesmen, or both, have no definite sales programs. Poor salesmanship, like poor workmanship, ruins many businesses. The parts jobbers that succeed *plan ahead*, and *carry out their plans*. Parts manufacturers must distribute through the parts jobber—not directly to the dealer—and the set manufacturer who distributes parts, whether they be general replacement parts or specific replacement parts of his own or other manufacture, will have to follow suit.

BETTER BROADCASTS TO S.A.

Radio has become South America-conscious recently and broadcasters are improving programs. Better export markets are sure to follow. Most recent is the CBS plan to use five different frequencies for short-waving via W3XAU of Philadelphia to the equatorial belt.

Janette Rotary Converters



FOR CONVERTING D.C. TO A.C.

● Built especially for radio and sound apparatus—capacities 110 to 3250 volt amperes—with or without all wave filters. Dynamotor construction—economical to operate—ruggedly built for years of trouble-free service—used or recommended by the largest manufacturers of radio and sound apparatus throughout the world ●

WHY EXPERIMENT — INSIST ON A JANETTE

ASK FOR BULLETIN 13-1

Janette Manufacturing Company

556-558 West Monroe Street Chicago, Ill. U. S. A.

Own a PRECISION 815A TUBE SELLER!

Your National Union Jobber Will Give You One If You Buy 34 N. U. Tubes and/or Condensers Per Month.



TESTS NEW LOKTALS and SINGLE ENDED TUBES

The necessity for high efficiency modern tube testing equipment is fully appreciated by aggressive radio merchants who keep their shops up to the minute. They can handle more work, build customer good will and increase profit. This new Precision 815A Tube Seller incorporates the latest scientific advancement in instrument design combined with highest degree of eye value to impress customers. It comes to you ready to do a thorough going job on testing all tube types including the new Loktal and single ended tubes, ballast units, gas rectifiers and magic eyes. The tests are strictly in accord with standardized RMA specifications and

all electrodes are individually tested. A load selector applies properly rated loads to the tube under test. Each electrode can be neon short checked while tube is hot. Noise test pin jacks provide for ear phone or amplifier connection. Of particular merchandising value is the big nine inch D'Aronsva type meter with a scale in three colored English reading sectors one inch wide. A calibrated percentage scale enables tube matching. A scientific test device which you will be proud to own.

HERE'S HOW YOU GET ONE:

Your National Union jobber will give you one of these fine new, Precision model 815A Tube Sellers if you will contract with him to purchase 25 National Union tubes and/or electrolytic condensers now, 34 each month for twenty-two months and 27 in the twenty-fourth month which concludes your two year contract. You place a small deposit when you sign the contract and get it back as a mer-

chandise credit as soon as the total number of tube and/or condenser points have been earned. Why not get one right away, see your jobber, sign up and the instrument is shipped to you immediately—you have full use of it all during the time you are fulfilling your purchasing agreement. If you don't know who your nearest N.U. jobber is, send a coupon today!

BUILT BY PRECISION—APPROVED BY N. U. THESE TESTERS ARE QUALITY INSTRUMENTS



Come On!
Build Customer
Confidence
with
NATIONAL UNION
TUBES and
CONDENSERS

NATIONAL UNION RADIO CORP.
Newark, New Jersey.

Send me name of nearest N. U. Jobber.

Name

Street

City State

Watch your sales mount
WITH C-D
Quietone
RADIO
INTERFERENCE FILTERS



QUIETONE sales carrying a sweet profit will be plentiful for the jobber pushing this C-D line. Scientifically designed, streamlined for quick turnover, available in attractive colors, this line of interference filters carries the 29 year C-D seal of Quality.

EASY TO SELL

Just put the new, powerful C-D display, containing ten Quietones on a counter—and the beautiful C-D flasher display in the window. Our advertising will do the rest. Then watch your sales mount! You can't beat this item for spring PROFITS!

POWERFUL ADVERTISING CAMPAIGN

A powerful magazine campaign is being started, advertising the Quietone series. Direct by mail leaflets and special instruction sheets telling the Quietone story are now being printed.

COMPELLING DISPLAY AND ATTRACTIVE PACKAGES

A real sales getter will be the FREE C-D flasher display. New packages and display cartons have been designed for the Quietone line. The latest principles in merchandising were used to create these streamlined, attractive containers.

Remember there's a Quietone unit designed to meet every need. Talk Quietone to your customers. Show it—Sell it! It's your profit boost for '39. Details on request.

CORNELL-DUBILIER ELECTRIC CORPORATION
1022 Hamilton Blvd., So. Plainfield, N. J.
Cable Address: "CORDU"

1939 SALES PUNCHES

(Continued from page 15)

so much per disc. Or rent the recorder for parties. Sales have resulted from such rentals.

Where "selling up" is impossible, most homes can be sold on more than one small radio. That must be the 1939 sales strategy, everyone agrees. By every possible means try to put over the idea of a radio in every room. The nursery, the kitchen, the bedrooms, the rumpus room, even the bathroom—all are places for the smaller sets, while the living room has its console.

Conservative installment selling will help move big radio receivers. Even the very low-income groups can buy a more expensive set in this manner. In Boston, the idea has worked out well. And in New York's Spanish section one shop sells combinations at not less than \$135, all on credit, to the music-loving Latins. Yes, credit buying is part of the 1939 sales strategy, they all agree.

With all of these ideas, radio can't forge ahead unless its basic policy of a fair deal for the buyer, a fair profit for the seller persists. All of those contacted said that quality merchandise must prevail. Trick deals should be avoided like poison. Sell the sets that the public has come to know and respect. Be sure that your buyer is going to get the best in performance.

What the manufacturers think

For the manufacturer, President George K. Throckmorton of RCA Mfg. Co., has this to say: "To keep his dollar volume up, the dealer will have to learn how to sell the smaller radio units in greater volume. This should not be hard because the lower selling prices now make it practicable for nearly every family to have a separate receiver for almost every room in the house. . . . One of the big jobs ahead in 1939 is to make it easier for the public to get the recorded music it craves. Therein, too, lies a big profit-making opportunity for retail dealers. . . . During the coming year it will be difficult to sell any radio set for over a hundred dollars unless it also has a good record reproducing system. The smart retail merchandiser will concentrate his efforts on this potential market for higher unit sales."

"Quality, value and public acceptance of a product are constant in an otherwise changing picture," says President Larry Gubb of Philco Radio & Television Corp. "Stock only those products which represent the best in engineering achievements and performance. You will find that such products, because of their quality and performance, enjoy the very import-

ant public acceptance which will reward your sales and advertising efforts."

Zenith Radio Corp.'s president, Commander E. F. McDonald, Jr., believes in selling small radios for every room, but thinks there still is a good market for higher-priced receivers. "The Christmas buying spurt proved that there is a continuing market for a representative line of higher-priced models to replace rapidly obsolescing old radios," he says. "Automatic tuning, improved tone color systems, improved reception ideas, and constant refinement in design will inevitably speed obsolescence during 1939."

Vice President Powel Crosley, III, speaking for the Crosley Corp., believes television should be played down to help radio sales. "If I were a dealer," he says, "I would discount television about 90 per cent for 1939 even if I were in a large city of dense population. And I would encourage people to buy radio sets instead of waiting. For that wait for most people is going to be a long one—a matter of years instead of months before even a small part of their expectations in television can be realized."

Jobber's view given

Speaking from the distributor's viewpoint is Ben Gross, head of Gross Sales Co., Stromberg-Carlson representative in the East. He believes a return to first principles of selling will make 1939 a good year. "The radio dealer has been inclined to let things slide," Gross says. "He has to pep up both his store and his salesmanship. He must try to sell a bigger set. He can't just swim with the tide of small sales. Fine cabinets that fit into furniture plans are good selling points. Combinations are popular. Let him get after the people whose radios are without a good tone or tuning system. They are the prospects for 1939."

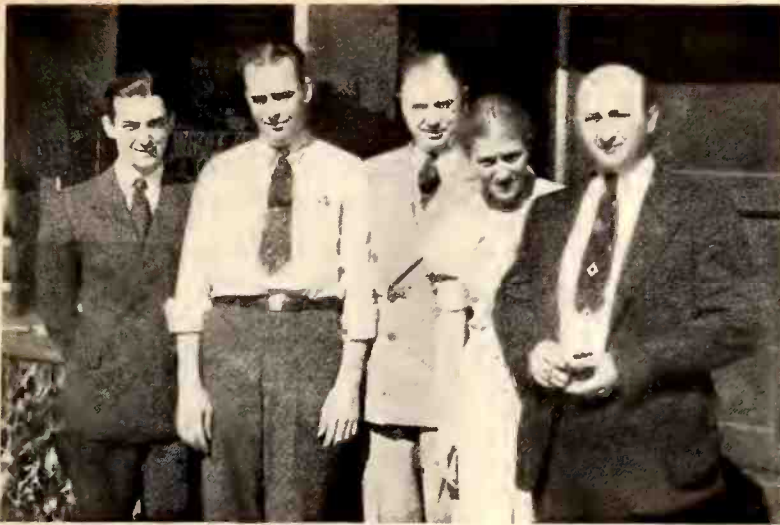
Attend the National Radio Parts Trade Show
1939 JUNE 1939

WED	THU	FRI	SAT
14	15	16	17

OPEN ONLY to Jobbers, Manufacturers, Manufacturers' Agents, and Engineers.

OPEN to Servicemen, Amateurs, Retailers, Student and others.

Stevens Hotel, Chicago



They're from Missouri—Buddy Pondrom, Charles McCue, Jules Beneke (Aerovox representative), Ann Sloss Ernest, and Mike Ebinger, cigarette in hand, boss of St. Louis' Ebinger Radio supply Co.

From Ray A. Yerdon of the Forbes-Meagher Music Co. of Madison, Wis., comes this report: "We have offset the trend to lower-priced radios by exploiting the radio-phonograph combination. Thus we have raised our unit sales from \$70 to \$100. The 'Pee-Wees' we use as a traffic builder. . . . Advertising, we have found, can either make or break the general trend of business in the community."

Jules Smith, radio sales manager for the thirty Davega stores in metropolitan New York, says his firm will concentrate on records and combinations in 1939. "We believe a high-priced set must be a combination to sell," he says. "Television is no threat. We've put video receivers in three of our stores, ready for demonstration as soon as broadcasts start. But we don't find them hampering sales. We convince the people they can convert their radios to television."

Wants World Fair set

C. Scheder, radio buyer for Schuster's Department Stores in Milwaukee, Wis., writes that in 1939 his firm plans to "promote consoles over \$50; arrange a systematic step-up from \$9.95 to \$14.95, etc., for the midget; push combinations and record players; see more factory promotions to stimulate the buying public; sell "tone" instead of gadgets; promote a World's Fair radio; offer a radio cabinet that will really click."

From Pittsburgh, Pa., Buyer A. J. Buzzard of Spear & Company, home furnishers, agrees that "a dealer should actively promote the sale of three or four small radios for a home where the customer does not appreciate the better instrument. Dealers should not overlook the profit possibilities of phonograph combinations with the attendant sales of records. . . . The radio market is not glutted with over-production, therefore the dealer has additional profit opportunities through reducing trade-ins to a profitable percentage. . . . It will be well for every retailer to watch his expense of operation closely and through so doing, he should close the year 1939 with a good net profit."

Arthur Silverberg, proprietor of the busy Grand Central Radio, Inc., in Manhattan, believes attractive window displays, good service and careful advertising will be his strategy for 1939. He will continue his policy of switching a customer to a larger, better set at the very moment he shows disfavor for the tone of a tiny receiver.

And Alfred Tuffery, sales manager of the Rudolph Wurlitzer Co., New York store, puts his 1939 emphasis on diversity of lines. "If one thing doesn't sell, I believe in trying something else," he says. That's why he is going to push portable sets, combinations, home recorders and small sets for every room. Good window displays promotion stunts, plus limited newspaper advertising will make 1939 a good year, he states.

Edgar S. Riedel, general sales manager of Raytheon, views 1939 as a banner radio year. Since inventories are the lowest in five years, and the business index is rising rapidly, he believes good radio times are ahead. "Radio dealers will have increased competition, however, from miscellaneous dealers outside of the industry, due to increased demand for small sets that present no problem as package merchandise from these various outlets. The smart dealers will concentrate on quality radio merchandise and forget the trick deals of 'something for nothing' which tempted them when sales were tough in 1938, resulting in less profit and loss of good will," is his view.

CARD SELLS RESISTORS

A bright yellow-and-black counter or wall card holding and displaying a popular assortment of green cement-coated wire-wound power resistors is offered at no extra cost by Clarostat Mfg. Co., Inc., 285 N. 6th St., Brooklyn, N. Y. The card holds twenty Clarostat 10-watt resistors on clips permitting immediate removal or replacement. Each space is printed with the resistance value of the corresponding unit.

NEW PROFITS

for RADIO DEALERS, SOUND SPECIALISTS, SERVICEMEN and others, in this big virgin market

Selling - Installing - Servicing

RANGERTONE



Complete amplified cbime installations and cbime recordings for towers, belfries, chapels, reception and music rooms.

Every church is a prospect. Also many institutions, public buildings, schools, academies and residences.

Our Tower-Tone equipment, 25-note cbimes, cbime recordings, manual and automatic players and other Rangertone units give you a flexibility meeting every requirement. All complete—easily understood by radio and sound men.

No inventory—No risk—High unit sale—Real profits—Growing library of cbime records—Special recordings on order.

And—an active market for cbime records playable on any phonograph or combination.

Don't let this money-making opportunity get away from you. Write for the whole story TODAY.

RANGERTONE, INC.

ELECTRIC-MUSIC

Five Years of PRE-SALE Development
201 VERONA AVENUE NEWARK, N. J.

SOUND MEN!

ARE YOU OVERLOOKING C.I.S.E.?



See what FREE membership in the Clarion Institute of Sound Engineers does for those who qualify! Gives you

- 1 Factory purchasing power!
- 2 Exclusive selling territory!
- 3 Free engineering and consulting service!
- 4 Competition-smashing prices!
- 5 Protected profits on the fastest-selling, most complete line of P.A. equipment in the world!

Several choice territories still open. Send today for complete information!

CLARION INSTITUTE OF SOUND ENGINEERS
69 WOOSTER STREET, NEW YORK CITY

Instruments that set their OWN standards —

● The Simpson record is one more proof that a higher standard does not have to wait long for recognition. Unknown before August 1936, Simpson equipment enters 1939 at the head of the instrument procession in the opinion of hundreds of servicemen who recognize the finer things in radio testing equipment.

See these modern instruments. Examine them critically. Measure them by any standard — design, workmanship, range, performance, beauty, and above all sheer quality in solid terms of dollar value. One careful inspection of any Simpson Instrument will be your final reason for standardizing on this versatile line for all of your testing needs.

A few of the many Simpson Instruments are briefly described here — instruments that can make 1939 a happy servicing year for you. Ask for latest bulletins.

Order from your jobber

SIMPSON

INSTRUMENTS THAT STAY ACCURATE

SIMPSON ELECTRIC COMPANY, 5202 Kinzie St., Chicago



Model 440 "Test Master"

● An all service tube and set tester. Double-filament switching; screen fluorescence and angle test; hot cathode leakage test; high sensitivity neon short-check; noise test; percentage scales; "good" and "bad" scales. As set tester has six A.C. and D.C. voltage ranges; resistance ranges from 1 ohm to 100 megohms; four milliamp ranges; six decibel ranges; 0-15 amp. scale; neon leakage test, noise test, etc.
Your price... **\$5900**



Model 333 Tube Tester

● Small and light in weight. Tests all tubes, including new Loctal and other recently developed types. Has double filament switching. **\$2650**
Your price...



Model 230

● The smallest A.C.-D.C. instrument on the market, yet it contains a sufficient number of ranges for the experienced man to perform a complete servicing job. **\$1425**
Your price...

YOUR EMBLEM, Mr. Serviceman! — AND WHAT IT MEANS TO YOU



MAIL THIS COUPON

RADIO SERVICEMEN OF AMERICA, INC.
304 S. Dearborn St., Chicago, Ill.

Gentlemen:
I hereby make application for membership in the Radio Servicemen of America.

Name

Mailing Address

City State.....

I am enclosing \$4.00 for Dues and Initiation. (Does not include Local Chapter Dues where Local Chapters are organized.)

It identifies you with the only national independent organization of Servicemen in the industry. It links you with fellow-members in every State and in most foreign countries in a cooperative organization run by and for the members, uncontrolled by any outside interests. You elect your representatives. (All responsible officers are bonded.)

And here is what the RSA does for you:
★ Supplies Advance Circuit Notes to Members each month
★ Gives Technical Help on Service Problems
★ Maintains a National Speakers' Bureau
★ Offers Advanced Service Courses to Members at slight cost
★ Issues a Monthly RSA Publication
★ Provides for Annual Convention
★ Besides many other benefits now being planned.

Don't be on the outside looking in. Join Now. Send the Coupon Today!

Let's Grow Together in 1939

RADIO SERVICEMEN OF AMERICA, INC.

National Yearly Dues. \$3.00
Initiation Fee 1.00

Joe Marty, Jr., Executive Secretary, 304 S. Dearborn Street, Chicago, Ill.



Spic, span and easy to see is O'Loughlin's Radio Supply Co. in new Salt Lake City quarters. Featured are Raytheon tubes, a stand-by with this 20-year-old firm.

TELEVISION SETS FIND SALES IN N. Y. AREA

(Continued from page 16)

ers" are answered by the television salesmen, who have made tidy commissions in the past few weeks.

Sales manager Len Cramer reports inquiries from as widely-separated points as California and Alabama. In the former a dealer insisted that a receiver be shipped to him although he was told the Du Mont set received 441-line pictures, while Los Angeles telecasts scan about 300 lines. Another dealer, in Bristol, Conn., wanted a set just for the prestige and novelty although he knew he was outside the broadcast horizon of New York City.

Du Mont advises the dealer not to sell the receivers until telecasts are available and agrees to refund the purchase price if the receivers do not provide satisfactory pictures at that time. Only one set is sold to a location, and Du Mont makes the installation. Later, this will cost \$25. As television receivers are generally critical, a proper installation is of primary importance. Producing sets at the rate of 20 per week, Du Mont plans to step up the output when sight broadcasts go on a regular schedule.

Looking at television from an unbiased viewpoint, it would seem as though it had "caught on". This New York experience indicates a good market for the video sets as soon as regularly scheduled telecasts go on the air—shortly after the expositions in New York and San Francisco get under way. It also indicates that while radio dealers should warn customers not to expect perfection, they should not try to "kill" hopes for the new science.

AEROVOX MOVES

Huge trailer-trucks, busy as beetles, are moving 150 loads of Aerovox Corp. machinery from Brooklyn to the new six-block plant at New Bedford, Mass. New equipment is being installed, and production at full blast is set for Feb. 1.

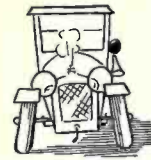
Bought for cash, the new Areovox factory is 433,000 square feet, four times its present Brooklyn space, and includes an office building, single-story plant with saw-tooth skylights, power-plant, three-story building, all of modern, sturdy brick construction, sprinkler-equipped.

Key workers and foremen have been training new personnel at New Bedford, and resumption of activities is to be smoothly worked out. States Aerovox president S. I. Cole:

"Despite strike handicaps and regardless of difficulties involved in moving a plant with so much heavy equipment, we have nevertheless successfully handled the peak jobbing volume in our history.

"Once installed in our new plant, we shall be in the best position in our history to take care of requirements. On behalf of Aerovox, I wish to thank the trade for their cooperation and consideration during the most trying period now brought to a close."

The CORWICO Oldtimer



Before automobile production was standardized, remember those trick synthetic cars? A chap inherited a fortune, decided to be a motor magnate, bought some wheels here and some motors there and some honky horns another place, called in a third-class bodyworks for the "super-structure" . . . and when his chariots came off the assembly line, nothing was NATIVE except the name-plate!

Time marched on all over that condition in motors, and will soon do the same for the wire industry.

Today business men go more and more for a BONA-FIDE wire plant where all the operations are performed under one eagle eye, as the Frank Merriwell books would say.



CORWICO products—Hook-up Wires, P. A. Cables and Antenna Supplies—are made under one supervision. We do everything, almost back to the copper-mining . . . even the actual drawing. Our factory men are technicians right down to their unmanicured finger-tips . . . so that it's straight goods when CORWICO advertises its wires as

"Made by Engineers for Engineers"

This means something to Mr. Purchasing Agent, too—on accounta he's getting the most for his firm's hard-earned kopecks when he specifies "CORWICO or bust!"

(SIGNED) *Cornish Pete*

CORNISH WIRE CO., Inc.

30 Church Street, NEW YORK CITY

ATTENTION . . . Jobbers and Distributors

In re-checking and revising our lists of jobbers and distributors, we invite your cooperation in maintaining our customary accuracy and completeness. We will appreciate it if you will fill out this coupon and mail to us promptly, thus making sure that you appear in our verified lists.

Please fill out and mail to RADIO TODAY.

Company name

Street address

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

Owner or manager.....

Please list THREE OR MORE electrical or radio lines that you are wholesaling.

RADIO TODAY

480 Lexington Avenue
NEW YORK, N. Y.



WAXES AND COMPOUNDS FOR INSULATION & WATERPROOFING of ELECTRICAL and RADIO COMPONENTS

● such as transformers, coils, power packs, pot heads, sockets, wiring devices, wet and dry batteries, etc. Also WAX SATURATORS for braided wire and tape and WAXES for radio parts. The facilities of our laboratories are at your disposal to help solve your problems.

Zophar MILLS, Inc.
FOUNDED 1846
128 - 26th ST., BROOKLYN, N. Y.

RSA GETS 6 NEW CHAPTERS

Following formal approval by the executive committee, chapters of RSA will soon be operative in St. Joseph, Mo.; Scranton, Pa.; Fort Wayne, Ind.; Springfield, Ill.; and Williamsport, Pa., home of the Central Pennsylvania Chapter; and Allentown, Pa.

Chapter news

Chicago—The outstanding event of the month was a television lecture by Walter Kenworth of RCA Institutes, Chicago, Dec. 14, the first lecture of its kind ever to be given in Chicago. At the same time there was a meeting of the partially-organized women's auxiliary in an adjoining room. Mrs. John Polay is in charge of this activity. The annual election on Dec. 28 retained Ray Mason as president and Robert L. Storey, secretary. Harold Cunningham was elected vice president and O. S. Dawson, treasurer.

Danville, Ill.—There is much controversy here over television. Robert Keeling, appointed to investigate, reported at the last meeting of the year on Dec. 30 that we should constantly be on the alert for the new developments of this new industry in spite of the fact that it would not reach our community for some time.

St. Paul, Minn.—Charles W. Fox has been elected president; Paul Davis, vice president, and Noel J. Granger, secretary-treasurer. Directors are to be elected at one of the January meetings.

WITH "THE REPRESENTATIVES"

"The Representatives" are planning a national publicity campaign and have appointed C. B. Cooper of Cooper-DiBlasi, 91 Seventh Avenue, New York City, chairman of the publicity committee.

President Dan R. Bittan announces the names of the newly-elected sectional vice-presidents: Russ Hines, San Francisco; Earl Smith, Dallas; E. Ralph Haines, Oak Park, Ill.; Brower Murphy, Atlanta, Ga.; Arthur H. Baier, Cleveland, Ohio; Martin Friedman, Philadelphia, Pa.; Ernest K. Seyd, Hartford, Conn. Other officers are John Forshay, vice-president, and David Sonkin, secretary.

Another special program has been planned for the next meeting on January 10 at the Fifth Avenue Tavern headquarters in New York City after the fine talk given at the last session by Charley Golenpaul, Aerovox sales manager.

Incidentally, Herb Roes tells one on Representative F. C. Summers, who recently fell and broke a bone in his right leg. While convalescing in an easy chair, he stretched over to get an article off the table, upset the chair, and broke a rib. We could understand it if Summers was reaching for an order . . .

Ray Perron of 211 Wirthrop Street, Taunton, Mass., New England representative of Clough-Brengle, is starting his third season of lecture and demonstration meetings with the service men in the New England district.

GOING OVER with a BANG

THE success of our proven plan of selling Home Diathermy Machines through Radio Dealers and Servicemen is an established fact! The results in SALES has had no parallel in the past 10 years! Orders are coming in from Dealers from Coast-to-Coast!

The question is: Are you getting your share of the big juicy profits? If not, you owe it to yourself to investigate today! Our Representatives have been busy giving demonstrations. If you have not yet heard our Sales Story, write or wire today . . . because it's hot.

List price \$149.50 with a big, fat protected profit for the Dealer! Fast, easy sales on our local financed sales plan!



SCIENTIFIC DIATHERMY CORP.
200 WEST 34th STREET • NEW YORK, N. Y.

JUST 8 MODELS for 90% OF ALL RADIO SERVICE CALLS . . .

Including
**Both Power and
Audio Transformers**



● For \$17.76 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 remember, the design of each transformer covers the requirements of all 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.

Write for details.

Halldorson Vacuum Sealed Transformers

THE HALLDORSON COMPANY
4500 RAVENSWOOD AVE. CHICAGO, ILL.



Smiles that sell—Leo and Yale Meyerson of Wholesale Radio Laboratories, Council Bluffs, Iowa, as pictured with Charles Golenpaul of Aerovox.

NEW BOOKLETS

Arcturus Radio Tube Co., Newark, N. J.—data on 179 tubes with pin connections, and full information on ballast tubes and replacements are contained in this Tube Characteristic Chart, available direct. Gives formulas for RMA ballast numbers regardless of original installation.

Hoyt Electrical Instruments Works, Penacook, N. H.—new catalog on entire line of meters and other test instruments, including new three-inch DC meter. Available by writing to Burton-Rogers Co., 857 Boylston Street, Boston, Mass.

Universal Camera Corp., 28 W. 23 Street, N. Y. City—the growth of candid cameras and pictures of the newest models are in this new catalog.

Cannon Electric Development Co., 420 W. Avenue 33, Los Angeles, Cal.—Bulletin "P" on sound system plugs, receptacles and accessories. With dimensional sketches.

RCA Mfg. Co., Camden, N. J.—third edition of catalog on the applications of radio, recorded music, sound movie projectors, etc., for schools. Includes portable and battery-operated sound systems for rural schools.

Million Radio and Television Labs., 685 W. Ohio St., Chicago—new catalog listing PA equipment from portable 5-watt job to 35-watt system and including mikes, etc.

Jefferson-Travis Radio Mfg. Corp., 198 Milburn Ave., Baldwin, N. Y.—latest in marine boat radio telephone equipment and accessories is contained in catalog.

Stromberg-Carlson, Rochester, N. Y.—black and white folder, 6¼ x 3¼ for consumer use, describes complete Stromberg line of sets, including 1939 interim models and record player, headphone and antenna kits.

Allen B. Dumont Labs., Inc., 2 Main Ave., Passaic, N. J.—1939 catalog of television demonstration equipment,

cathode-ray tubes, amplifiers, and informative books.

Cornell-Dubilier Electric Corp., South Plainfield, N. J.—catalog 165-A, consolidates capacitor listings and description of catalog 161.

Insuline Corp. of America, 25 Park Place, New York City—40 pages of receiving, transmitting parts and accessories, service tools and attachments, racks, panels and chassis, antennae and auto radio accessories are included in this 1938-39 catalog.

Radolek Co., 601 W. Randolph St., Chicago—latest edition of profit guide, contains 3,000 new items and 12,000 repair parts. Includes appliances and p.a. Available free on request stating your radio connection.

Sprague Products Co., North Adams, Mass.—1939 catalog of radio and motor condensers. Lists several hundred duplicate replacements. Copies from jobbers or manufacturer.

RCA Victor Co., Camden, N. J.—nearly 1,000 dance records catalogued in the Bluebird field. Available from RCA.

Alfred A. Ghirardi's new radio servicing book, "Radio Trouble Shooter's Handbook" is announced by Radio and Technical Pub. Co., 45 Astor Pl., N. Y. City. Priced at \$3, the companion book to "Modern Radio Servicing" features "Case Histories" in which troubles found in 3,313 models from 177 manufacturers are analyzed and remedies given. Also deals with auto radio installation and various data on tubes, sound systems, etc.

John Meck Instruments, 164 N. May St., Chicago, has a new bulletin on how to design tube checker. It includes circuit data, emission, power output and mutual conductance notes. Copy available by mentioning Radio Today.

Catalog by Stern-Brown, Inc., 42-24 Orchard St., Long Island City, N. Y., describes their new electric folding flat iron, especially designed for traveling, and the new swingdoor electric toaster which automatically reverses the toast, prevents finger-burning.



SO EASY

to get started
in the sale of

RECORDS!

and
Economical, too,
with the new

BITTER-BUILT

Merchandising
Equipment

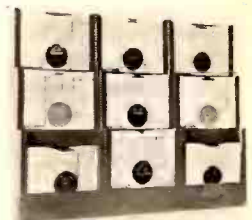
ADD A UNIT AS YOU GROW!

Unit cabinet No. 100, walnut finish, for use independently or as a unit of a large record department. Holds 1000 records, 75 albums. Price FOB factory uncrated \$40.

Cabinets for display or storage, suitable for any inventory—large or small.

Write for illustrated folder. Layout suggestions free.

Unit cabinet No. 26, walnut finish on sheet steel, for display and storage. Use flat on a counter or hang on wall. Holds 125 records. Price, FOB factory, boxed, \$6.75.



A. BITTER CONSTRUCTION CO.

27-01 Bridge Plaza North, Long Island City, N. Y.
Specialists in store modernization and store equipment, serving many nationally-known retailers.

New Profits-



in this MONEY SAVING A-B POWER SUPPLY

for Farm Radios and Low Power Transmitters

IT OPERATES ON SIX VOLTS—either storage battery or wind charger! Provides 1½ or 2 volts "A" power and "B" voltages of 4S, 67, 90, 13S, and 180. Eliminates A and B Battery costs forever. Small—easy to install—operates automatically off radio receiver switch. Powers average 7-tube set 50 hours on one charge of 130 amp-hr battery. Every battery set owner wants it.

Get complete details on this Model J Electro Power Supply. Ask your jobber or order sample on attached coupon. List \$19.95. Dealer Net \$13.31.

Electro
ELECTRICAL AND RADIO EQUIPMENT

ELECTRO PRODUCTS LABORATORIES

549-B W. Randolph St., Chicago

Send information on the Model J.

Ship at once.

(State check enclosed or C.O.D.)

Name.....

Address.....

City.....

Jobber's Name.....



You Need It!

- ★ A Plug-In Resistor Tester. Indispensable today. Indicates good or bad units. Also tests voltage-dropping power cords.
- ★ Self-contained. Plugs into outlet. Handsome metal case and panel. Indicating meter. Takes UX and octal bases, and cord plug. All-metal case.
- ★ Extremely compact. 5 3/4 x 5 3/4 x 2". Reference wall chart with each instrument. Only \$7.45 dealer's net cost.
- ★ Ask your local CLAROSTAT jobber to show you this instrument. Or write us direct for descriptive literature.

CLAROSTAT

MANUFACTURING CO.
Incorporated



285 North Sixth St.
Brooklyn, N. Y.

WARD AERIALS ARE EASY TO SELL - EASY TO INSTALL FREE!

Write for new catalog of Ward's complete line of low-priced manufacturers - approved aerials for car and home - also get on mailing list for free magazine packed with selling and service tips.

**WARD
PRODUCTS
CORP.**

WARD BLDG.
CLEVELAND, O.

TRADE FLASHES

RCA Mfg. Corp.'s George K. Throckmorton announces three promotions, effective Jan. 1. H. E. Leroy, executive asst. to engineering v.p. becomes manager, special apparatus mfg. division. A. L. Pipper takes over Leroy's duties as assistant to V.p. Lewis M. Clement, and H. C. Shepard steps into Pipper's shoes as manager of the standardization dept.

Charles Watson has been appointed northwest sales representative of radio, parts and sound systems for Stromberg-Carlson Telephone Mfg. Co. Jack Hoyt has been transferred to the Texas territory. Kenneth Gillespie, radio sales manager of S-C's Kansas City branch, has added the southern Nebraska territory to his last, and Ted Holzem is now contacting the radio trade in western Iowa and northern Nebraska.

Sonora Radio & Television Corp., Chicago, will soon celebrate the 25th anniversary of the introduction of Sonora's name, President Joe Gerl announces. A special silver jubilee model, emblems, stickers and tags will be used.

Earl C. Dietrich, Raytheon replacement sales manager, has returned to New York City after a two-month trip that took him through 37 states. Tube business throughout the country is definitely better and the upswing will continue through 1939, he reports.

Fada Radio and Electric Co., Long Island City, N. Y., has added 30,000 square feet to its factory, General Manager J. M. Marks has announced. He also reports Fada's biggest year with good demand for consoles and combinations as well as table models.

Charles A. Verschoor has been elected chairman of the board of Interna-



Man behind Sonora Radio & Television Corp.'s speed is James G. Oldfield, newly-named production superintendent of the Chicago plant.

tional Industries, Inc., Ann Arbor, Mich., formerly International Radio Corp. Other new officers are John Bradfield, president; Gustave A. Fassin, vice president; Robert T. Herkner, secretary and treasurer; L. C. Gillespie, assistant secretary; John Bradfield, G. Stanley Porter and William E. Brown, Jr., executive committee. The company now is marketing "Rapidex," a fluid-feed type of duplicator, in addition to radios and cameras.

Dayton Acme Co., Cincinnati, Ohio, announces a new line of precision radio testing equipment and a service innovation in the "Daco Radio Service Club." The club, of which any dealer who purchases and registers a piece of Daco equipment automatically becomes a member, provides service men throughout the country with complete data on all existing radio equipment, together with advance information on circuit and tube characteristics and changes. The club also will answer questions and attempt to solve any problem for the radio serviceman.

Sales of Majestic Radio & Television Corp. are up 200 per cent for the six months ending Nov. 30, reports Sales Promotion Manager Harry Byrne. The Chicago plant has been working extra shifts to meet the demand.

President A. L. Moore of Colortone Acoustic Devices, Inc., announces the appointment of Irving Schlank as manager of the firm's new Chicago sales office, known as Colortone Sales Corp.

Robert H. Campbell has been named sales manager of Ansley Radio Corp., New York City, makers of Dynaphone radios and combinations.

Electro Products Laboratories is now located at 549 W. Randolph Street, Chicago, Ill.

Hugh H. Eby, Inc., has moved into a new, enlarged factory at 4700 Stenton Ave., Philadelphia, and has added to its molding and other equipment.



Dayton Acme Co.'s new v.p. David E. Johnson points at his firm's new tube tester with Localt socket.

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While every precaution is taken to insure accuracy, we cannot guarantee against the possibility of an occasional change or omission in the preparation of this index.

NEW!

Model CC



**CAPACITOR
ANALYZER**



Incorporates Model CB Features, plus High Capacity Scale, High Test Voltage, Simplified Scales, Sloping Panel

This advanced Analyzer measures Capacity .00001 to 800 mfd., including motor starting condensers; measures Power Factor 0 to 50%, including motor starting condensers; measures Resistance 50 to 2,000,000 ohms; measures Insulation Resistance to 1000 megohms, using test voltages to 600 D.C.; detects leakage and intermittents. A.C. operated.

Cat. No. CC-1-60 (110 v., 60 cyc.) Less tubes—\$24.90 net

Order through your jobber

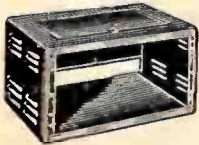
SOLAR MFG. CORP. 599-601 Broadway, New York

Par-Metal

Attention SERVICEMEN!

These new modern streamlined chassis and cabinets have customer appeal! Dress up your present equipment and increase your profits! Black or gray, streamlined with chromium trim, they blend well with all types of apparatus. Send at once for our new 1939 catalog showing the many combinations possible with Parmetal Products.

IT'S FREE!!!!

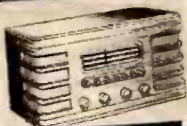


PAR-METAL PRODUCTS CORP.
3521 41st Street Long Island City, N. Y.

FREE! Allied's 1939 RADIO CATALOG Ready Now—Send For It!

Every Radio Dealer, every Service Dept. needs this big guide to Everything in Radio at lowest prices! Over 14,000 exact duplicate and replacement parts; all leading lines of Test Equipment, including new Push-Button Testers; newest Sound Systems, Kits, Amatur Gear, books, tools, etc.—and 62 amazing 1939 KNIGHT Radios—sets for every purpose—ideal price-leaders as low as \$6.95! 180 pages of values—write today for ALLIED'S new 1939 Catalog.

NEW SETS



NEW P. A.



NEW TESTERS



FREE!
Send Coupon!

ALLIED RADIO CORPORATION

Dept. 15-A-9, 833 W. Jackson Blvd., Chicago, Ill.
Send me your 1939 Catalog—FREE

Name

Address



Harold Davis, alert jobber of Jackson, Miss., who recommends cooperative dealer-serviceman-newspaper advertising on vertical antennas.

Sentinel Radio Corp., Chicago, announces the appointment of two factory representatives: Sanford Samuel for New York, Philadelphia, Baltimore and Washington; E. J. Jordan for California.

W. G. H. Finch, president, Finch Telecommunications Laboratories, Inc., has announced that William A. Bruno of New York City is now licensed to manufacture Finch Facsimile receivers in "kit" form.

Herbert A. Brennan and Peter A. Wilkinson have formed Brennan-Wilkinson, Inc., 220 East 42nd St., New York City, to represent manufacturers and act as merchandising counsellors.

Robert M. Hadley Co. of Los Angeles has opened an eastern factory at Newark, Del., for the production of its radio transformers. President Hadley will be in charge.

Standard Transformer Corp., Chicago, announces three new appointments. Gerard L. McCole will sell to jobbers in Illinois, including metropolitan Chicago; William E. McFadden will take care of jobbers in Ohio, Indiana and Kentucky, making headquarters at 256 E. Gates St., Columbus, Ohio, and Wally Swank, with an office at 610 Blaine Ave., Detroit, will serve Stancor Michigan wholesalers.

E. E. Butler of Atlanta has been named sales representative of Mueller Electric Co., 1583 E. 31 St., Cleveland, for the Southeast, including North and South Carolina, Georgia, Florida, Alabama and Tennessee.

Dr. S. J. Begun, formerly with Acoustic Consultants, Inc., and Guided Radio Co. has joined the technical staff of Brush Development Co. Prior to 1935, Dr. Begun was with several German telephone and sound system firms.

No deterrent at all to sale of the Ansley Dynatone is the two-page spread in Life magazine for Jan. 9, featuring the electronic piano made by Ansley Radio Corp., 240 W. 23rd St., New York City.

The Star Machine factory, Bronx, N. Y. City, plans another big year in auto radio, states Isidore Finkel, sales manager. A new line of Star control and custom-matched escutcheon plates for all 1939 motor cars will be featured.

JOBBERS AND REPS.

SAN FRANCISCO—Thirty prizes were given West Coast sales people at the recent dealer meeting held by Philco in the administration building of 1939 Golden Gate International Exposition. First award went to Miss Radacher of Peffer Music Co., Stockton; second, William Senders, Martin Piano and Radio Co., San Francisco. More than 1100 dealers, salesmen and their wives attended the meeting, sponsored by Thompson & Holmes, Ltd., Los Angeles. Cliff Bettinger, Philco's Pacific Coast div. man. presided.

CAMDEN, N. J.—RCA Victor jobbers were guests here and in New York City at a week-end party sponsored by President David Sarnoff of RCA and George Throckmorton, head of RCA Victor.

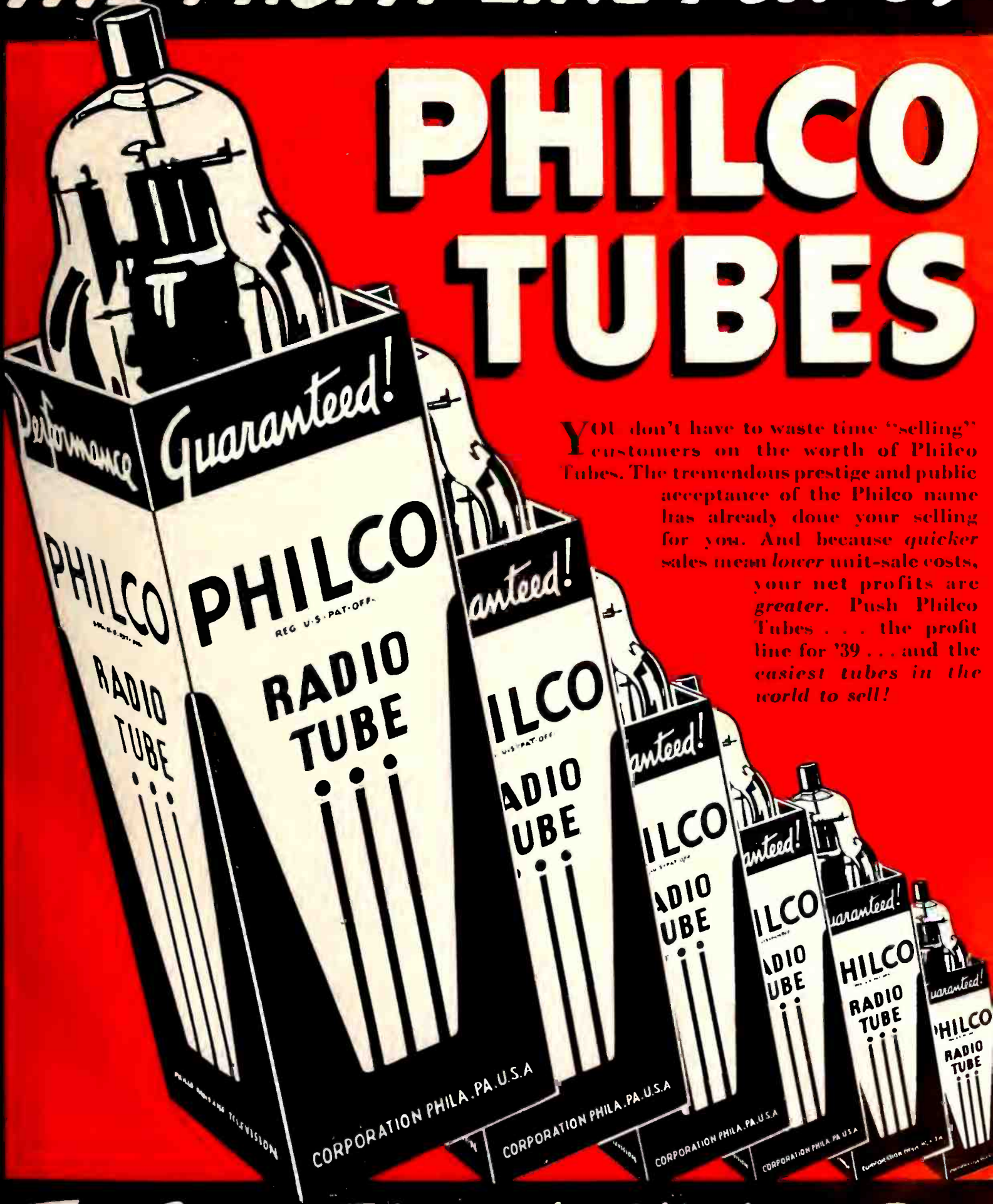
The party was a thank-you for the distributors' spontaneous drive to break sales records for November and December. Al Slap, sales manager, Raymond Rosen & Co., Philadelphia, and President William E. O'Connor, of Southern Wholesalers, Wash., thought up the idea as a fitting climax to 40th anniversary drive and wired each RCA Victor jobber to cooperate.

CHICAGO—Distributors recently appointed by Majestic Radio and Television Corp. are: Arvedon Electric Supply, 71 Portland St., Boston, Mass.; Capital Paper Co., 211 W. South St., Indianapolis, Ind.; Central Co., 117 N. 2nd St., Stevens Point, Wis.; Coghlin Electric, 30 Exchange, Worcester, Mass.; Minot Supply Co., Minot, N. Dak.; Herman-Brownlow Co., Springfield, Mo.; Hi-Speed Tire & Accessory Co., 229 23rd St., Toledo, Ohio; Iowa Wholesale Lab., 746 W. Broadway, Council Bluffs, Iowa; Milhender-Afes, 617 Atlantic Ave., Boston, Mass.; Murphy Supply Co., Green Bay, Wis.; John D. Osgood, Inc., 8 Pleasant St., Haverhill, Mass.

NEW YORK—Philco Radio & Television Corp. of New York, 254 Fourth Ave., N. Y. City, and 393 Central Ave., Newark, N. J., changed its name to Philco Distributors, Inc., New York Division, effective Jan. 1.

THE PROFIT LINE FOR '39

PHILCO TUBES



YOU don't have to waste time "selling" customers on the worth of Philco Tubes. The tremendous prestige and public acceptance of the Philco name has already done your selling for you. And because quicker sales mean lower unit-sale costs, your net profits are greater. Push Philco Tubes . . . the profit line for '39 . . . and the easiest tubes in the world to sell!

The Easiest Tubes in the World to Sell

3 NEW Meissner ADAPTER KITS!



More NEW Profitable Business for YOU!!

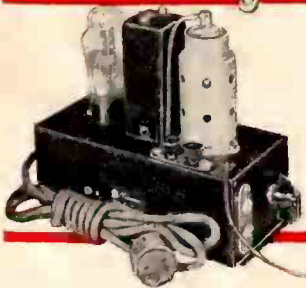
MANY of your present and prospective customers have a real need for at least one of these 4 new Meissner Adapter Kits! So, go after this business—now—before someone else gets it! Priced to give you a real profit! See these kits at your Parts Jobber today. Or write for further information to Dept. T-1 at the factory.

NOISE SILENCER

A real noise silencer designed to reduce static, man-made interference, and improve short wave reception. Based on the famous Lamb circuit. Operates with any superheterodyne receiver without regard to the number of I.F. stages; an additional stage of I.F. within the Silencer, making a four-tube unit, compensates for losses.

A complete kit—self-powered—takes but a few milliamperes from the receiver. Requires only a few minutes to assemble and wire. For receivers having an intermediate frequency of 450 to 470 KC. Equipped with a six-point adapter for plugging into receiver. Operates on 110 volts, AC or DC.

Dealer's Net Price—\$6.90



PHONOGRAPH OSCILLATOR

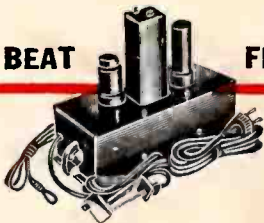
A complete self-contained unit. Connects a phonograph pick-up without affecting performance of radio. Acts as a miniature broadcast station. Just tune radio to its frequency same as you would a broadcast program.

Has its own power supply. Hook-up consists of making two connections—one to antenna post, the other to ground post of receiver. As it can be turned off and on by a switch, you may listen as you wish—to famous recordings—or regular broadcast programs. Operates on 110 volts AC or DC.

Dealer's Net Price — \$6.90

BEAT

FREQUENCY OSCILLATOR



With this unit even the inexperienced DX hunter now can locate quickly the desired station by the turn of a switch. Self-powered—completely self-contained—operates on 110 volts AC or DC. One connection to the radio and one to your AC outlet is all that is necessary. May be used with any set having 456 to 465 KC I.F. Battery-operated unit also available. 110 Volt Unit

Dealer's Net Price — \$6.90

Battery-operated Unit — Dealer's Net Price — \$3.60

Complete Receiver Kits
I. F. Transformers
Service Parts
Dials • Switches
Tuning Units



Meissner

MT. CARMEL, ILLINOIS

"A FAMOUS NAME FOR TWO DECADES"