

RADIO *and Television* TODAY



UNE

FORWARD MARCH!—

Season Starts with New Lines and Trade Show



Better Profits

Better Customers



Better Jobs

BUILD

with

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

The set manufacturers who use Mallory parts as original equipment are the "who's who" of the radio industry... and in the replacement field, Mallory parts enjoy the same leadership.

Mallory Replacement Vibrators, Condensers, Volume Controls and other replacement parts enjoy a long standing reputation for trouble-free operation and long life. The millions in use

testify that you can depend on them for the kind of customer satisfaction that translates itself into increased profits.

In the development of these replacement parts Mallory engineering has made possible many advances in standardiza-

tion and ease of application. These lead directly to lower inventory investment with faster turnover... and to faster, more profitable service work.

CONDENSERS



VIBRATORS



Get this complete and up-to-date Vibrator Guide from your distributor now. Covers all makes of auto and battery operated receivers. Nothing else like it. It's yours, absolutely FREE.

VOLUME CONTROLS



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

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

Use **YAXLEY**
REPLACEMENT
VOLUME CONTROLS

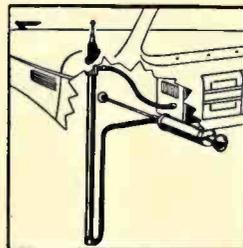
It's a 4 Star Show

See **WARD'S**
"HITS of the
SHOW"
 BOOTHS *821-23*

Hit No. 1

Ward's New Automatic Car Aerial

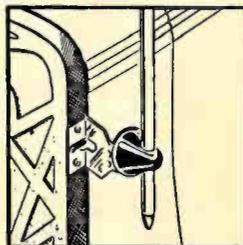
See the automatic car aerial that's FULLY automatic! Operates independently of ignition or vacuum systems. Has neat, trim appearance. Easily installed on any make of car.



Hit No. 2

Concealed Cowl Mounting Aerials

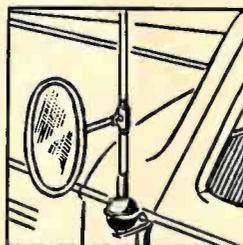
See the new aerial that's proving so popular with motorists. Mounts under hood with no drilling of highly finished surface. 4 different models, with choice of either single or double mounting.



Hit No. 3

The "Tela-Vision" Rear-View Mirror

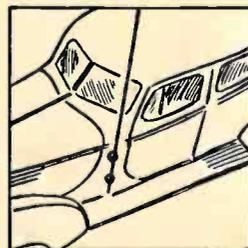
See the rear-view mirror that you can sell for cars already equipped with aerials or with new aerials. Doubles signal strength of aerials. Eliminates dangerous "blindspots" in rear of car. Adjustable bracket fits any make of aerial.



Hit No. 4

The "Tower" Antennae

See a real long-distance aerial! A 4-section, telescopic, side cowl aerial that extends 100', Ceramic insulators and super-deluxe tubes.



P. S. If you don't get to the show, write for a free catalog of WARD'S "hit" line of aerials for car and home.

You're Always **"RIGHT"**
 With The **WARD LINE!**

- 1 The "RIGHT" line - - a complete line of aerials for car and home.
- 2 The "RIGHT" quality - - WARD aerials are fabricated of the finest materials, under strict engineering supervision.

The "RIGHT" style - - with their streamlined design. Ward Aerials are styled to add to a car's appearance.

- 4 The "RIGHT" price - - Ward aerials are priced to sell fast, and give you a nice margin of profit on every sale!

The **WARD PRODUCTS Corp.**

WARD BUILDING

CLEVELAND, OHIO



"See the RCA
and You'll see

"You'll see a New RCA TELEVISION
Oscillograph!"

This RCA Television Oscillograph is designed for viewing synchronizing impulses, blanking impulses, horizontal saw-tooth wave, vertical saw-tooth wave, and grid and plate voltages on horizontal and vertical oscillators. Uses 5-inch cathode ray tube.

Specifications

- Deflection Sens. at Vert. Amp. Input (gain max.) 0.034 Volts RMS per inch (less cable)
- Deflection Sens. at Vert. Amp. with cable 28 Volts RMS per inch
- Deflection Sens. Horiz. Amp.56 V. RMS per in.
- Input Res. at Vert. Amp. Input 1 megohm and 22 mmf
- Input Impedance at Cable Point 8 mmf 1.1 megohms
- Input Resistance Horiz. Amp. 500,000 ohms
- Freq. characteristic Vert. Amp. 5 cycles to 500 KC 50% at 1000 KC (essentially flat)
- Freq. characteristic Horiz. Amp. Essentially flat 5 cycles to 100 KC
- Max. signal input to Vert. Amp. 500 Volts RMS
- Max. signal input to Horiz. Amp. 500 Volts RMS
- Sweep Freq. Range 4 to 22,000 cycles

This instrument is Stock No. 158.

RCA also offers a new general purpose 5" oscillograph similar to Stock No. 158 but with lower frequency range amplifier. Makes an excellent unit for engine pressure measurements, etc. It is Stock No. 160.



New RCA
TELEVISION

Test Equipment on Display

RCA is readying a complete line of television test equipment for your use. Some of these instruments will be on display at the Parts Show. Be sure to stop by —for they have been built by the same men who made television an actual reality. They are instruments which, like Radio Test Equipment, offer the same REQUIRED QUALITY* that is so dependable, accurate performance.

"You'll see a New RCA
TELEVISION
Alignment Oscillator!"

This new instrument enables you to visually align the R-F and I-F circuits in television receivers when it is used with the No. 158 Cathode Ray Oscillograph. Its output frequency sweeps through the following bands at a rate of 60 times per second:

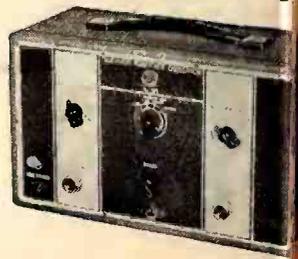
- R-F Channels—43 to 51 megacycles
- 49 to 57 " "
- 65 to 73 " "
- 77 to 85 " "
- 83 to 91 " "

- I-F Channels—7.5 to 15 megacycles Picture
- I-F Channel
- 7.75 to 8.75 megacycles Sound I-F Channel

Output Signals for alignment of rejection circuits at 8.25 mc and 14.25 mc are also provided.

This oscillator offers two values of output voltage for each signal—approx. 0.3 volts and 0.03 volts.

Stock No. 159.



"You'll See a New RCA
TELEVISION
Piezo Electric Calibrator!"

A small crystal oscillator unit with fundamental frequencies of 250 kcs. and 2,000 kcs. Control of either frequency is obtained by means of a 2-way switch. Harmonics of these frequencies provide exact calibrating frequencies for use in television service work. This RCA calibrator has an output jack ... offers accuracy of plus or minus .05%. Stock No. 157.



*REQUIRED QUALITY is your assurance of better test equipment. It means that RCA test instruments are built to meet rigid standards of accuracy and reliability required for use in our own laboratories and factory.



RCA TELEVISION Test Equipment

RCA MANUFACTURING CO., INC., CAMDEN, N. J. • A SERVICE OF THE RADIO CORP. OF AMERICA

display at the Parts Show...
how to Better Your Business!"

"You'll see how
RCA TELEVISION
will help you make more money
with RCA Victor Radio Tubes!"

The advent of television will help radio tube dealers and service men make more money on RCA Victor Radio Tubes. It's going to do this in two ways:

1. By eventually increasing the renewal tube market. When you see the RCA Victor television chassis at the Radio Parts Show note the large number of tubes that must be used, all of which will require renewal.
2. By selling RCA Victor Radio Tubes you can capitalize on the tremendous publicity being given to RCA Victor Television. This publicity will increase the public acceptance for all RCA products because all are built with the same skill and precision that have been responsible for RCA Victor Television. Remember—television is a *sales feature*—one that will convince your customers—and will bring you more money with RCA Victor Radio Tubes.

For finer radio performance—RCA Victor Radio Tubes
Trademark "RCA Victor" Reg. U. S. Pat. Off. by RCA Mfg. Co., Inc.

You are invited to witness a demonstration of
RCA High Definition Electronic

TELEVISION

at the RCA Victor Showrooms, 441 North Lake Shore Drive, Chicago, Ill. June 14-17. Tickets of admission may be obtained upon request from your distributor or at the RCA Mfg. Co. booth at the Parts Show.



RCA Victor RADIO TUBES

RCA MANUFACTURING CO., INC., CAMDEN, N. J. • A SERVICE OF THE RADIO CORP. OF AMERICA



"See the RCA
and You'll see

Display at the Parts Show...
how to Better Your Business!"

"You'll see a New RCA TELEVISION Oscillograph!"

This RCA Television Oscillograph is designed for viewing synchronizing impulses, blanking impulses, horizontal saw-tooth wave, vertical saw-tooth wave, and grid and plate voltages on horizontal and vertical oscillators. Uses 5-inch cathode ray tube.

Specifications

Detection beam, at Vert. Amp. ... 100 Volts 10 per in.
Horizontal sweep, at Vert. Amp. ... 25 Volts 10 per in.
Vertical sweep, at Vert. Amp. ... 25 Volts 10 per in.
Input impedance at Cath. Plate ... 500,000 ohms
Input impedance at Vert. Amp. ... 500,000 ohms
Input impedance at Horiz. Amp. ... 500,000 ohms
Max. adjust. input to Horiz. Amp. ... 500 Volts 10 per in.
Max. adjust. input to Vert. Amp. ... 500 Volts 10 per in.



New RCA TELEVISION Test Equipment on Display

RCA is readying a complete line of television test equipment for your use. All of these instruments will be on display at the Parts Show. Be sure to see them—for they have been built by the same men who made television an actual fact... are instruments which, like RCA Radio Test Equipment, offer you the **REQUIRED QUALITY** that assures dependable, accurate performance.

"You'll see a New RCA TELEVISION Alignment Oscillator!"

This new instrument enables you to visually align the R-F and I-F circuits in television receivers when it is used with the No. 158 Cathode Ray Oscillograph. Its output frequency sweeps through the following bands at a rate of 60 times per second:

I-F Channels—43 to 51 megacycles
39 to 47
69 to 77
83 to 91
I-F Channels—7.5 to 15 megacycles
I-F Channel
7.75 to 8.75 megacycles Band I-F Channel
Output Signals for alignment of picture
receiving circuitry at 60 Hz and 15.75 Hz
The oscillator offers two values of output voltage for each channel—0.5 volts and 0.03 volts.
Stock No. 155.



"You'll See a New RCA TELEVISION Piezo Electric Calibrator!"

A small crystal oscillator unit with fundamental frequencies of 250 Kcs. and 2,000 Kcs. Control of output frequency is obtained by means of a 2-way switch. Harmonics of these frequencies provide exact calibrating frequencies for use in television service work. This RCA calibrator has an output jack... offers accuracy of plus or minus .05%. Stock No. 137.



"REQUIRED QUALITY is your assurance of better test equipment. It means that RCA Test Instruments are built to meet rigid standards of quality required for use in our own laboratories and factory.

"You'll see how RCA TELEVISION

will help you make more money with RCA Victor Radio Tubes!"

The advent of television will help radio tube dealers and service men make more money on RCA Victor Radio Tubes. It's going to do this in two ways:

1. By eventually increasing the renewal tube market. When you see the RCA Victor television chassis at the Radio Parts Show note the large number of tubes that must be used, all of which will require renewal.
2. By selling RCA Victor Radio Tubes you can capitalize on the tremendous publicity being given to RCA Victor Television. This publicity will increase the public acceptance for all RCA products because all are built with the same skill and precision that have been responsible for RCA Victor Television. Remember—television is a *sales feature*—one that will convince your customers—and will bring you more money with RCA Victor Radio Tubes.

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RCA TELEVISION Test Equipment

RCA MANUFACTURING CO., INC., CAMDEN, N. J. • A SERVICE OF THE RADIO CORP. OF AMERICA

RCA Victor RADIO TUBES

RCA MANUFACTURING CO., INC., CAMDEN, N. J. • A SERVICE OF THE RADIO CORP. OF AMERICA



RCA VICTOR Helps You to Summ



HERE are two new RCA Victor radios that will give your summer sales an extra lift! They're "naturals" to sell to heat dodgers—and they're sets you'll find selling. Because one look will convince you of their smart styling, quality construction. One "listen" will make you a booster of their splendid tone, excellent all-around performance. In short, they are sets you will sell with confidence.

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



Your customers can take their favorite programs with them with this

New RCA Victor Pick-Me-Up Radio...

ONLY
\$16⁴⁵*
(less batteries)

Illustrated is Model 94BP1. Not only is this instrument amazingly low in price—but look at all the sales features it offers!

1—Plays indoors or out. 2—No house current needed. 3—No external wires. 4—Nothing to connect. 5—Long-life Batteries. 6—RCA Victor Tubes. 7—Powerful super-heterodyne circuit. 8—Completely self-powered. 9—Low operating cost. 10—Covering of newest type airplane luggage cloth, available in attractive colors.

Also available at slightly higher prices in black and brown embossed genuine cowhide with cover to protect front while carrying. Cover is easily removable and snaps on rear while radio is playing.

This new RCA Victor Table Model will be a Business-Getter for You!



Why? Because in addition to domestic and police reception of high calibre it is just about the finest short-wave table model RCA Victor has ever made at anywhere near its price. And with it your customers will be able to keep in "on the spot" touch with European affairs no matter where they go this summer! Besides its amazing short-wave ability, this radio offers many other excellent sales features including Edge-Lighted, Angle-Vision, Straight-line Dial. It's an instrument that can't miss. Model 5Q55, it comes in rich brown plastic cabinet of simple sweeping modern lines. Only . . . **\$29⁹⁵***

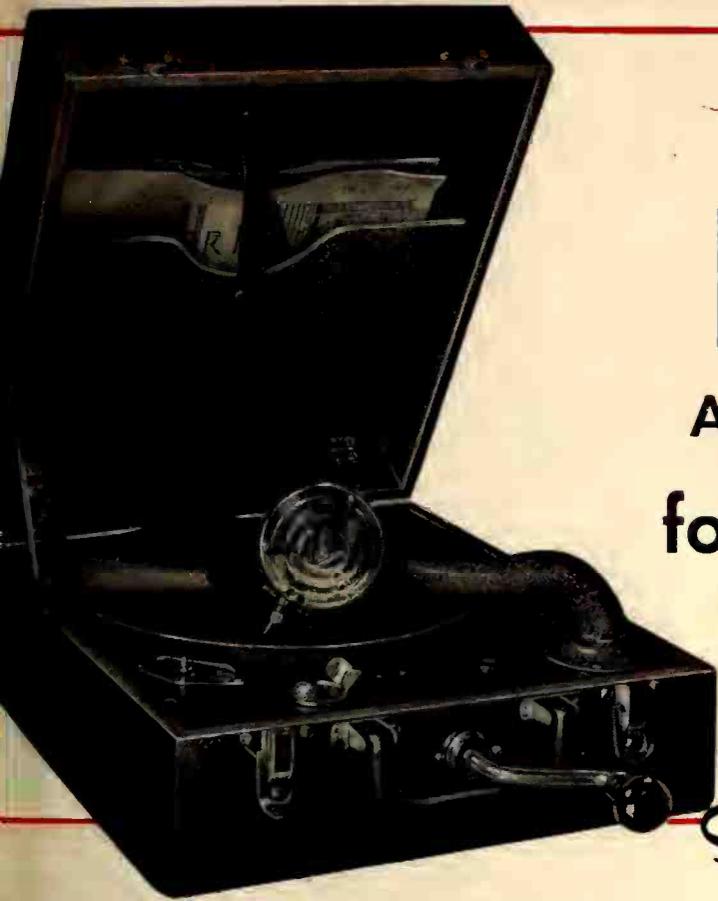
For finer radio performance—RCA Victor Radio Tubes. Trademark "RCA Victor" Reg. U. S. Pat. Off. by RCA Mfg. Co., Inc. *All prices f.o.b. Camden, N. J., subject to change without notice.



RCA Victor

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

Profits with Merchandise for Summer Selling!



LOOK!

A Portable RCA Victrola
for only **\$995***

Model O-10 offers good musical reproduction. Compact, light, convenient, with space for carrying records. Black, moisture-resistant cover.



WHEN people discover how much fun it is to have Tommy Dorsey playing by the side of the swimming hole . . . to have Benny Goodman's music along that picnic underneath the pines . . . to drink something cooling to the strains of Hal Kemp after a game of golf . . . they will all want a portable RCA Victrola. And now you can offer them one at an all-time low price—only \$9.95*! Here's another great opportunity to cut yourself in for a big share of summer vacation profits! And remember—every RCA Victrola sale means extra Victor and Bluebird Record sales in the future!

Here's Another Summer Super-Seller!
RCA Victrola R-98



Here's an instrument designed for the critical judge of music. It has an 8" speaker, 12 watts output. Offers your customers the convenience of compact styling and, in addition to providing the type of musical reproduction that will appeal to lovers of fine music, it is also ideal for your own record demonstration booths and for sale to schools. See your RCA Victor distributor **\$7995*** for details about a special plan in connection with this instrument.

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

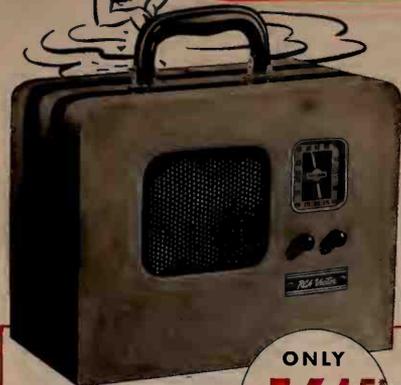


RCA Victrola

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



RCA VICTOR Helps You to Summar Profits with Merchandise for Summer Selling!



Your customers can take their favorite programs with them with this

New RCA Victor Pick-Me-Up Radio...

Illustrated is Model 94BP1. Not only is this instrument amazingly low in price—but look at all the sales features it offers!

- 1—Plays indoors or out. 2—No house current needed. 3—No external wires. 4—Nothing to connect. 5—Long-life Batteries. 6—RCA Victor Tubes. 7—Powerful super-heterodyne circuit. 8—Completely self-powered. 9—Low operating cost. 10—Covering of newest type airplane luggage cloth, available in attractive colors.

Also available at slightly higher prices in black and brown embossed genuine cowhide with cover to protect front when carrying. Cover is easily removable and snaps on rear while radio is playing.

ONLY
\$16.45*
(less battery)

HERE are two new RCA Victor radios that will give your summer sales an extra lift! They're "naturals" to sell to heat dodgers—and they're sets you'll like selling. Because one look will convince you of their smart styling, quality construction. One "listen" will make you a booster of their splendid tone, excellent, all-around performance. In short, they're sets you will sell with confidence.

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

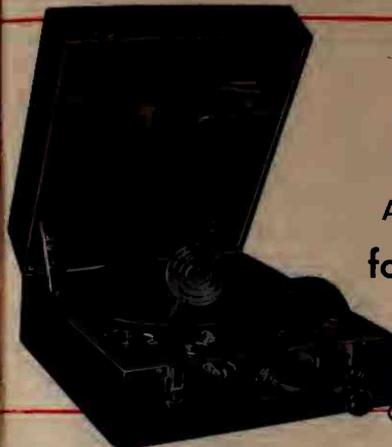


This new RCA Victor Table Model will be a Business-Getter for You!



Why? Because in addition to domestic and police reception of high calibre it is just about the finest short-wave table model RCA Victor has ever made at any where near its price. And with it your customers will be able to keep in "on the spot" touch with European affairs no matter where they go this summer! Besides its amazing short-life tube, this radio offers many other excellent sales features including Edge-Lighted, Angle-Vision, Straight-Line Dial. It's an instrument that can't miss. Model 94B5, it comes in a rich brown plastic cabinet of simple, sweeping modern lines. Only **\$29.95***

For finer radio performance—RCA Victor Radio Tubes. Trademark "RCA Victor" Reg. U. S. Pat. Off. by RCA Mfg. Co., Inc. *All prices f.o.b. Camden, N. J., subject to change without notice.



LOOK!

A Portable RCA Victrola
for only **\$9.95***

Model Q-10 offers good musical reproduction. Compact, light, convenient, with space for carrying records. Black, moisture-resistant cover.



WHEN people discover how much fun it is to have Tommy Dorsey playing by the side of the swimmin' hole . . . to have Benny Goodman's music along on that picnic underneath the pines . . . to drink something cooling to the strains of Hal Kemp after a game of golf . . . they will all want a portable RCA Victrola. And now you can offer them one at an all-time low price—only \$9.95*! Here's another great opportunity to cut yourself in for a big share of summer vacation profits! And remember—every RCA Victrola sale means extra Victor and Bluebird Record sales in the future!

FOR FINER RADIO PERFORMANCE—RCA VICTOR RADIO TUBES



RCA Victrola

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

Here's Another Summer Super-Seller!
RCA Victrola R-98



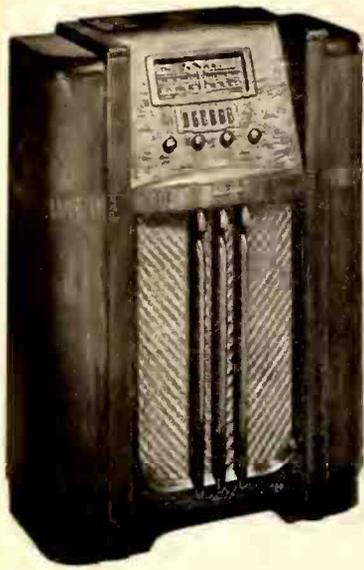
Here's an instrument designed for the critical judge of music. It has an 8" speaker, 12 watts output. Offers your customers the convenience of compact styling and, in addition to providing the type of musical reproduction that will appeal to lovers of fine music, it is also ideal for your own record demonstration booths and for sale to schools.

See your RCA Victor distributor for details about a special plan in connection with this instrument.

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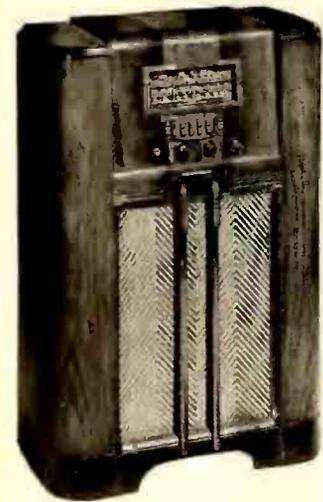
RCA Victor

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



MODEL 01-6A7

A big, rich-looking radio that sets a new high in value. 8-tube performance—genuine superhet with 11 tuned circuits, Magic Keyboard automatic tuning, A.V.C., automatic bass compensation, 3-way tone control, built-in line antenna, full 10" speaker, television sound channel, record player connection. Covers 540-1725 kc., 2200-7000 kc., and 6.5-23 mc. Price — at a profit to you!



MODEL 01-5H7

An extra-quality radio that's sensational in price, yet profitable to sell. Superhet with 7-tube performance, Magic Keyboard automatic tuning, 3 wave bands, big 10" concert speaker, television sound channel, built-in line antenna, 3-way tone control, A.V.C. and automatic bass compensation, connection and switch for record player, in wrap-around figured walnut cabinet. Price . . . at a profit for you!



MODEL 01-817

Massive 42-inch console in wrap-around walnut and aspen, with powerful 11-tube performance 2-band superhet chassis. Magic Keyboard automatic tuning and 4-way tone control. Full console dynamic speaker, built-in antenna, automatic bass compensation, A.V.C., television sound channel, phonograph connection. Price . . . at a profit to you!



MODEL 01-6B9

A smartly styled radio-phonograph in rich stump, rotary and sliced walnut, with large built-in record well, self-starting motor and offset crystal pick-up. Radio is 3-band superhet with 8-tube performance, built-in antenna, Magic Keyboard automatic tuning, full 12-inch speaker, television sound channel. Price—at a profit for you!

Really Different ... Because

There's a Profit in Them for You



MODEL 01-6C9

Automatic record-changer combination. Sharp-tuning 3-band, 8-tube performance superhet, with Magic Keyboard automatic tuning, tone-control keyboard with 16 possible variations, and on-and-off switch outside of cabinet — manual tuning Magic dial inside. Automatic record changer handles both 10 and 12 inch records. Full 12" speaker. Television sound channel. Price . . . at a profit for you!



MODEL 03-5K3

NEW! THE "MAGICIAN"!

A 4-way miracle worker that will amaze prospects. A splendid, portable 7-tube performance superhet—or—plug in a record player and it's a phonograph—or—flip a switch and it's a wireless remote tuner for your console radio—or—with the record player plugged in it's a wireless record player working through your big radiol Has television sound channel. Price—of a profit for you!

THE BIGGEST NEWS in radio this year is written on the Stewart-Warner discount sheet!

Of course the models are hot. Of course they have the novelty to catch a prospect's eye—the quality and value to clinch the sale. They're radio's biggest dollar's worth for 1940—and yet that's the least of the story.

Because from top to bottom of the line, Stewart-Warner has included a hidden feature others have left out. And that's a worthwhile gross for you!

So why let anyone take the difference out of your pocket to get their prices down—when you can sell even the lowest-priced Stewart-Warner and pocket an honest profit for doing it?

AGAIN STEWART-WARNER SETS THE PACE IN PLASTICS

You've seen one scoop after another come from Stewart-Warner designers. Here are some of the new models that combine utterly new sales appeal with an honest profit for the dealer.



New! A Plastic With The Rich Beauty Of Costliest Woods

MODEL 03-5E1

Styled in the modern manner, molded plastic—then enriched with an exact reproduction of costly but sliced walnut AC-DC superhet with 7-tube performance. Magic Keyboard Automatic Tuning, A.V.C., built-in antenna, phonograph connection, television sound channel. Price . . . at a profit for you!



Exclusive With Stewart-Warner! Dionne Quints Radios!*

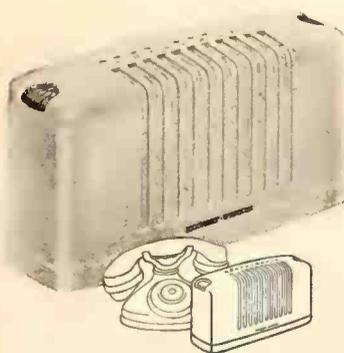
MODEL 07-5B3Q

Winsome, official pictures of the Dionne Quintuplets on top and end of molded cabinet make a sure hit of this 7-tube performance AC-DC superhet with 4-station keyboard tuning, A.V.C., and built-in antenna. Price . . . at a profit for you!

MODEL 07-513Q

The Quints in official pose also decorate the top of this beautifully styled plastic with its AC-DC superhet, 7-tube performance, built-in antenna, lighted pointer dial and beam power audio system. Price . . . at a profit for you!

The Air Pal is also available as a Quints model
*Stewart-Warner Corporation exclusive licensee on radio



**AIR PAL—
The Mighty Mite Of Radio!**

Actually smaller than a phone. Goes from room to room in the palm of your hand—o tucks into a corner of your traveling bag. Operates on AC or DC with no hot cord—gives 6-tube performance—has built-in antenna, genuine superhet circuit with 2-condensers, gang, A.V.C., and genuine dynamic speaker. Sprayed ivory with recessed coral controls. Also available in Walnut. Price . . . at a profit for you!



MODEL 07-516

The "Fireside" — A handsome, handy armchair model with magazine shelf, available in walnut or maple. AC-DC superhet with 7-tube performance, A.V.C., built-in antenna. Price . . . at a profit for you!



For Music On The Move!

COMPANION MODEL 02-411

Keeps the radio world at your finger-tips anywhere! Self-powered superhet with low-drain tubes, A.V.C., built-in loop antenna, dust-proof P.M. dynamic speaker. Controls are fully recessed for protection. Luggage-type waterproof covering on case. Price . . . at a profit for you!



MODEL 03-5C1

Wrap-around type cabinet in sliced walnut with grill and ends of base shaded. AC-DC superhet with 7-tube performance, A.V.C., built-in antenna. Covers both police bands. Price . . . at a profit for you!



MODEL 07-514

Wrap-around cabinet in rich striped and stump walnut and maple inlay. Powerful AC-DC superhet with 7-tube performance, A.V.C., beam power audio system. Price . . . at a profit for you!



MODEL 01-5D9

Radio-phonograph with 7-tube performance, genuine superhet with built-in antenna, beam power audio, television sound channel, A.V.C., tone control, 2 police bands. Offset crystal pick-up. Price . . . at a profit for you!

STEWART WARNER

STEWART WARNER CORPORATION, CHICAGO, ILLINOIS

Magic Keyboard Radios—Sav-A-Step
Electric Refrigerators and Ranges



**Ready For Your Market—
When Television Is!**

MODEL T-1210

A 26-tube sound-and-television receiver with 12 inch video tube, and viewing mirror inside cabinet top. High-fidelity audio receiver. Magic Keyboard automatic tuning of both television and regular broadcasts. An outstanding receiver—ready for your market when television comes. Price . . . at a profit for you!

NEW!

THE PERSONAL SPORTS RADIO

Motorola "SPORTER"



The World's Most Convenient Portable 4 TUBE • SUPERHETERODYNE

NEW AND UNIQUE! An innovation in the trade. The magnet you need to attract customers to your store right now. Plays anywhere. Everyone will enjoy new thrills in listening to favorite programs with the "Sporter"—the most convenient portable radio in the world. As compact and easy to carry as a camera or field glasses. Ideal for hikes and a perfect companion at every sporting event. With the "Sporter" your customers can now enjoy sports better than ever before, as they can hear the broadcast while watching the fight, the race or the game. Leatherette case with shoulder strap Loop Aerial. Weighs 5 lbs. Order an ample supply today.



AT THE BALLGAMES AT RACE TRACKS ON THE WATER WHILE GOLFING

ALSO A FULL LINE OF MARVELOUS VALUES IN NEW 1940 MOTOROLAS COMPRISING TABLE MODELS • CONSOLES PORTABLES • WIRELESS RECORD PLAYERS • PHONOGRAPH-RADIO COMBINATIONS AND BATTERY OPERATED SETS

For Full Particulars See Your Motorola Distributor
CALVIN MEG CORPORATION • CHICAGO

EVEN THE FEDERAL COMMUNICATIONS COMMISSION ITSELF USES RAYTHEON TUBES

In a recent purchase by the Federal Communications Commission of a quantity of receivers, RAYTHEON radio tubes met the rigid F. C. C. specifications and requirements—just as they have been found, by radio set engineers, to operate perfectly in more diversified circuits than any other tube!

Hundreds of thousands of dollars have been spent on RAYTHEON research and quality control—just to insure constructional superiority and to *keep* RAYTHEON ahead technically.

Servicemen, who are in business to stay, are rapidly turning to RAYTHEON replacement tubes as one of the best ways of protecting their profits, turnover and the good will they have built up in their communities.

RAYTHEONS *cost no more* than the second-best tube.

RAYTHEON

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

"WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS"

NEW TELEVISION TESTER

FOR 1000 VOLTS

WITH RED • DOT
LIFETIME
GUARANTEED METER



Model 1280

\$31.50

DEALER NET



NEW Testing Method Is Involved in This Tester. The metal contacts and the instrument parts are removed a minimum of one inch from the sides of the case. The prods attached to the test leads are inserted through holes in the top panel to the contacts in the sub-panel beneath. Three feet test leads are used, which have been tested to 25,000 volts breakdown. Posts are provided on the panel for grounding the metal case, the surest precaution against bodily injury at the high voltage.

Tests AC and DC Volts in steps of 2,500 and 10,000 volts; D.C. Microamperes in steps of 50, 500 and 5,000. Meter Sensitivity is 25,000 ohms per volt for DC, and 5,000 ohms per volt for AC.

The case is enameled a solid red to indicate caution and danger from the high voltage tests. With this Tester and the others the serviceman ordinarily uses for radio testing he can make all the necessary voltage and current measurements encountered in Television Receivers. It is

equipped with the RED • DOT Lifetime guaranteed 4" instrument in bakelite case, which is also mounted beneath the front panel, and is easily read through the large window opening in the panel.

Model 1280 Television Tester is furnished with cover to match case and has strap handle. Accessories include a pair of special high-tension cables with prods on one end and alligator clips on the other end. Dealer Net Price **\$31.50**

See this new Television Tester and other Test Equipment at the Triplet Booths Nos. 403-5 Chicago Radio Parts Show, and place your order for same with your jobber today.

VACUUM TUBE VOLT-OHM-MILLIAMMETER

Model 1655 is a Vacuum Tube Volt - Ohm - Milliammeter for ultra high voltages—particularly adapted to the specialized requirements of Television testing. Necessary ranges to 10,000 volts. A complete servicing instrument for all high voltage and other tests for television circuits.



Model 1655

The TRIPLET ELECTRICAL INSTRUMENT CO.
196 Harmon Ave., Bluffton, Ohio

Please send me your catalog on testing equipment.
I am particularly interested in Model 1280.

Name

Address..... City..... State.....

LITTLE "PEAKS" at the 1940 *Majestic* LINE!

(THE TOPS IN PORTABLES)



MODEL 130

THE WORLD'S SMALLEST PORTABLE RADIO!

**NO PLUG IN —
NO AERIAL —
NO WIRES!**

A Majestic achievement—the first *real* portable radio! Operates on dry cell batteries. So small it fits into a pocketbook . . . approximately 7 inches by 5 inches by 3½ inches . . . approximate weight 3½ pounds complete, including batteries and built-in antenna . . . Superheterodyne circuit . . . volume control . . . high selectivity.



1 BR 50

THE NEWEST IDEA IN RADIO

A. C. and 6 Volt Dry Battery Operated

5 Tubes on A.C. operation . . . 4 tubes on battery operation . . . equivalent to 7 tube performance . . . Superheterodyne . . . 6 Tuned circuits. Built-in Hi-Q loop antenna. 5 in. Permanent magnetic speaker. Automatic volume control. Tuning range 540 to 1750 kilocycles. Standard and police broadcasts.



MODEL 130 U

**NO PLUG IN —
NO AERIAL —
NO WIRES!**

250 BATTERY HOURS

A swanky looking cabinet attractively covered in aeroplane luggage cloth. 1½ Volt battery operated. Built-in Hi-Q loop antenna . . . Superheterodyne . . . 5 Tuned circuits. 4" Permanent magnetic speaker. Automatic volume control. Super-sensitive selectivity. Standard and police broadcasts. Tuning range 540 to 1750 kilocycles. Approximate size—7½ x 10 x 4½.



MIGHTY MONARCH OF THE AIR.

SEE MAJESTIC ADVERTISEMENT ON PAGE



Majestic RADIO & TELEVISION CORP
2600 W. 50th STREET • CHICAGO, ILL

Cable: "Majestic—Chicago"

IT'S SO MUCH EASIER TO SELL MAJESTIC

ROLL CALL

Leading Manufacturers "FALL IN" for

ABC Radio Laboratories, 3334 N. New Jersey St., Indianapolis, Ind. Manager, C. O. Peek; Chief Engineer, Paul Schweitzer. Products—Short wave and long wave converters for auto radio to receive domestic and foreign broadcasts. Also converters for municipal and state police bands. See Advt. Page 72

ADMIRAL—Continental Radio & Television Corp., 3800 W. Cortland St., Chicago, Ill. President, Ross D. Siragusa; Vice Pres. & Sales Mgr., J. H. Clippinger; Treas. & Chief Engineer, Ken Turner. Products—New 1940 line of sets, featuring "Aeroscope," automatic tuning and streamlined plastic cabinets. Complete line of battery portables, consoles and radio-phonographs. See Advt. Pages 26-27

AEROVOX Corporation, New Bedford, Mass. President, Samuel I. Cole; Sales Mgr., Charles Golenpaul; Adv. Mgr., Paul Kuch. Products—Complete line of condensers, all types; carbon and wire-wound resistors; capacity and resistance bridges and other test instruments. Booth 208—See Advt. Page 75

AMERICAN TELEVISION & Radio Co., 300 E. 4th St., St. Paul, Minn. Albert Goffstein. Products—Auto and Farm Radio Replacement Vibrators, Inverter Vibrators, Polarity Changer Vibrators, Shaverpacks, Low Power Inverters, Radio and Industrial Inverters, Eliminators, Chargers, Rectifier Packs, "A-B" Power Units. Booth 831—See Advt. Page 82

AMPERITE Co., 561 Broadway, New York. President, Elliott Leeds; Sales Mgr. & Chief Engineer, Samuel Ruttenberg. Products—Amperite Velocity Microphones with acoustic compensator giving uni-directional or non-directional pick-up. Also contact mikes for amateur and pro musicians. Booth 616—See Advt. Page 84

AMPLITONE Products Co., 133-7 Liberty St., New York. President, Leonard Warner; Eng., George Smith; Export Dept., Roburn Agency. Products—Complete line of P. A. equipment featuring new universal mobile amplifier. Record players, musical instrument pick-ups, etc. See Advt. Page 81

AMY, Aceves & King, Inc., 11 W. 42nd St., New York. Sales Mgr., F. A. Klingenschmitt. Products—"Multicoupler" all wave doublet antenna systems for as many as 20 sets on one aerial, with noise reduction. See Advt. Page 84

ARCTURUS Radio Tube Co., Newark, N. J. Vice Pres. & Gen. Mgr., J. A. Stobbe; Sales Mgr., Jack Geartner; Adv. Mgr., H. E. Erickson. Products—Radio tubes; Glass, G, GT, Battery, Television, Metal, Sparton, Majestic, Ballast. Booth 918—See Advt. Page 55

ASTATIC Microphone Laboratory, Inc., Youngstown, O. General Mgr., C. E. Semple, Jr.; Director of Sales, R. T. Schottenberg. Products—Astatic crystal microphones and accessories. Crystal pick-ups, including new AB-8 with exclusive features. Booth 727—See Advt. Page 77

ATLAS Condenser Products Co., 548 Westchester Ave., Bronx, N. Y. General Mgr., S. Parisier; Sales Mgr., A. Brand; Engineer, R. Agdern. Products—All popu-

lar sizes of paper tubular condensers, high voltage tubulars, dry electrolytics in tubular and box types; also blocks for AC-DC. See Advt. Page 82

ATLAS Sound Corporation, 1447-51 39th St., Brooklyn, N. Y. President and Sales Mgr., R. C. Reinhardt; Treas., C. R. Blumenthal; Adv. Mgr., Joseph G. De Vico. Products—Parabolic Baffles, Projectors, Stands, Fixtures, Microphone Stands, P.M. and Dynamic Driver Units, Exponential Air Column Trumpets, Wall Speaker Enclosures, Demountable Baffles. See Advt. Page 78

AUDEL—Theo. Audel & Co., 49 W. 23rd St., New York. General Mgr., V. Hawkins. Products—Radioman's Guide, 1939 edition, just published. Includes data on television and other recent development. See Advt. Page 60

BITTER—A. Bitter Const. Co., 2701 Bridge Plaza North, Long Island City, N. Y. A. Bitter. Products—Phonograph record and album cabinets, fixtures, counters, etc., for display or storage wherever records are sold. See Advt. Page 50

BOGEN—David Bogen Co., Inc., 663 Broadway, New York. President, David Bogen; Sales & Adv. Mgr., Haskell Blair; Chief Engineer, Ben Waxler. Products—All types of sound equipment including recently announced recording equipment. Booth 313—See Advt. Page 82

CENTRALAB Division of Globe-Union, Inc., Milwaukee, Wis. Vice Pres. in charge of Sales and Adv. H. E. Osmun; Chief Engineer, E. R. Stoekle. Products—Volume controls in standard and midget sizes. Also "Adashaft" Kits containing 10 midget Radiohms, 5 types of attachable shafts, to fit 400 different sets. Booths 108-10—See Advt. Page 56

CINAUDAGRAPH Corporation, Stamford, Conn. President, John S. Hoyt; Vice Pres. & Gen. Mgr., Sherman R. Hoyt; Sales Mgr., D. P. O'Brien. Products—Extensive line of permanent magnet speakers for radio, television, sound systems, etc. Original equipment and replacement. Booth 927—See Advt. Page 66

CLARION—Transformer Corporation of America, 69 Wooster St., New York. President, Hubert L. Shortt; Treas. and Sales Mgr., Roy Neusch. Products—Complete Sound Systems, fixed, portable; Amplifiers and Accessories, School Systems, Record Players, P. A. tuners, Intercommunicators, Fretted Instrument Amplifiers. Rm. 13238—See Advt. Page 64

CLAROSTAT Manufacturing Co., 285 N. 6th St., Brooklyn, N. Y. President, John J. Mucher; Sales Mgr., Victor Mucher; Chief Engineer, George Mucher. Products—Line of standard and exact-duplicate controls. Replacements for all standard sets shown in new Clarostat service manual. Booths 620-22—See Advt. Page 84

CONSOLIDATED Wire & Associated Corps., 516 S. Peoria, Chicago, Ill. President, Paul L. Mann; Sales Mgr., Joe G. Mann. Products—Radio wires, cables, cordages, aerial kits and accessories, coils, condensers, wire wound and carbon resistors, tone controls; specialties for radio trade. See Advt. Page 74

CORNELL-DUBILIER Electric Corp., 1022 Hamilton Blvd., So. Plainfield, N. J. President, O. Blake; Sales Mgr., Leon L. Adelman. Products—Complete line of radio receiving, transmitting and industrial capacitors. Also interference filters, new capacitor analyzers, bridges and decades. Booth 921—See Advt. Page 57

CROSLY—The Crosley Corporation, Cincinnati, O. President, Powell Crosley, Jr.; Vice Pres. in charge of radio, Powell Crosley III. Products—Shelvador electric refrigerators ("Freezorcold" and "Flamefreeze" Shelvadors); home and auto radios; gas and electric ranges; washers, ironers, cameras and Crosley automobiles. See Advt. Page 39

DRAKE Electric Works, Inc., 3656 Lincoln Ave., Chicago, Ill. President & Sales Mgr., Walter A. Kuehl; Russell O. Lund and George Feigel. Products—Complete line of electrical soldering irons and accessories. Booths 112-14—See Advt. Page 72

DRAKE Manufacturing Co., 1713 W. Hubbard St., Chicago, Ill. Proprietor, A. J. Foute. Products—Jewel and pilot light assemblies, in stock and special models. See Advt. Page 54

DU MONT—Allen B. Du Mont Laboratories, Passaic, N. J. President, Allen B. Dumont; Sales & Adv. Mgr., Leonard Cramer; Chief Engineer, Dr. Thomas T. Goldsmith. Products—Dumont television receivers. Console and table models. Also television signal generators. See Advt. Cover IV

DUMONT Electric Co., 514 Broadway, New York. President and Sales Mgr., Phil Dubilier; Chief Engineer, Jack Katzman. Products—All types of transmitting, receiving and industrial condensers. Mica, paper, electrolytics. See Advt. Page 83

FARNSWORTH Television & Radio Corp., 3700 E. Pontiac St., Ft. Wayne, Ind. President, E. A. Nicholas; Vice Pres., E. H. Vogel; Vice Pres. & Director of Research, P. T. Farnsworth. Products—Radios, radio-phonograph combinations, television receivers, television transmitters and special apparatus. See Advt. Page 35

GENERAL ELECTRIC Company, Bridgeport, Conn. Dir. Radio & Television Dept., W. R. G. Baker; Mgr. Sales, P. E. Hadlick; Merchandising Mgr., A. A. Brandt. Products—Complete lines of radio and television. Radio consoles, table models, portables, combinations. Television consoles, table models. See Advt. Page 33

GENERAL Industries Co., Elyria, O. Vice Pres. & Gen. Sales Mgr., Homer Stephens; Sales Mgr., H. E. Moon. Products—Automatic record changing units for phonographs and combinations. Designed for high fidelity playing and dependable operation. Booth 414—See Advt. Page 80

GARRARD Sales Corp., 296 Broadway, New York. President, William Carduner. Products—Garrard automatic record changers embodying important new features described in new catalog now available. Booths 424—See Advt. Page 58

HYGRADE SYLVANIA Corporation, 500 5th Ave., New York.

President, B. G. Erskine; General Mgr. Radio Tube Sales, C. W. Shaw; Adv. Mgr. & Sales Mgr. Renewal Sales, Paul S. Ellison; Assist. Adv. & Sales Pro. Mgr., Henry C. L. Johnson. Products—sylvania set-tested radio tubes. Booths 18-20—See Advt. Page 48

INTERNATIONAL Resistance Company, 401 N. Broad St., Philadelphia, Pa. President, Ernest Searing; Sales Mgr., Jobbing Div., Dan Fairbanks; Sales Mgr., Industrial Div., Harry Ehle. Products—Resistors, all types, sizes and shapes for every requirement. Also Volume and Tone Controls, Potentiometers, Attenuators, All-Metal Rheostats. See Advt. Page 79

JFD Manufacturing Co., 4111 Ft. Hamilton Pkwy., Brooklyn, N. Y. Proprietor, Julius Finkel; Advertising, J. S. Kornicker; Sales, Albert Finkel. Products—Auto and home antennas, auto radio accessories, Remote-O-Cable replacers, adjustable AC-DC ballasts, ballast testers, woven fabric dial belts, dial cables and cords. Booth 401—See Advt. Page 69

JENSEN Radio Manufacturing Co., 6601 S. Laramie Ave., Chicago, Ill. President, Peter L. Jensen; Sales Mgr., Thomas A. White; Chief Engineer, Hugh S. Knowles. Products—Five new models of Peri-dynamic Bass Reflex Reproducers, with 8, 10, 12, 15 or 18 in. speakers, beautifully styled and finished for home, studio or P.A. Booth 17—See Advt. Page 59

KEN-RAD Tube & Lamp Corporation, Owensboro, Ky. President, Roy Burley; Sales Mgr., Arthur O. Perlitz; Chief Engineer, G. W. Bain. Products—Ken-Rad radio receiving tubes. Booth 1027—See Advt. Page 61

LAFAYETTE Radio Corporation, 100 6th Ave., New York. President, A. Pletman; Adv. Mgr., Herman J. Tauber. Products—Lafayette radio sets, public address equipment, sound system accessories, etc. See Advt. Page 74

MAJESTIC Radio & Television Corp., 2600 W. 50th St., Chicago, Ill. President, R. A. Lasley; General Sales Mgr., W. B. E. Norins; Adv. Mgr., J. C. Callahan. Products—New 1940 Majestic line featuring portable battery sets and battery AC models. Factory preview June 10 to 24, Distributors' Convention, Drake Hotel, Chicago, June 28 to July 3. See Advt. Pages 11 & 37

MALLORY—P. R. Mallory & Co., Inc., Indianapolis, Ind. Vice Pres. Yaxley div., R. F. Sparrow; Sales Mgr. Job. div., H. W. Sams; Adv. Mgr., P. Newton Cook. Products—Mallory vibrators, condensers, volume controls and numerous other parts for original equipment and replacement. Booths 723-25—See Advt. Cover II

MEISSNER Manufacturing Company, Mt. Carmel, Ill. President, James T. Watson; Vice Pres., G. V. Rockey; Sales Mgr., W. F. Marsh. Products—Kits for Amateur Broadcast and Television Receivers; Service Instrument Kits; Signal Shifter and other Amateur Equipment; Ant. R.F. and Osc. Coils; I.F. Trans.; Vibrators; Dials; Tuning Condensers; Switches; Sockets. Booths 619-21—See Advt. Page 53

MIDLAND Television, Inc., Power & Light Bldg., Kansas City, Mo. Affiliated with Station

of RADIO

Big Forward March in Selling!

KMBC. President, C. L. Taylor. Conducts advanced training course in television for men now employed in radio industry.

See Advt. Page 78

MOTOROLA—Galvin Mfg. Corp., 4545 Augusta Blvd., Chicago, Ill. President, P. V. Galvin; Sales Mgr. auto set div., E. H. Wavering; Asst. Sales Mgr., Walter Stellner. Products—Auto radios, home sets, portables, wireless record players, combinations, battery sets. Line featured by "Sporter," new miniature portable, carried like camera or field glass.

See Advt. Page 8

MUELLER Electric Co., 1583 E. 31st St., Cleveland, O. Senior partner, Ralph S. Mueller; Sales & Adv. Mgr., Scott Mueller; Foreign Sales Mgr., E. H. de Coningh. Products—Universal radio test clips, radio ground clamps, rubber insulators for clips and insulated grid-clip assemblies.

See Advt. Page 78

NATIONAL UNION Radio Corporation, 57 State St., Newark, N. J. President and Gen. Mgr., S. W. Muldowny; Gen. Sales Mgr., H. A. Hutchins; Adv. Mgr., G. E. DeNike. Products—Radio receiving tubes, electrolytic condensers, paper condensers, television picture tubes, radio panel lamps, photo electric cells, exciter lamps, automobile lamp bulbs.

Booths 1012-14—See Advt. Page 77

OHMITE Mfg. Co., 4876 W. Flournoy St., Chicago, Ill. President, David T. Siegel; Sales Mgr., Ralph M. Hill; Adv. Mgr., Herbert Levy. Products—Vitreous Enamelled Rheostats; Vitreous Enamelled Resistors; Fixed, "Dividohm," Adjustable, "B r o w n Devil," "Wirewatt," Dummy Antenna, "Cordohm," "Multivolt." Precision, Non-inductive; Tap Switches, Band Change Switches; Chokes.

Booth 825—See Advt. Page 80

ONAN—D. W. Onan & Sons, 689 Royalston Ave., Minneapolis, Minn. D. W. Onan. Products—Complete portable electric plants supplying AC to operate appliances, transmitters, receivers, public address systems, etc. 350-5,000 watts. 110 or 220 Volts AC; 12, 32, 110 V. DC.

See Advt. Page 78

OPERADIO Manufacturing Company, St. Charles, Ill. President, J. McWilliams Stone; Sales Mgr., Amplifier Trade Div., Howard A. Wilson; Adv. Mgr., Frank W. Hagan. Products—Portable and Mobile Public Address Systems, Amplifiers, School Sound Systems, Intercommunicating and Paging Equipment, Public Address and Radio Replacement Speakers, and Public Address Accessories.

See Advt. Page 31

OXFORD-TARTAK Radio Corporation, 915 W. Van Buren St., Chicago, Ill. President, P. H. Tartak; Chief Engineer, C. T. Harwood; Sales Mgr., J. S. Gardner. Products—Replacement and Public Address Speakers; Electro-Dynamic and Permanent Magnet; Exponential Horns; Field Exciter Units.

Booths 115—See Advt. Page 64

PHILCO Radio & Television Corp., Philadelphia, Pa. President, L. E. Gubb; Vice Pres., Sayre M. Ramsdell; Adv. Mgr., E. E. Loveman. Products—1940 line with these outstanding features in all models: New built-in super aerial system, noise-excluding

R.F. stage and special design to receive television sound by wireless.

See Advt. Page 14

PIONEER Gen-E-Motor Corporation, 466 W. Superior St., Chicago, Ill. President and Sales Mgr., David E. Bright. Products—"Pincor" Gasoline Engine Driven Power Plants, Dynamos, Gen-E-Motors, Converters, Motor Generators, Motors, Special Equipment.

Booth 210—See Advt. Page 67

PRESTO Recording Corporation, 242 W. 55th St., New York. President, Sol Sholes; Sales & Adv. Mgr., R. C. Powell; Chief Engineer, G. J. Saliva. Products—Instantaneous recording equipment, instantaneous recording disks and recording and play-back needles.

Booth 116—See Advt. Page 65

QUAM—Quam-Nichols Company, 33rd Place & Cottage Grove, Chicago, Ill. President, J. P. Quam; Asst. to Pres., Helen Staniland; Chief Engineer, T. S. Trzyna. Products—Quam "Permanic" speakers having performance and output equal to small dynamic.

Booth 728—See Advt. Page 74

RAYTHEON Production Corp., 445 Lake Shore Drive, Chicago, Ill. Vice Pres., David T. Schultz; General Sales Mgr., E. S. Riedel; Replacement Sales Mgr., E. S. Dietrich. Products—Raytheon receiving and transmitting tubes for original equipment and replacement.

Booth 7—See Advt. Page 9

RCA Manufacturing Co., Inc., Camden, N. J. President, G. K. Throckmorton; Vice Pres., T. F. Joyce; Adv. & Sales Pro. Mgr., D. J. Finn. Products—RCA-Victor television sets and attachments; radios, radio-phonographs, tubes and parts; television test equipment; RCA Victrolas, Victor records and recorders; RCA sound equipment.

Booths 826-28—See Advt. Pages 2, 3, 4, 5, 62

RCA—Radio Corporation of America, Radio City, New York. President, David Sarnoff; Vice-Pres., Frank Mullen; Mgr. Pub Relations Dept., Horton Heath. Services covering every phase of radio—National Broadcasting Company; RCA Manufacturing Co., Inc.; RCA Communications, Inc.; Radiomarine Corp. of America; RCA Institutes, Inc.

See Advt. Page 51

READRITE Meter Works, College Ave., Bluffton, Ohio. President, R. L. Triplett; Sales Mgr., N. A. Triplett; Adv. Mgr., A. R. Baker. Products—Electrical Meters and Radio Testing Equipment.

Booth 920—See Advt. Page 81

REGAL Amplifier Mfg. Corp., 14 W. 17th St., New York. President, Walter Spiegel; Sales Mgr., A. LeRoy; Chief Eng., Fred Berhley. Products—Wired and wireless intercommunicating systems, electric and wireless phonographs, amplifiers, sound systems.

See Advt. Page 60

RIDER MANUALS—John F. Rider, 404 4th Ave., New York. President & Sales Mgr., John F. Rider; Chief Editor, G. C. B. Rowe. Products—Service Manuals. Volume X, out August 19, four months earlier than usual, to meet demand for servicing data on new radios, television sets, facsimile, wireless record players, etc.

Booth 1029—See Advt. Page 76

SERVICE Instruments, Inc., 404 4th Ave., New York. President and Sales Mgr., John Rider. Prod-

ucts—Rider Chanalyst, advanced type of service instrument for set analysis and rapid location of sources of trouble.

Booth 1031—See Advt. Page 67

SIMPSON Electric Co., 5202 Kinzie St., Chicago, Ill. President, Ray Simpson; Sales Mgr., G. H. Koch. Products—Tube testers, multi-range meters and other servicing instruments in models for bench or portable use.

Booths 623-25—See Advt. Page ..

SOLAR Manufacturing Corp., Bayonne, N. J. President, Otto Paschkes; General Mgr., W. C. Harter. Products—New line of "Sealdtite" capacitors in which condenser tubes are completely encased in wax-molded compound.

Booth 106—See Advt. Page 70

SONORA Radio & Television Corp., 2626 W. Washington Blvd., Chicago, Ill. President, Joseph Gerl; Vice Pres. in charge production, Ben Freund; Chief Engineer, Don Fetterman. Products—Consoles, portables, table, auto, phono-radio, record players, phonographs.

See Advt. Page 30

SPRAGUE Products Company, North Adams, Mass. President in Charge of Sales and Advertising, Harry Kalker. Products—Condensers: Dry Electrolytic, Paper, Transmitting, Auto Radio, Silvered Micas, Wet Electrolytic, Oil Filled, Mica, Trimmers. Also a line of power wire-wound KOOLOHM Resistors.

Booth 618—See Advt. Page 75

STEWART-WARNER Corporation, Chicago, Ill. Vice-Pres. & Gen. Sales Mgr., Frank A. Hiter; Mgr. Radio Sales, L. S. Kelsey; Adv. Mgr. Radio and Refrigeration, C. C. DeWees. Products—Stewart-Warner Magic Keyboard radios. Consoles, table models, portables and combinations. Sav-A-Step electric refrigerators and ranges.

See Advt. Pages 6-7

STROMBERG-CARLSON Telephone Mfg. Co., Rochester, N. Y. President, Wesley M. Angle; General Sales Mgr., Lloyd L. Spencer; Adv. Mgr., Warren T. Eastwood. Products—Fine radios and radio-phonographs in modern and period styles, designed to serve as sound reproducers in future television reception.

See Advt. Pages 44-45

SUNDT Engineering Co., 4620 Lincoln Ave., Chicago, Ill. General Mgr., E. V. Sundt. Products—Complete amplifying systems for towers, belfry chimes, etc. Also radio fuses and fuse mountings under trade name "Littlefuse."

See Advt. Page 72

SUPERIOR Tube Company, Norristown, Pa. S. L. Gabel, R. H. Gabel, A. M. Bounds. Products—Seamless and Lockseam cathode sleeves of pure nickel, for television, radio and other types of tubes. Specialists in fine small tubing, in various metals and alloys.

See Advt. Page 83

TRIPLETT Electrical Instrument Co., Harmon Drive, Bluffton, Ohio. President, R. L. Triplett; Sales Mgr., N. A. Triplett; Advertising Mgr., A. R. Baker. Products—Precision Electrical Measuring Instruments and Radio Test Equipment.

Booths 403-05—See Advt. Page 10

TUNG-SOL Lamp Works, Inc., 95 8th Ave., Newark, N. J. Vice Pres. & Sales Mgr., R. E. Carlson; Sales Mgr., Replacement div.: W. B. Masland. Products—Tung-Sol radio tubes.

Booth 410—See Advt. Page 62

UNIVERSAL Camera Corp., 32 W. 23rd St., New York. President, O. W. Githens; Vice Pres., J. J. Shapiro; Gen. Sales Mgr., Frank G. Klock. Products—Two new models added to Univex line. Turret "8" with 3-lens mounting for quick turn from long shot to close-up movies. Mercury candid 35 mm. camera with 1/1500th second speed.

See Advt. Page 69

UNIVERSITY Laboratories, 195 Chrystie St., New York. Chief Engineer, N. Blumenfeld; Sales & Adv. Mgr., I. Golin. Products—Acoustic reproducers featuring the "rubber tired rim" to eliminate ring and metallic resonance from spun metal horns. Also two new dual-driver speakers.

See Advt. Page 72

UTAH Radio Products Co., 820 Orleans St., Chicago, Ill. President, G. H. Beasley; Gen. Sales Mgr., Oden Jester. Products—Vibrators for original equipment or replacement; speakers, transformers and Utah-Carter parts. All covered in new catalog.

Booths 1018-20—See Advt. Page 63

WARD LEONARD Electric Co., Mt. Vernon, N. Y. President, L. Kibler; Sales Mgr., A. A. Berard; Adv. Mgr., J. R. Jones. Products—Vitrohm resistors. Also new Safety Relay to protect transmitter operators from shock due to static charges. Relay discharges filter condenser through discharge resistor.

Booth 715—See Advt. Page 83

WARD Products Corp., Ward Bldg., Cleveland, Ohio. President, R. N. Wiesenberger; Adv. Mgr., H. R. Wiesenberger. Products—New telescopic cowl type auto aerial with concealed mounting that needs no drilling through car body.

Booths 821-23—See Advt. Page 1

WEBSTER Electric Company, Racine, Wis. President, S. A. Loeb; Sales Mgr. Radio Div., R. Ferda; Asst. to Pres., Henry G. Kobick. Products—Extensive line of sound equipment shown in new catalog. Features new 12-watt portable system having great flexibility and versatility.

Booth 428—See Advt. Page 43

WEBSTER-CHICAGO, 5622 Bloomingdale Ave., Chicago, Ill. President, R. F. Blash; Gen. Mgr. & Treas., Donald MacGregor; Sales Mgr., Charles P. Cushway. Products—"Master" line of sound amplifiers in medium price class. Standard line completely modernized; microphones, speakers, phonograph motors and pickups.

Booth 1008—See Advt. Page 71

WHOLESALE Radio Service Co., Inc., 100 6th Ave., New York. President, A. Pletman; Adv. Mgr., Herman J. Tauber. Products—Complete lines of sets, tubes, parts, sound equipment, record players, etc., catalogued for mail selling.

See Advt. Page 74

WILCOX-GAY Corporation, Charlotte, Mich. President, C. M. Wilcox; Chief Engineer, Paul Stead Gay; Sales Mgr., Warren Hase-meier. Products—New "Recordio," combining radio receiver, phonograph and recorder. Enables owners to make recordings of broadcast programs or their own voices through microphone.

Booth 19—See Advt. Cover III

ZOPHAR Mills, Inc., 112-130 26th St., Brooklyn, N. Y. President, H. J. Blank; Sales & Adv. Mgr., L. E. Mayer; Technical Laboratories, A. Saunders. Products—Waxes for insulation and waterproofing of condensers, coils, transformers, wire and all types of electrical equipment.

See Advt. Page 64

you identify yourself as a reader of



ABC Radio Laboratories, 3334 N. New York St., Chicago, Ill.
Inc. Manager, C. Peck; Chief Engineer, Paul Schweitzer. Products—Complete line of radio converters for auto radio to receive multiple bands. Also converters for multiple bands. See Advt. Page 72

ADMIRAL—Radio and Television Corp., 3300 W. Cortland St., Chicago, Ill. President, Roy Strassburg; Vice Pres. and Sales Mgr., J. H. Clippinger; Chief Engineer, J. W. Turner. Products—New 1940 line of radio receivers. Complete line of automatic tuning and streamlined controls. Complete line of battery portables, console and radio-phonograph sets. See Advt. Pages 27-28

ABROVON Corporation, New Bedford, Mass. President, James L. Cole; Sales Mgr., Charles G. Golembau; Adv. Mgr., Paul Kuch. Products—Complete line of condensers, all types; carbon and wire-wound resistors; capacitors and resistance bridges and other test instruments. See Advt. Page 73

AMERICAN TELEVISION & Radio, 140 E. 11th St., New York, N. Y. Minn. Albert Gotstein. Products—Complete line of electronic vibrators, Inverter Vibrators, Hummer Chatterboxes, Shaverplugs, Low Power Amplifiers, Amplifier Tubes, Rectifiers, Eliminator, Chargers, Amplifier Packs, A-C Power Units. See Advt. Page 82

AMPHITEC Co., 561 Broadway, New York, N. Y. President, J. Leads; Sales Mgr. & Chief Engineer, Samuel Bilfinger. Products—Amperite Velocity Microphones with acoustic components for giving uni-directional or non-directional pickup. Contact mics for amateur and professional use. See Advt. Page 84

AMPLITONE Products Co., 1347 Liberty St., New York, N. Y. President, J. H. George Smith; Export Dept., Robert C. Smith. Products—Complete line of P. A. equipment featuring the "Ampliphone" amplifier. Record players, musical instrument pickups. See Advt. Page 81

AMY, Aeeves & King, Inc., 11 1/2 Ave. C, New York, N. Y. Sales Mgr., P. A. Klingenschmitt. Products—Complete line of double antenna sets, including sets as 20 sets on one aerial, with 1000 Mc. converter. See Advt. Page 84

ALCITRUS Radio Tube Co., Newark, N. J. Vice Pres. & Gen. Mgr., J. A. Stohbe; Sales Mgr., J. J. G. G. Products—New 1940 line of vacuum tube products. See Advt. Page 83

ASTATIC Microphone Laboratories, 1000 Longwood, O. General Mgr., J. P. Schotten. Products—New 1940 line of microphones and accessories. See Advt. Page 77

ATLAS Condenser Products Co., 213 Westchester Ave., Bronx, N. Y. Sales Mgr., A. Brand; Engineer, R. Aceden. Products—All popular

lar sizes of paper tubular condenser, 182, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

ATLAS Sound Corporation, 147-51 39th St., Brooklyn, N. Y. President, J. S. Reinhardt; Treas., C. R. Blumenthal; Adv. Mgr., Joseph G. Gale. Products—Complete line of gramophones, Records, Radios, Gramophones, Stands, Fixtures, Radio Gramophones, and Dynamic Driver Units, Exponential Speaker Enclosures, Wall Speaker Enclosures, Demountable Speaker Enclosures. See Advt. Page 78

AUDEL—The Audel & Co., 45 W. 43rd St., New York, N. Y. General Mgr., H. Hawkins. Products—New 1940 line of radio-phonographs, just published. Includes data on television and other recent developments. See Advt. Page on cover

BITTER—A. Bitter Const. Co., 2701 Bridge Plaza North Loop, Dallas, Texas. Products—Photograph record and album cabinets, stores, counters, etc. for display of jewelry where ever records are sold. See Advt. Page 60

BOGEN—David Bogen Co., Inc., 65 Broadway, New York, N. Y. President, J. H. Bogen; Sales Mgr., Haskell Binari; Chief Engineer, Ben Walsh. Products—All types of sound equipment including amplifiers, tone arms, recorders, etc. See Advt. Page 80

CENTRAL Division of Globe Union, Inc., Milwaukee, Wis. Vice President, J. E. Gamin; Chief Engineer, J. E. Gamin. Products—Volume controls in standard and special sizes. Also "Adashtar" Kits containing 1000 different types of attachable shafts, to fit standard and special sizes. See Advt. Page 80

CINAUPHON Corporation, 1347 Liberty St., New York, N. Y. President, J. H. George Smith; Sales Mgr., P. A. Klingenschmitt. Products—Complete line of P. A. equipment featuring the "Ampliphone" amplifier. Record players, musical instrument pickups. See Advt. Page 81

CLARION—Transformer Corporation, 1347 Liberty St., New York, N. Y. President, J. H. George Smith; Sales Mgr., P. A. Klingenschmitt. Products—Complete line of double antenna sets, including sets as 20 sets on one aerial, with 1000 Mc. converter. See Advt. Page 84

CLAROSTAR Manufacturing Co., 235 N. 6th St., Brooklyn, N. Y. President, J. H. George Smith; Sales Mgr., Victor Muecher; Chief Engineer, J. H. George Smith. Products—Complete line of standard and special sizes. Also "Adashtar" Kits containing 1000 different types of attachable shafts, to fit standard and special sizes. See Advt. Page 80

CONSOLIDATED Wire & Associated Corporation, 616 S. Florida Ch., Chicago, Ill. President, J. H. George Smith; Sales Mgr., J. P. Mann. Products—Complete line of standard and special sizes. Also "Adashtar" Kits containing 1000 different types of attachable shafts, to fit standard and special sizes. See Advt. Page 80

COINTEL-DUBILIER Electric Products, 182 Manhattan Pl., Plainfield, N. J. President, O. J. Dubilier. Products—Complete line of radio receiving, transmitting and recording equipment. See Advt. Page 57

CROSLY—The Crosley Corporation, Cincinnati, Ohio. President, Powell Crosby, Jr.; Vice Pres. in charge of radio, J. H. Crosby. Products—Shelvard electric line of radio receivers, "Planefares" Shelvards; home radio receivers, gramophones, washers, ironers, cameras and Crosley automobiles. See Advt. Page 30

DIKAE Electric Works, Inc., 3438 Lincoln Ave., Chicago, Ill. President, J. A. Kuehl; Russell O. Lund and George F. J. Products—Complete line of electrical soldering irons and accessories. See Advt. Page 12

DRAKE Manufacturing Co., 113 W. Hubbard St., Chicago, Ill. Proprietor, J. A. Foutie. Products—Level and pilot light assemblies, in stock and special sizes. See Advt. Page 50

DU MONT—Allen B. Du Mont Laboratories, Passaic, N. J. President, Allen B. Du Mont; Sales Mgr., Leonard Cramer; Chief Engineer, J. H. George Smith. Products—Dumont television sets and television signal generators. Also television signal modulators. See Advt. Cover IV

DUMONT Electric Co., 514 E. 11th St., New York, N. Y. President, J. H. George Smith; Sales Mgr., Phil Dubilier; Chief Engineer, Jack Katzman. Products—All types of television receiving and industrial equipment. Also, photoelectric transmitters and special appliances. See Advt. Page 83

FARNSWORTH Television & Radio Corp., 370 E. Pontiac St., Chicago, Ill. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, P. T. Farnsworth. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

GENERAL Electric Company, Bridgeport, Conn. Div. of Television Dept. W. R. G. Products—Complete line of radio and television. Radio components, including special combinations. Television consoles, table models. See Advt. Page 33

GENERAL I Industries Co., 100 E. 11th St., New York, N. Y. President, J. H. George Smith; Sales Mgr., Homer Stephenson; Chief Engineer, J. H. George Smith. Products—Complete line of standard and special sizes. Also "Adashtar" Kits containing 1000 different types of attachable shafts, to fit standard and special sizes. See Advt. Page 80

INTERNATIONAL Radio Corp., 4545 Augusta Blvd., Chicago, Ill. President, P. E. H. Wainwright; Sales Mgr., auto set div. E. H. Wainwright; Sales Mgr., auto set div. E. H. Wainwright. Products—Auto radios, home sets, portable, "Shelvard" electric line of radio receivers, battery sets. Line featured by "Shelvard" electric line of portable, carried like camera or field kit. See Advt. Page 8

MUELLER Electric Co., 1583 W. 21st St., Cleveland, O. Senior partner, Ralph S. Mueller; Sales & Adv. Mgr., Scott Burgess; Foreign Sales Mgr., E. H. de Camp. Products—Universal record test clip, radio ground clamp, radio accessories, Remco-Cable radio accessories, Remco-Cable recorders, adjustable AC-DC ballast testers, waven frequency dial, dial cables and more. See Advt. Page 79

JFD Manufacturing Co., 4111 Ft. Hamilton Pkwy., Brooklyn, N. Y. Proprietor, Julius Finkel. Advertising, J. S. Kornicker; Sales, Arthur Finkel. Products—Auto and home antennas, auto radio accessories, Remco-Cable recorders, adjustable AC-DC ballast testers, waven frequency dial, dial cables and more. See Advt. Page 79

JENSEN Radio Manufacturing Co., 6601 S. Laramie Ave., Chicago, Ill. President, J. H. Jensen; Sales Mgr., Thomas A. Jensen; Chief Engineer, J. H. Jensen. Products—Five new models of radio receivers, 1000 Reproducers, with 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100. See Advt. Page 39

KEN-RAD Tube & Lamp Corporation, Owenboro, Ky. President, Roy Barley; Sales Mgr., Arthur O. Peritt; Chief Engineer, J. H. George Smith. Products—Radio receiving tubes. See Advt. Page 61

LAFAYETTE Radio Corporation, 100 8th Ave., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, P. T. Farnsworth. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

MAJESTIC Radio & Television Corp., 280 W. 5th St., Chicago, Ill. President, J. H. George Smith; Sales Mgr., W. B. E. Norins; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

MALLORY—P. R. Mallory & Co., Inc., Indianapolis, Ind. President, P. R. Mallory; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

MEISSNER Manufacturing Company, Mt. Carmel, Ill. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

OPERA BROADCASTING SYSTEMS, 110 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

OPERA BROADCASTING SYSTEMS, 110 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

OPERA BROADCASTING SYSTEMS, 110 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

OPERA BROADCASTING SYSTEMS, 110 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

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OPERA BROADCASTING SYSTEMS, 110 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

NOTOROLA—Galvina Mfg. Corp., 4545 Augusta Blvd., Chicago, Ill. President, P. E. H. Wainwright; Sales Mgr., auto set div. E. H. Wainwright; Sales Mgr., auto set div. E. H. Wainwright. Products—Auto radios, home sets, portable, "Shelvard" electric line of radio receivers, battery sets. Line featured by "Shelvard" electric line of portable, carried like camera or field kit. See Advt. Page 8

NATIONAL UNION Radio Corporation, 51 State St., New York, N. Y. President and Gen. Mgr., S. W. Midway; Gen. Sales Mgr., H. A. Hutchins; Adv. Mgr., G. E. Trueman. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

RAYPHONE Production Corp., 146 Lake Shore Drive, Chicago, Ill. Vice Pres. & Chief Engineer, J. H. George Smith; Sales Mgr., E. S. Biedel; Chief Engineer, J. H. George Smith. Products—Rayphone receiving tubes, radio panel lamps, auto lamp bulbs, auto lamp tubes, automobile lamp bulbs. See Advt. Page 67

OHMITE Mfg. Co., 110 Flourey St., New York, N. Y. President, David H. Siegel; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

OWAN—D. W. Owan & Sons, 110 W. 42nd St., New York, N. Y. President, D. W. Owan. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

OPERA BROADCASTING SYSTEMS, 110 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

OPERA BROADCASTING SYSTEMS, 110 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

OPERA BROADCASTING SYSTEMS, 110 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

OPERA BROADCASTING SYSTEMS, 110 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

PIONEER Gen-Motor Corporation, 111 President and Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

PRESTO Recording Corporation, 100 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

QUAM—Quam-Nichols Company, 111 President and Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

RAYPHONE Production Corp., 146 Lake Shore Drive, Chicago, Ill. Vice Pres. & Chief Engineer, J. H. George Smith; Sales Mgr., E. S. Biedel; Chief Engineer, J. H. George Smith. Products—Rayphone receiving tubes, radio panel lamps, auto lamp bulbs, auto lamp tubes, automobile lamp bulbs. See Advt. Page 67

RECORDING CORPORATION, 100 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

REGAL Amplifier Mfg. Corp., 110 W. 42nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief Engineer, J. H. George Smith. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

REHARTE METER Works, College Ave., Triplett, Ohio. President, H. A. Baker. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

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REHARTE METER Works, College Ave., Triplett, Ohio. President, H. A. Baker. Products—Radio receivers, television receivers, television transmitters and special appliances. See Advt. Page 83

UNIVERSAL Camera Corp., 32 W. 22nd St., New York, N. Y. President, J. H. George Smith; Sales Mgr., J. H. George Smith; Chief

“. . . So it goes, one thing after another, year after year for 10 straight years of LEADERSHIP! Philco has been the one driving force for progress in radio design and engineering, setting the pace for the whole industry to follow . . .”

“IN 1940, PHILCO LEADS AGAIN!

New Inventions Bring a Revolutionary Change in the Use and Enjoyment of Radio”

The foregoing words are part of the story that Philco distributors heard at the Philco radio convention just ended at French Lick, Indiana. Your distributor is on the way home now, bursting with the greatest news, the most exciting *profit message* in his entire radio career!

Within a few days, you'll get the announcement of his dealer meeting. Of course, you'll go—because his story is the *cornerstone* of your 1940 radio profits. And he'll show you a parade of home radios, radio-phonographs, compacts, portable radios,

farm radios . . . a complete line that breaks all records for sales appeal, beauty and value!

New Inventions that give, at every price, finer tone, performance and convenience than ever before. New Cabinets in a wide variety of styles to suit every taste and preference.

**The Big News will reach
you soon. Get ready to GO!**

PHILCO RADIO & TELEVISION CORPORATION

JUN 15 1939

RADIO *and Television* TODAY

Forward March— to Radio's Banner Year

In the latest saga of the sea, the rescue of the Squalus survivors, though lives hung by the thinnest of threads, calm, courage and confidence prevailed.

The men of the Navy demonstrated that there is a Spirit of '39—just as there was a Spirit of 1776! And it *isn't* fear.

* * *

There's a lesson here for every radio man, as he now gets ready for the 1939-40 selling season.

"Forward March" is the command. And there is no reason to hesitate.

People are buying. Sales curves are upward. Returning confidence is the order of the day.

1. Automobile sales are up 40%.
2. Electric appliance sales are up 30%.
3. Residential construction is up 20%, and at the highest level since 1929.
4. Present production is in line with present consumption; inventories are low.
5. The European crisis is easing; ten-

sion is now less in London and Paris, than here.

6. U. S. business is benefited by the world-wide armament race.
7. Railroad earnings are sharply up, and Class I roads are back in the black.
8. Radio dealers never before had so many products to sell to so many people.
9. Television is taking its rightful place in the trade, and will not demoralize radio sales.
10. General confidence is being restored. Courage has returned. Determination has replaced fear. The Legions of Business march on.

* * *

In this new order of the day, the radio man must march on too, or be left behind. There is nothing to fear, but fear itself. And if you are afraid of your business, your customers will be afraid of you.

Radio is marching on to new volumes of sales and new peaks of profits.

So—Forward March! Let's make this Radio's Banner Year!

RMA Convention and Banquet at Chicago

The annual meeting of the Radio Manufacturers' Association will be held at Hotel Stevens, Chicago, June 13 to 15. The membership luncheon scheduled for Tuesday noon will be addressed by President A. S. Wells; Executive Vice-President Bond Geddes; Treasurer Leslie F. Muter; Neville Miller, president National Association of Broadcasters, on "Teamwork of RMA and NAB"; and Commissioner T. A. M. Craven, FCC, on "Television."

During Tuesday afternoon and Wednesday there will be committee sessions, and on Wednesday noon the luncheon session of the new RMA directors will be held.

BANQUET AT MORRISON

This year the annual cabaret and radio-industry banquet will be held in the Terrace Casino, Hotel Morrison, at 7 p.m. Wednesday. Paul V. Galvin is chairman of the committee, and an elaborate entertainment program has been provided, which will be followed by dancing.

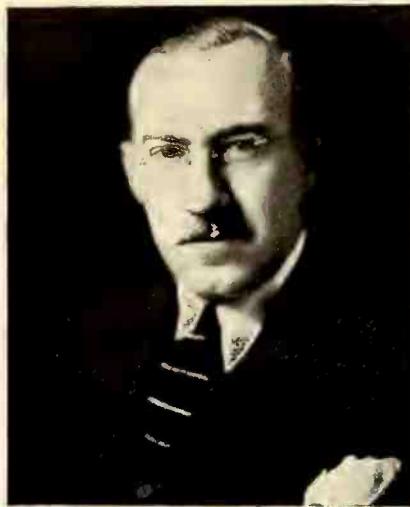
On Thursday the Radio Industries Golf Tournament will be held at the Calumet Country Club.

On Friday morning sessions of the Sales Managers Clubs and "The Representatives" will be held in the Stevens, followed at noon by a meeting of the Trade Show membership for luncheon.

Friday evening, the Radio Servicemen of America will hold their annual membership meeting, with President T. P. Robinson officiating.



Charles Cushway, who has resigned as Thordarson sales manager to join forces with Webster Company, Chicago, makers of sound equipment.



H. C. Bonfig, RCA-Victor sales vp, who is national radio chairman for the celebration of Father's Day, June 18.

Radio Biz Not Hurt by Television in NY

There has been no evidence in the last month that the advent of television in New York has hurt the radio business there.

There seems every reason then to believe that a constructive *sell radio* program may well produce a banner radio year, and that the future will see less disturbance from television than the past.

An analysis of current radio sales indicates that smaller sets have not lost anything in their ratio to consoles. In this it is probable that television has played an important part. This ratio of compacts to consoles is not apt to swing sharply to consoles for quite some time, if ever. And so it behooves all dealers to gear their business more in line with the profitable sales of radio units which average around \$25.

Sarnoff Sees Vast Expansion Ahead in Radio

Predicting that new technical developments may, in the near future, multiply the number of useful radio channels a "hundred-fold or a thousand-fold," and foreseeing the day when a network can "carry not only broadcasting but also telegraphy, telephony, multiplex communications, facsimile, television, and the like, all on one network," David Sarnoff, president of RCA, before the FCC, pleaded that "present-day limitations be not employed as to the standard for tomorrow's governmental regulation"

"I can foresee the possibilities of developing systems of intercommunications, both for sound broadcasting and for television, that will not depend upon wires at all—where you can carry these signals and these images

by means of a radio line instead of a wire line.

"I believe that in five or ten years from now we will look back upon the radio structure of today, whether it will be in the broadcasting station or whether it be in the receiver in the home, and we will hardly be able to recognize the present-day structure. I think the changes that are coming in the radio art will come with greater rapidity from here on than they even have come during the past decade because of the developments which are now reaching a point of ripeness and calling for expression in the field and in the markets," he declared.

Hiter Reports on English Television

Television, because of its very nature, will always supplement radio, never supplant it, F. A. Hiter, vice-president and general sales manager of the Sewart-Warner Corporation, told Stewart-Warner directors.

"Don't get false ideas about television," Mr. Hiter said. "Television will have about the same effect on the sale of radio sets as aeroplanes have on the sale of automobiles, because by its very nature, television will supplement radio, not supplant it.

"The publicity accorded television in this country recently, has caused some concern among radio-set manufacturers, and it is possible that misapprehension, by the public, of the functions of television may temporarily affect radio sales, but those of us who now manufacture both radio and television sets, are under no illusion."

Mr. Hiter pointed out that despite the fact regularly scheduled television programs have been available in England since 1936, with television sets



Henry Hutchins who has been called back to National Union, Newark, N. J., to direct tube sales, after four years as vp Western Adv. Agency.

on sale there at prices considerably below those asked for similar sets now on sale in New York City, his report showed that the sale of radio sets in Great Britain during the same period exceeded 4,750,000 sets, while less than 15,000 television sets had been sold during the same time.

He reported that Stewart-Warner radio sales for the four months of 1939 show an increase in units of 198 per cent over the corresponding 1938 period.

For "de Forest Day" at World's Fair

Some of the old friends of Dr. Lee de Forest, inventor of the three-element radio tube, are sponsoring a movement to hold a de Forest Day at the New York World's Fair, Sept. 21 or 23, during Radio Week when the IRE will be convening in New York. Preceding this there will also be a celebration of Dr. de Forest's 66th birthday on August 26.

It is becoming increasingly recognized that no invention has more profoundly affected human affairs than the tube, which is basic to modern radio, communication, broadcasting, sound pictures, sound amplification, television, facsimile, airplane direction and a host of present and future electronic developments.

Frank E. Butler, 2912 Rockwood Place, Toledo, Ohio, who was de Forest's assistant throughout his experiments from 1904 on, is serving as clearing house for the de Forest Day celebrations.

Stromberg-Carlson in Frequency-Modulation Field

The Stromberg-Carlson Company has applied to the FCC for a frequency-modulation transmitter to employ the E band of frequencies which include 42.6 to 43.4 megacycles, according to Dr. Ray H. Manson, vice-president and chief engineer.

"Our 1-Kw. transmitter is to operate on Armstrong's wide-swing frequency-modulation system. We plan to conduct a very complete series of transmission and reception tests to determine first-hand the operating characteristics of this type of transmission for use in cities of the size of Rochester, giving staticless radio," continues Dr. Manson, who adds:

"We have already designed and will have on the market in the near future a special high-fidelity frequency-modulation receiver, known as our 480-M, which will list at approximately \$375 f.o.b. Rochester and which will include Mr. Olney's new design of coaxial duplex speaker system with acoustical labyrinth. This speaker system has demonstrated in tests that it will give a very smooth, wide-range audio reproduction which will take advantage of the high-fidel-



Capchart district managers get together at Fort Wayne headquarters of parent Farnsworth Television & Radio Corp. At head of table are Farnsworth's president, E. A. Nicholas, and E. H. Vogel, sales vp. I. C. Hunter, Capchart sales manager, directed the sales sessions.

ity possibilities of Armstrong's new frequency-modulation system.

Because there is no background noise in this new transmission system, due to static or to tube noises in the R.F. stages of the transmitter and receiver, full advantage can be taken of the high audio frequencies and give a quality of reproduction that is entirely new to radio. This 480-M receiver will contain a standard amplitude modulation tuning range, 540 k.c. to 1,700 k.c., and a short-wave broadcast range of 5,700 k.c. to 18,000 k.c., so that it is really a receiver of the future, as it provides high fidelity operation for both the amplitude-modulation and the frequency-modulation systems of transmission.

W. Keene Jackson Buys Kadette Radio

W. Keene Jackson, formerly general sales manager and director of the International Radio Corporation of Ann Arbor, Mich., has purchased the entire Kadette radio division of the



W. S. Hartford, who has been appointed general sales manager of Thordarson Electric Manufacturing Co.

International Radio Corporation and will immediately enter into production of a complete new line of Kadette radio sets in a new Ann Arbor factory.

Compacts, portables, table models, phono-combinations and television equipment are to be included in the new line which will be shown at the Blackstone Hotel, Chicago (Rooms 1018-19-20), during the National Parts Show, June 14 to 17. Executive offices have been opened at 310 First National Building, Ann Arbor.

PUSHED SMALL SETS

Mr. Jackson was a pioneer in the introduction of the very small radio, and has seen the "compact" grow to tremendous sales figures.

Until Jan. 1, 1939, Mr. Jackson was in complete charge of the marketing of the Kadette line as manufactured by the International Radio Corporation. During these years of merchandising, Mr. Jackson personally contacted and sold more than 350 radio jobbers and export outlets, the majority of which will continue to handle the new Kadette line.

Associated with Mr. Jackson in the new Kadette company are J. B. Hawkins, in charge of manufacturing; W. C. Walz, treasurer; Mrs. E. Kay Graves, secretary and assistant treasurer; and Richard T. Bliton, vice-president and sales promotion manager.

"All Kadette products," Mr. Jackson said, "will be sold through recognized jobber-dealer channels. This assures economical distribution of our merchandise on a national basis. Many former Kadette sales representatives will be identified with the new company."

Emerson Convention, N. Y. City, June 19-20

Ben Abrams, Emerson president, announces that the annual distributor convention of the Emerson Radio & Phonograph Corp., will be held at the New Yorker Hotel, New York City, June 19 and 20.

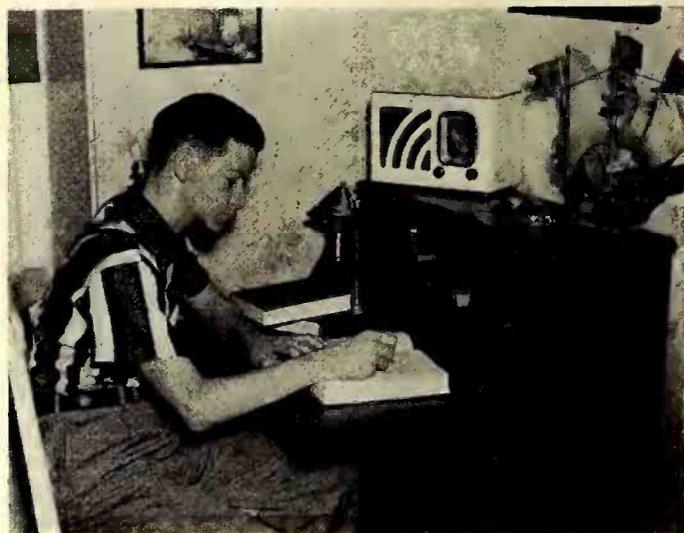


"Over the Top" to

**Here Are Eight Important Factors in
Creating Better 1939-40 Business for
Every Man Who Sells Radio Receivers**

RADIO TODAY

Your advertising is your ambassador. Make it reflect your store's personality.



Today's youngsters are tomorrow's homemakers. Cultivate their friendship early and sincerely.



Timely selling displays—Fights, sports, holidays, keep attention focused on your store and your merchandise.

Follow up your prospects by phone —mail—and personal calls.

Bigger Sales

Build on Friendship. . . .
It Means Satisfaction
and Business Permanence

JUNE, 1939



Demonstrations attract prospects—
to see you—your store—and your
merchandise.



Sincere friendliness instills
confidence in your customers.



A uniformed ser-
vice man helps
make radio sales
to discriminating
people.



Records build store traffic—
and expose your selling dis-
plays to more eyes.

JUNE, 1939



Your advertising is your ambassador. Make it reflect your store's personality.

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It Means Satisfaction
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JUNE, 1939



Sincere friendliness instills confidence in your customers.



Demonstrations attract prospects—to see you—your store—and your merchandise.



A uniformed service man helps make radio sales to discriminating people.

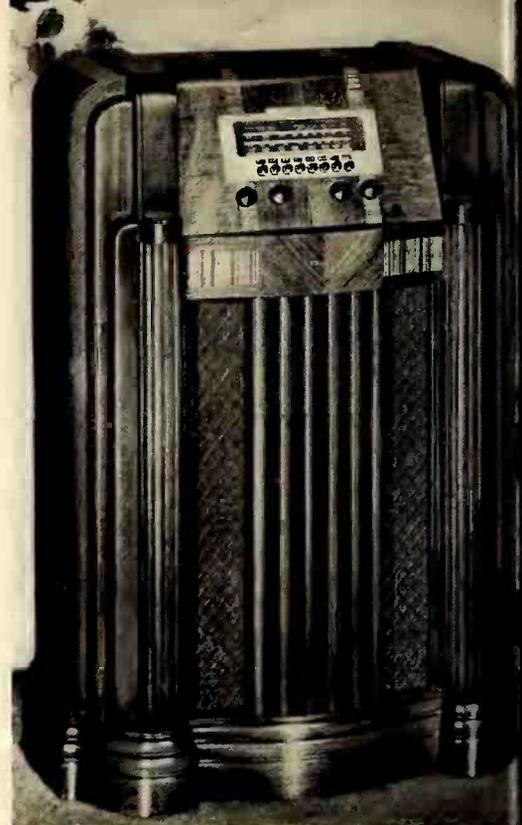


Records build store traffic—and expose your selling displays to more eyes.

JUNE, 1939



Left—This moulded plastic cabinet of striking simplicity, contains the RCA-Victor model 5Q55, deluxe 3-band radio, which incorporates radically new circuit design, 5-in. electrodynamic speaker, and edge-lighted dial. Available in brown or ivory; list price, \$29.95.



Right—Model 190XF, one of the 9 new Philco 1940 consoles which feature the "super aerial system," built-in "twin-loop," noise-excluding RF stage, loktal tubes, push-button tuning, phonograph and television-sound connections, and "cathedral" speaker.

The Radio Parade

A review of new lines and items for the 1939-40 radio selling season

In the new 1940 lines now being shown to the trade, radio manufacturers have "followed through" on the hopes of expectant dealers, and are providing the products to make greater sales and better profits—make the coming season a better radio year.

Greater values characterize all lines.

Public "buy-appeal" has been sharply stepped up, with finer cabinetry, styled in better taste. Loop operation eliminates antenna wires. Horizontal dials and push-button tun-

ing render selection of programs simple, easy and convenient.

More combinations and record-players, and newer and better battery portables, make their bid to satisfy the growing public demand.

Better appearance, better performance, greater values, will cause far more people to want to buy radio this year.

Probably the most significant feature of the 1940 radio sets is the very pronounced trend in the cabinetry.

Better taste, and greater simplicity

of lines characterizes the cabinet designs of most consoles and compacts, regardless of price, and thus, by contrast with the design of the past, offer a powerful buying influence to the increasingly style-conscious ladies.

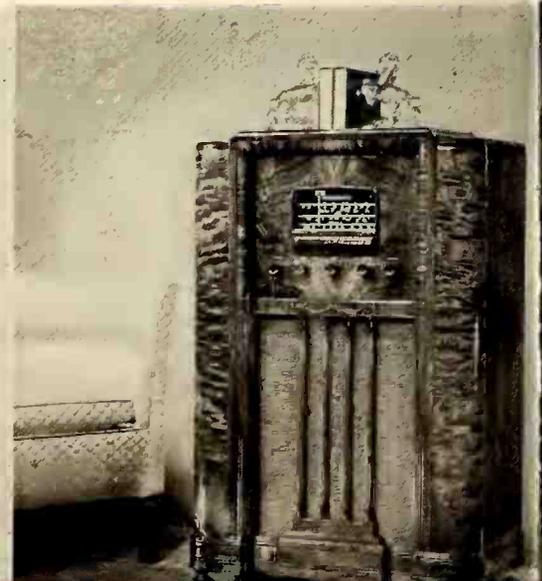
More manufacturers are producing more consoles of authentic period styling, and there are more authentic "furniture models" than ever before, to make it easier for milady to assimilate a large piece of furniture in her carefully furnished living-room.

The trend to plastics in compacts,

GE model H116, 11-tube, 3-band, super, "feather-touch tuning". "dynapower 14" speaker.

Stewart-Warner model 01-6A7, 3-band, super, lineardial, line antenna, push-button.

Stromberg-Carlson Key model 450M, 3 bands, motor tuning, labyrinth, bi-focal tuning, \$175.





Model U 50, 5-tube 3-band electric, radio-phonograph, \$69.95



Stewart-Warner model O3-5E1, AC-DC, 2 band, superhet.



Sparton model 590-1, AC-DC-battery portable, 5-tube super, loop, 17 lbs.



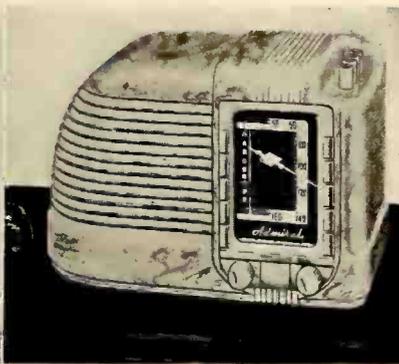
GE model HB 408, 4 tube, super battery, radio-phonograph, 19½ lbs., \$36.



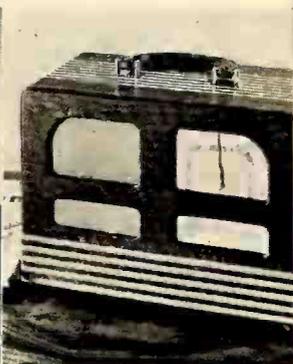
Model H620, 2-band, 6-tube, super, loop, touch tuning, plastic cabinet.



Stewart-Warner model 07-514, 5-tube AC-DC, super, line antenna.



Admiral model 373-5R, 5 tube, AC-DC, super, onyx plaskon cabinet.



Stromberg-Carlson model 402H, 14 lb. portable, \$29.95

even above the lowest price levels, is spreading. More manufacturers are offering color, too, in their 1940 receivers, the better to harmonize these little sets with home color schemes.

Most major manufacturers' lines are composed of fewer large consoles, more compacts and table models. And more manufacturers are including radio-phonograph combinations and record-changers than heretofore.

This will tend to keep dealers' stocks at a lower level, and turning faster. It should prove beneficial to customer, dealer, distributor, and producer.

Unmistakable is the pronounced intention to satisfy the public demand for battery portables as manufacturers rush to provide new models in various shapes and sizes, ranging from a simple compact with a handle, to fine pieces of luggage with the radio completely concealed when not playing.

Dollar values are sharply up. Though prices trend downward in consoles and large table models, it is probable that the greater value and "buy-appeal" of the larger table models and lower priced consoles will ac-

tually result in enough increased sales in these classes to offset the battery portables and lower priced compacts, and hold the average retail price at, or a little above, the 1939 level.

The loop antenna under various trade names, has been almost universally adopted from large sets to small, and so installation time and expense has been saved for the dealer.

Horizontal and edge-lighted dials predominate, and push-button tuning is almost universal.

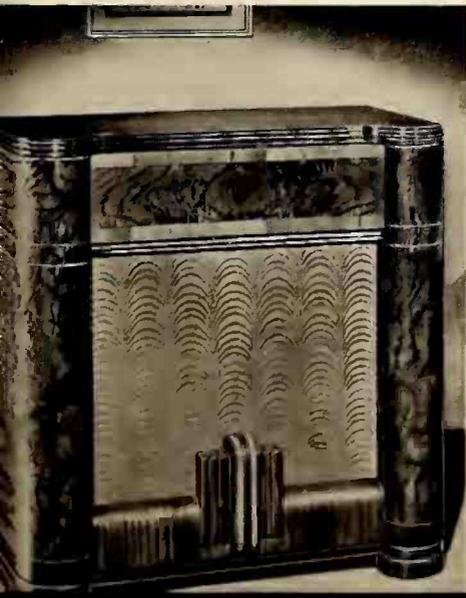
(Continued on page 23)

Admiral model 395-11B, 11-tubes, 2 band, automatic, radio-phonograph, loop, 12" dynamic speaker.

Crosley model 639M, automatic, radio-phonograph, "Acoustical Tone" director, eye-appealing cabinetry.

Stromberg-Carlson model 411 PF, radio-phonograph, mahogany Chippendale.

Brunswick model A3780, 10-tube, automatic radio-phonograph, mahogany Sheraton.



New Ammunition

Novelties that Will Insure the
Surrender of Customers' Dollars



Story & Clark's new Storytone amplifier piano, voiced by RCA-Victor. Providing richness and volume of piano tone, the speaker can also be operated from radio and phonograph concealed in the bench.

Wilcox-Gay's portable Recordio, below, will make home recordings and play them back. Also plays records of any type. Recordio's also available in large combination-radio Home Entertainer models.



GE's leather brief-case portable HB 403.



Motorola's "Sporter"—compact camera-case portable. Weighs under 5 lb. Shoulder-strap forms loop antenna.



RCA-Victor's new multiplex Little Nipper which provides programs or serves as remote control for any other receiver.



Philco table model 125 C. 6 tubes

Motorola 51 D portable

RCA-Victor portable

Phi'lco portable 74 T. Built-in loc

(Continued from page 21)

PLANNED FOR TELEVISION

Most manufacturers are providing means of using 1940 radio to reproduce "television sound," when television comes, and thus offer the most important means of overcoming the mental hazard which television may have raised in the minds of many prospects.

All of these actual individual factors add up to the following vitally important indicated trends:

1. More stable radio business.
2. Greater "buy-appeal," resulting in greater sales following increased selling effort.
3. Average retail price unchanged, or slightly up, with increased volume possible, indicates a better profit position for all dealers.

Go after School Supt's

In counties all over the United States, district school superintendents are interviewing their school principals and local trustees, urging them to buy radios for their schools during the coming year.

The American School of the Air is so useful and of such long standing that it is found invaluable today by schools which use it. The National Broadcasting Company devotes a half hour each day to its school programs, including science, health, music, literature and history. Each year sees a decided improvement in the quality and quantity of the educational programs available for school use.

By interviewing teachers, trustees, principals or superintendents the alert radio salesman may find a large field near at hand for sales of either large or small models depending on the finances and size of the school.

To interest teachers or trustees in a radio for school use, the dealer can get from both C.B.S. and N.B.C. pamphlets and material on educational programs for the coming year, which might prove very useful during the interview.

The school season ahead will doubt-

Gertrude Lawrence, famous stage star, carries a new Majestic battery portable on her road tour. Miss Lawrence is currently starring in "Skylark".

less see a greater increase in the number of radios used in the school room than any preceding year, as educators and broadcasters alike realize the fuller possibilities of this teaching medium.

Home Recording and Amateur Photography

"Some fifty years ago the photograph business was in about the same position as sound recording is today," points out Chester M. Wilcox, president, Wilcox-Gay Corp., Charlotte, Mich., producers of the new Wilcox-Gay Recordio.

"George Eastman at that time saw what no one else recognized, viz: that with the mystery cleared away and with simple equipment made cheaply because of mass production every man could become his own snap-shooter.

"He was right. Millions of families soon learned to 'push the button' and now enjoy a visual record of themselves and friends at life's major moments.

"No less important can be sound recording. Is it any less desirable to

have a sound record of daughter's first piano recital than her picture on the same occasion? Or on her birthday, or graduation or dozens of similar occasions. Think how perfectly many happy and momentous occasions may be called to mind by a collection of such records. This is not all that home recording can do, however. It can catch snatches of history, great music, fine talks, etc., as brought to you by your radio; it can send your voice by mail and render many other important functions.

"But to make sound recording genuinely successful, it must be taken away from technicians, must be made so simple and so inexpensive that it will soon be as common-place home equipment as the Kodak. This is what Wilcox-Gay intends to do.

"The photograph industry, following this plan, not only provided pleasure for millions but work for thousands of people in their plants and profit for many more thousands of dealers and distributors in the merchandising of what has become a major industry. This will be a new opportunity for dealers to profit in a fast growing development."



Television Picked Up Clearly at 130 Miles

Contrary to theory that television programs can be received only 40 or 50 miles from the transmitting station, General Electric engineers near Schenectady, N. Y., using a standard console G.E. receiver, picked up the complete two-hour program telecast by N.B.C. from the Empire State Building on May 26. Both picture and voice were received exceptionally well, despite the fact the airline distance to the transmitter was 130 miles and the receiver was located approximately 8,000 feet below the "line-of-sight." This is believed a record for reception of a regularly broadcast television program.

The temporary directive antenna, diamond in shape, was suspended from four masts with the plane of the diamond parallel to and about 40 feet above the ground. The antenna occupied a space on the ground of about 300 by 600 feet. The picture as viewed by the group was 8 by 10 inches. The place where the tests were conducted was about two miles from the new highpower television station which General Electric is erecting in the Helderberg mountains, 12 miles from Schenectady.

The spot was at a location slightly higher than the station, to command the best view of New York and the south. The station is slightly down the mountainside, so that part of the mountain acts as a shield to the south, since this transmitter plans only to cover the capital district.

Soviet has vast radio market if you can get into it

Far to the rear in radio progress is Soviet Russia, a survey made for the U. S. Department of Commerce discloses. Last available figures on radio use show only 350,000 sets in a land of 165,000,000 population. And these are mainly 4-tube table jobs.

Radio is a state monopoly in the lands of the Soviets. Tax is three rubles (60 cents) for non-tube and 24 rubles (\$4.80) for tube sets each year. Transmission is from 78 government-owned stations on all sorts of frequencies. In addition to standard broadcast range sets for Soviet use should cover from 250 to 545 kc, says the report.

Selling to the hammer-and-sickle country may be done only through

the Amtorg Trading Corp. of New York City, state-owned importing firm. Tariff is 25 to 30 per cent ad valorem. During the first six months of 1936, about \$500,000 worth of radio material was imported by Russia. These are the latest statistics, and those by country are not available.

Soviet-made sets are expensive, about \$40 being the price of a popular 4-tube model. Because U. S. patents are not protected, Russian manufacturers think nothing of duplicating sets. One copy of a 6-tube super-heterodyne with metal tubes now is offered at \$195. In rural areas battery receivers are used. In cities, 120 volts, 50 cycles and Edison screw sockets are the electrical specifications. Soviet producers are far behind the demand.

Auto sets are unknown except on the Zis, a Soviet-made car which is equipped with a 5-tube set. There are only 400 amateur licensees, but considerable television and facsimile experimentation is being done. Police and airplane radios are unknown factors. Sound systems are used mainly for political talks.

"Discount Buying" Menaces Radio!

Dealers, distributors and discount houses found giving away margins, through "courtesy discounts" and industrial sales.

Radio dealers have long known that the "discount" evil and the "buy it wholesale" racket were serious factors in the radio business.

But few people realize that this

"buy-it-wholesale" idea is fast becoming a national buying habit, and unless stopped, bids fair ultimately to result in a complete breakdown of our present channels of specialty dis-

tribution of home and auto devices.

All in the radio business—manufacturers, distributors and dealers alike—owe it to their own best interests to give this evil prompt and serious consideration and to co-operate with the fast growing movement to stamp it out.

The "Octopus" on the opposite page is a slimy creature which has the faculty of emitting an inky fluid to obscure it from any enemy—just as the slimy "buy-it-wholesale" practice has interests which blind and hamper its pursuers, by always pointing to "the other fellow" the while growing fat at the expense of the independent retailer.

SAP LIFE-BLOOD

These practices which are sapping the life's blood of our independent dealers can exist only so long as the industry permits it to exist. It's time we stopped talking and did something about it. And already action is underway.

Sales through "Discount Houses"

Purchases of Appliance, Auto Accessories and Home Equipment, Reported by Harvard Business Review

Item	No. of Families Reporting Purchases	Percentage Reporting Purchases as at a Discount	Item	No. of Families Reporting Purchases	Percentage Reporting Purchases as at a Discount
Part I—Six items reported in 1,016 consumer interviews.			Auto Oil and Gas	228	9.2%
Mechanical Refrigerators	530	20.9%	Anti-Freeze	225	6.2
Washing Machines	425	18.3	Auto Parts	191	8.9
Vacuum Cleaners	703	15.8	Food Mixers	65	49.2
Radios	927	20.1	Electric Toasters	156	27.5
Tires	487	32.8	Electric Roasters	7	71.4
Watches	742	12.9	Electric Floor Lamps	313	8.8
Part II—Twenty-two items reported in 390 consumer interviews.			Other Electrical Appliances	329	17.3
Furniture: Original Purchase (On going into housekeeping)	377	12.2%	Stoves	220	10.4
Furniture: Most Recent Purchase	379	13.2	Sporting Goods	117	25.6
Automobiles	331	1.8	Clocks	300	9.3
Auto Heaters	179	17.8	Silverware	281	7.4
Auto Radios	110	15.4	Other Jewelry	368	5.1
			Builders' Supplies	153	28.7
			Coal and Fuel	377	2.9
			Clothes	383	7.3
			Services	377	0.5

40% OF
CONSOLES

30% OF
COMPACTS

RADIO
DISCOUNT
"OCTOPUS"

15% OF
RECORDS

30% OF
COMBINATIONS

25% OF
PORTABLES

10% OF
TUBES

RADIO
DEALER

"DISCOUNT" OCTOPUS GETTING DEATH GRIP ON RADIO

EXTENT TO WHICH RADIO ITEMS ARE SOLD AT LESS THAN LIST PRICES

Many industry and trade groups are now becoming awake to the extent of the "discount buying" evil. The widespread growth of this parasite on retail selling has surprised most merchandisers.

In its Spring issue, the Harvard Business Review revealed results of its surveys of discount purchasing in a number of retail fields. In the course of these it reported that 20% of radio purchases "were made from discount houses."*

DISCOUNTS RAMPANT

Radio men with whom this 20% figure has been discussed, feel that the radio survey so reported by the Harvard Review investigators, must have been made in a relatively "clean territory" or upon some erroneous definition of "discount buying." Radio

men insist that the percentage of discount selling in radio is really far higher.

Indeed, RADIO TODAY's own survey, among manufacturers, distributors, dealers and consumers, shows discount buying rampant in the radio field, with as much as 40% of console sales being made at less than list prices.

For compacts and combinations, the figure runs about 30%. Portables average 25% through discount channels; records only 15%. The tube percentage is low because so many tubes are sold through service men who charge "list."

Even many established dealers give "courtesy discounts" to industrial, commercial, municipal and civil service employees, and to club, lodge, and association memberships.

CAPITALIZE CUT-PRICE

Such dealers are, in effect, capitalizing on their ordinary cut-price policies, and are making such policies produce greatly increased sales volume. Using original list prices on surplus and obsolete radio which they buy at liquidation prices, they give a long discount (and a sound shellacing) to the "discount buyer", the while maintaining very satisfactory profits in spite of unfrequent sales of current models at 5% over cost, which drives the honest dealer frantic.

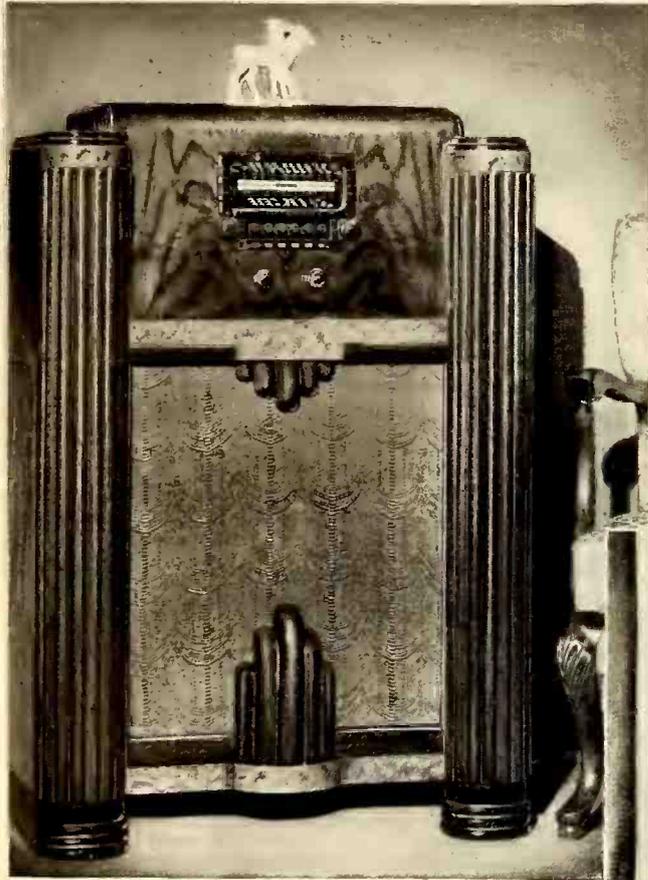
Such stores are well known to radio distributors and are reputed to sell more radio than even the non-dealer, strictly "discount house."

*See also ELECTRICAL WEEK, May 15, 1939.



FULL SPEED AHEAD

7 AND 11 TUBE AC CONSOLES



1-7H

ADMIRAL 7 & 11 TUBE AC CONSOLES

With Aeroscope and Automatic Tuning

Model 380-7H—7 tube AC Super. 2 bands (540 to 1550 KC and 5.65 to 18.1 MC)—automatic volume control—tone control—automatic tuning—8" dynamic speaker—television connection—figured walnut cabinet with tilted front panel.

Model 381-7H (see above)—7 tube AC Super with 12" dynamic speaker. Otherwise same as 380-7H.

Model 394-11B—11 tube AC Super with 12" dynamic speaker. Otherwise same as 380-7H.



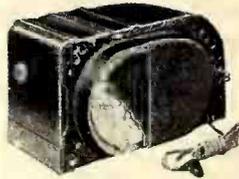
1-11B



380-7H

ADMIRAL RADIOS FOR 1940

Will Be on Display at the Blackstone Hotel
See them when in Chicago June 14, 15, 16, 17
for the National Radio Parts Show



Another first and another feather in Admiral's cap. Introduced this spring on the lower priced table models the Aeroscope (no aerial—no ground) was the sensation of the industry. This fall, the Aeroscope plus automatic tuning will be an even greater sensation.

Most models also have a special INTERFERENCE SHIELD which reduces static and other noise to a minimum. Just try an Admiral in a location that's usually "tough" for an ordinary radio.

NO AERIAL—NO GROUND AEROSCOPE

ADMIRAL 5 TUBE AC-DC SUPERHETERODYNE

With Aeroscope and Automatic Tuning

Here's the price leader that will bring 'em in! AC-DC Super with 5 full working tubes in special heat reducing circuit. No ballast! No cabinet discoloration. Tuning range 540 to 1730 K.C.—automatic volume control—automatic tuning—5" P.M. speaker—Aeroscope—television connections—smartly styled plastic cabinets.

Model 362-5Q Ivory



382-7H

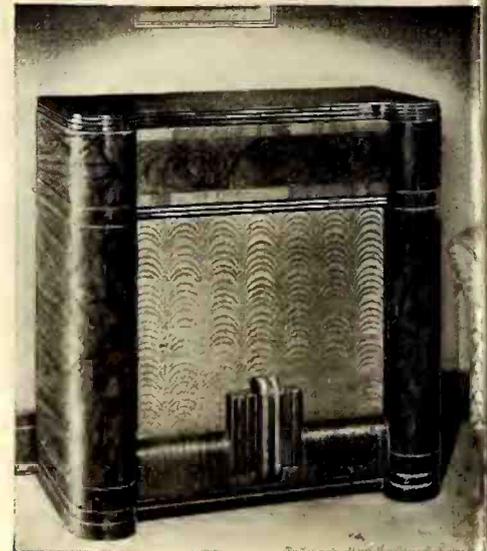


ADMIRAL Radio-Phonographs

With Aeroscope and Automatic Tuning

Model 382-7H—7 tube AC superhet radio with 2 bands (540 to 1550 KC and 5.65 to 18.1 MC)—automatic volume control—tone control—push pull output—automatic tuning (6 push-buttons)—slide rule dial—dial lights—12" dynamic speaker—Aeroscope (no aerial or ground required)—television connection. Phonograph has new light-weight crystal pick-up with self-starting electric motor. Plays 10" & 12" records.

383-7H



Model 383-7H—Radio same as 380-7H. Phonograph has new light-weight crystal pickup with quiet self-starting electric motor. Automatic record changer plays both 10" and 12" records in mixed sequence.

Model 395-11B—11 tube AC superhet radio with 12" dynamic speaker (otherwise same as 380-7H.) Phone same as 383-7H above.

ADMIRAL PORTABLE RADIO-PHONOGRAPHS

Model 153-5L—Admiral "Gypsy" in modern airplane luggage case with convenient pocket for records.



159-5L

Model 159-5L—In straight grain walnut cabinet.

Both models have AC radio with 5 full working tubes—electro dynamic speaker—and Aeroscope. Tunes complete broadcast band (535 to 1730 KC). Phonograph has new light-weight crystal pick-up with quiet self-starting electric motor. Plays 10" and 12" records.



153-5L

Model 311-4D—Portable battery operated 4-tube radio-phonograph in case similar to above.

WITH Admiral FOR 1940!

STREAMLINED TABLE MODELS IN PLASTIC CABINETS — A COMPLETE LINE OF BATTERY RADIOS



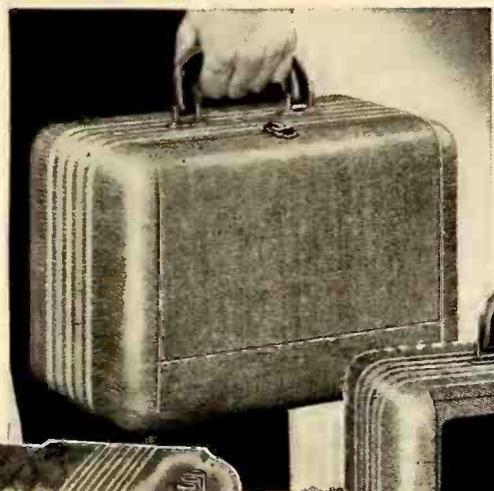
AMERICA'S SMARTEST STREAMLINED PORTABLE RADIOS

Operate on 110 V. AC or DC or Self-Contained Batteries

Model 335-4Z—4 tube super operates on self-contained batteries that last 250 to 300 hours because of new low-drain 1½ volt tubes. Complete with *Aeroscope* . . . automatic volume

control . . . 5" P.M. speaker . . . modern gray tweed-effect luggage case measuring 13¼" x 9¼" x 7½". Tuning range 535 to 1610 K.C.

Model 336-5N—5 tube super operates on AC-DC or on self-contained batteries that last 250-300 hours because of new low-drain 1½ volt tubes. Tuning range 535 to 1610 K.C. Has 5" P.M. speaker with volume control. No aerial—no ground—*Aeroscope*. Modern aeroplane luggage case measures 13¼" x 9¼" x 7½".



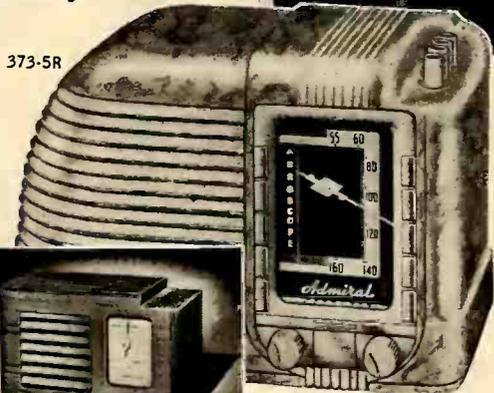
336-5N

AC-DC SUPER WITH 5 FULL-WORKING TUBES

Aeroscope and Automatic Tuning

Special heat-reducing circuit—tuning range 540 to 1730 K.C.—automatic volume control—single ended beam output—tone control—illuminated airplane dial with rotating pointer—5" permanent magnet speaker—*Aeroscope* (no aerial, no ground)—automatic tuning with 4 push buttons—television connections.

- 371-5R Walnut
- 372-5R Ivory
- 373-5R Onyx
- 382-5R Walnut (Wood)
- 367-6J ↓

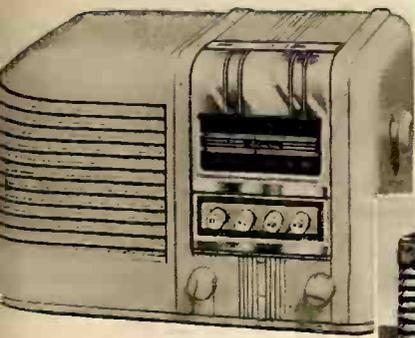


373-5R



4 TUBE CONSOLE & TABLE MODELS

1½ Volt Battery Operated Superheterodynes



369-6J ↓

352-5R ↑



Aeroscope! Automatic Tuning! Streamlined Plastic Cabinets

ADMIRAL 6 TUBE AC-DC SUPERHETERODYNE

Six full working tubes in special heat reducing circuit! No ballast! No cabinet discoloration!

Tuning range 535—1630 KC—automatic volume control—tone control—automatic tuning with 4 push-buttons—5" electro dynamic speaker—*Aeroscope* with static shield—television connections—streamlined plastic cabinets.

- Model 366-6J Walnut
- Model 367-6J Ivory
- Model 368-6J Onyx
- Model 369-6J Walnut (Wood)



Model 351-4A (Left)—Here is a smartly styled console. Operates economically because of new type 1½ volt low drain tubes. Single "AB" battery pack lasts almost a year. Tuning range 535 to 1730 KC. Has full automatic volume control—heavy duty 8" P.M. speaker—slide rule dial.

Model 104-4A (Below)—Table model with chassis same as Model 351-4A except for 6" P.M. speaker.

← 351-4A



104-4A

DISTRIBUTORS! A few desirable territories still open. Write or wire for details.

CONTINENTAL RADIO & TELEVISION CORP.

3800 West Cortland Street, Chicago, Ill.

Export Office: 116 BROAD ST., NEW YORK, N. Y.

Cable Address: CONRESQUE



FULL SPEED AHEAD WITH Admiral FOR 1940!

7 AND 11 TUBE AC CONSOLES



ADMIRAL 7 & 11 TUBE AC CONSOLES

With *Aeroscope* and *Automatic Tuning*

Model 380-7H—7 tube AC Super. 2 bands (540 to 1590 KC and 5.65 to 18.1 MC)—automatic volume control—tone control—automatic tuning—8" dynamic speaker—television connection—figured walnut cabinet with tilted front panel.

Model 381-7H (see above)—7 tube AC Super with 12" dynamic speaker. Otherwise same as 380-7H.

Model 394-11B—11 tube AC Super with 12" dynamic speaker. Otherwise same as 380-7H.



ADMIRAL RADIOS FOR 1940
Will Be on Display of the Blackstone Hotel
See them when in Chicago June 14, 15, 16, 17
for the National Radio Parts Show

NO AERIAL—NO GROUND AEROSCOPE

ADMIRAL 5 TUBE AC-DC SUPERHETERODYNE

With *Aeroscope* and *Automatic Tuning*



Another first and another feather in *Admiral's* cap. Introduced the spring on the lowest priced table model—the *Aeroscope* (no aerial—no ground) was the sensation of the industry. This fall, the *Aeroscope* plus automatic tuning will be an even greater sensation.

Most models also have a special INTERFERENCE SHIELD which reduces static and other noise to a minimum. Just try an *Admiral* in a location that's usually "noisy" for an ordinary radio.

Here's the price leader that will bring 'em in! AC-DC Super with 5 full working tubes in special heat reducing circuit. No ballast! No cabinet discoloration. Tuning range 540 to 1730 K.C.—automatic volume control—automatic tuning—5" P.M. speaker—*Aeroscope*—television connections—smartly styled plastic cabinets.

Model 362-50 Ivory

\$9.95
MODEL 361-5Q
WALNUT

382-7H

383-7H



ADMIRAL Radio-Phonographs

With *Aeroscope* and *Automatic Tuning*

Model 362-7H—7 tube AC superhet radio with 2 bands (540 to 1590 KC and 5.65 to 18.1 MC)—automatic volume control—tone control—push pull output—automatic tuning (6 push buttons)—slide rule dial—dial lights—12" dynamic speaker—*Aeroscope* (no aerial or ground required)—television connection. Phonograph has new light-weight crystal pick-up with self-starting electric motor. Plays 10" & 12" records.

Model 363-7H—Radio same as 360-7H. Phonograph has new light-weight crystal pick-up with quiet self-starting electric motor. Automatic record changer plays both 10" and 12" records in mixed sequence.

Model 395-11B—11 tube AC superhet radio with 12" dynamic speaker (otherwise same as 380-7H). Phone same as 363-7H above.

ADMIRAL PORTABLE RADIO-PHONOGRAPHS

Model 153-5L—*Admiral* "Gypsy" in modern airplane luggage case with convenient pocket for records.

Model 159-5L—in straight grain walnut cabinet.

Both models have AC radio with 5 full working tubes—electro dynamic speaker—and *Aeroscope*. Tunes complete broadcast band (535 to 1730 KC). Phonograph has new light-weight crystal pick-up with quiet self-starting electric motor. Plays 10" and 12" records.



159-5L



Model 391-4D—Portable battery operated 4-tube radio-phonograph in case similar to above.

STREAMLINED TABLE MODELS IN PLASTIC CABINETS—A COMPLETE LINE OF BATTERY RADIOS



AC-DC SUPER WITH 5 FULL-WORKING TUBES

Aeroscope and *Automatic Tuning*

Special heat-reducing circuit—tuning range 540 to 1730 K.C.—automatic volume control—single ended beam output—tone control—illuminated airplane dial with rotating pointer—5" permanent magnet speaker—*Aeroscope* (no aerial, no ground)—automatic tuning with 4 push buttons—television connections.

371-5R Walnut
372-5R Ivory
373-5R Onyx
352-5R Walnut (Wood)

367-6L



Aeroscope! *Automatic Tuning!*
Streamlined Plastic Cabinets

ADMIRAL 6 TUBE AC-DC SUPERHETERODYNE

5½ full working tubes in special heat reducing circuit! No ballast! No cabinet discoloration!

Tuning range 535—1630 KC—automatic volume control—tone control—automatic tuning with 4 push buttons—5" electro dynamic speaker—*Aeroscope* with static shield—television connections—streamlined plastic cabinets.

Model 368-6J Walnut
Model 368-6J Onyx
Model 367-6J Ivory
Model 369-6J Walnut (Wood)

DISTRIBUTORS! A few desirable territories still open. Write or wire for details.

CONTINENTAL RADIO & TELEVISION CORP.

3800 West Cortland Street, Chicago, Ill.
Export Office: 116 BROAD ST., NEW YORK, N. Y. Cable Address: CONRESOUE

AMERICA'S SMARTEST STREAMLINED PORTABLE RADIOS

Operate on 110 V. AC or DC or Self-Contained Batteries

Model 335-4Z—4 tube super operates on self-contained batteries that last 250 to 300 hours because of new low-drain 1½ volt tubes. Complete with *Aeroscope*... automatic volume

control 5" P.M. speaker modern gray lined effect luggage case measuring 13¼" x 9¼" x 7½". Tuning range 535 to 1610 K.C.

Model 335-5W—5 tube super operates on AC/DC or on self-contained batteries that last 250-300 hours because of new low-drain 1½ volt tubes. Tuning range 535 to 1610 K.C. Has 5" P.M. speaker with volume control. No aerial—no ground—*Aeroscope*. Modern airplane luggage case measures 13¼" x 9¼" x 7½".



336-5H

4 TUBE CONSOLE & TABLE MODELS

1½ Volt Battery Operated Superheterodynes



Model 351-4A (Left)—Here is a smartly styled console. Operates economically because of new type 1½ volt low drain tubes. Single "BB" battery pack lasts almost a year. Tuning range 535 to 1730 KC. Has full automatic volume control—heavy duty 8" P.M. speaker—slide rule dial.

Model 104-4A (Below)—Table model with chassis same as Model 351-4A except for 6" P.M. speaker.

351-4A



104-4A

More Ammunition—What's New

Latest radio products from manufacturers



3 source portable

★ Five-tube superhet works on AC, DC, or own batteries. Built-in loop. Battery life 200 hours. P.M. speaker. Front drop cover closes to protect dial and controls. Weight 17 lbs. Lafayette Radio Corp., 100 6th Ave., New York, N. Y.—RADIO TODAY.

Insulated flashlight

★ Flashlight insulated with neoprene cushioned head, fibre-covered barrel and cellulose-acetate cap. Underconstruction of heavy drawn brass. Prefocused lamp used for perfect spot. Neoprene resists oil heat and many chemicals. Burgess Battery Co., Freeport, Ill.—RADIO TODAY.



Midget tubes

★ Four new "GT" midget tubes include: a 6SA7GT single-ended pentagrid converter with unipotential cathode and using a T-9 glass bulb with octal 8-pin base. Heater voltage is 6.3 volts current, 0.3 amp. The 12SA7GT is same type with heater voltage of 12.6 volts and current 0.15 amp. Type 35Z5GT is a

cathode type half-wave rectifier featuring a 35 volt, 150 milliamp heater with extruding tap. Type 25D8GT is a heater type diode-triode-pentode for small ac-dc receivers. Arcturus Radio Tube Co., 720 Frelinghuysen Ave., Newark, N. J.—RADIO TODAY.



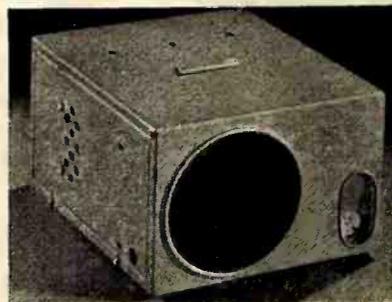
De luxe Arvinet

★ 5 tube AC-DC superhet has attached 30 foot aerial, electro-dynamic speaker. Power output 2 watts. Power input 30 watts. Uses no line cord resistor or ballast tube. Comes in unbreakable cabinet in ivory or walnut finish. Model 502, list \$9.95. Suede carrying case \$1.25 extra. Noblitt-Sparks Industries, Inc., Columbus, Ind.—RADIO TODAY.



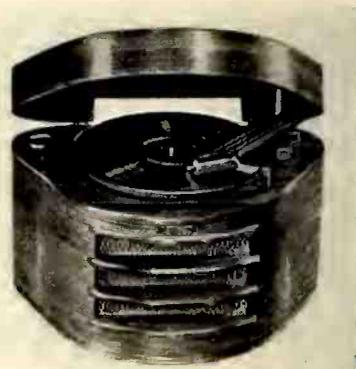
Television kit

★ Video receiver kit with roomy double deck chassis incorporates three vision I.F. stages. Automatic background control protects cathode ray tube from excessive wear insures steady picture. Comes with compact walnut console with four controls. Five or seven inch cathode ray tube interchangeable with no circuit changes. Eighteen other tubes and 10 inch speaker are used. Observox Div., Fulton Radio Corp., 100 6th Ave., New York, N. Y.—RADIO TODAY.



Auto radio

★ Directed at used car market new "Pee-Wee" auto radio may be installed on car steering column or lower edge of car dash. Suppressorless 4 tube superhet. Has AVC, thumb-dial tuning control and low-draw tubes. Uses electro-dynamic speaker. Single unit steel case. Allied Radio Corp., 833 W. Jackson Blvd., Chicago.—RADIO TODAY.

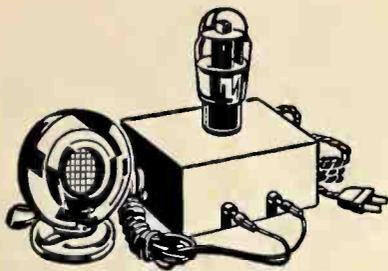


Electric phonograph

★ Compactly designed electric phonograph with 6 inch P.M. dynamic speaker. Has rim-drive phono motor with 9 inch turntable. 78 r.p.m. operation. Tangent head crystal pickup. Pickup arm rest, needle cup, etc., included. Plays 10 and 12 inch records. Walnut hand-rubbed piano finish. Model TE-40, list \$24.95. Sonora Electric Phonograph Co., Inc., 132 W. 22nd St., New York, N. Y.—RADIO TODAY.

Aerodynamic microphones

★ Low impedance (250 ohm) microphone, model MI 6226D has new list price of \$19.95, a reduction of \$3.00. The 40,000 ohms impedance instrument, model MI 6223B, lists at \$21.95, \$4.00 less than formerly. Both are equipped with 30 foot cables. RCA Mfg. Co., Front & Cooper Sts., Camden, N. J.—RADIO TODAY.



Wireless outfit

★ Miniature unit enables voice or music to be heard through radio without wires. No connections to radio. May be used as intercommunicator. \$3.95 net including tube and mike. Mystic Mike Co., 362 Wooster Ave., Akron, Ohio.—RADIO TODAY.



Video fuse

★ Voltage fuse, for use in television high voltage lead protects tube against loss of bias, insulation failures, shorts, etc. Also becomes vital as protection against lethal shock in video receivers. Comes in ratings as low as 1/1000 of an amp. Vacuum enclosed, will break 20,000 volts peak. Six sizes between 1/1,000 and 1/16 amp. Littelfuse, Inc., 4238 Lincoln Ave., Chicago.—RADIO TODAY.



Record changer

★ Non-slip spindle eliminates record slippage in smaller sized record changer. Furnished with complete spring mounting hardware. Available with crystal cartridge or magnetic head. Needle pressure of pickup little over 2 ounces. Model RC-10 operates 110 or 220 volts. Model RC-11 is universal AC-DC. Garrard Sales Corp., 296 Broadway, New York, N. Y.—RADIO TODAY.

Volume control kit

★ Ten midget controls each 1½ inches in diameter, five types of attachable shafts, etc., housed in hinged metal box. Replacements cover more than 400 makes of receivers and models of each. Centralab Division, Globe Union, 900 E. Keefe Ave., Milwaukee, Wis.—RADIO TODAY.

Dynamic mike

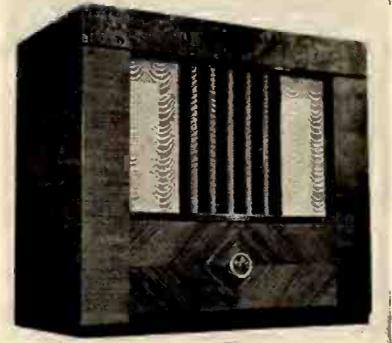
★ Twin transformers on square cores with secondaries in series eliminate hum in dynamic microphone. No polarizing or button current needed. Freq. response is 40 to 8,000 and output —58 db. Has 3-conductor lock ring plug, 25 feet rubber-covered cable. Finish is satin golden plate. Hinged yoke cradle. Universal Microphone Co., 424 Warren Lane, Inglewood, Cal.—RADIO TODAY.



Test equipment

★ Capacitor analyzer measures all important characteristics of paper, mica, oil, wet and dry electrolytic and motor starting capacitors. Built-in power supply pro-

vides 450 V. D.C. for leakage and insulation resistance measurements. A 12A7 is used as rectifier and amplifier and 6E5 used for bridge detector and leakage indicator. Model BF 50. Cornell-Dubilier Elec. Corp., S. Plainfield, N. J.—RADIO TODAY.

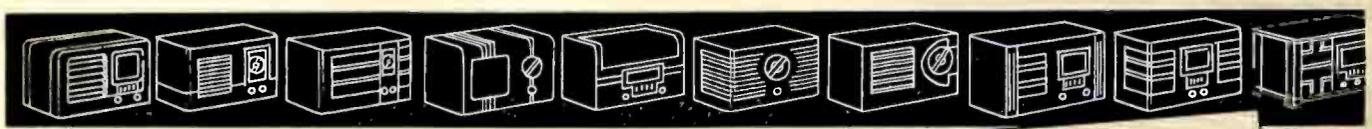


Recorder-phono-radio

★ Combination recorder, radio and phonograph provides automatic recording from radio programs or from microphone. Uses nine tubes. Superhet radio with foreign and domestic reception. Auditorium type 12 inch speaker. Crystal recorder and playback mechanisms. Space provided for records. "Recordio." Wilcox Gay Corp., Charlotte, Mich.—RADIO TODAY.



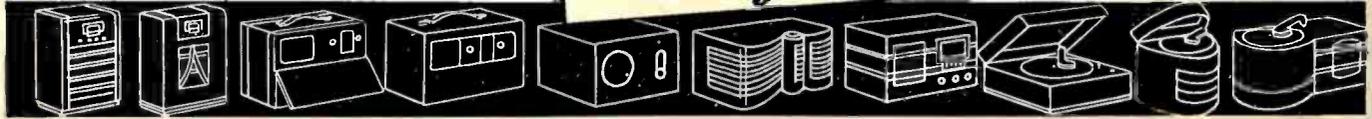
RCA-Victor offers sound effects for young America in this electrical kit, which also allows the youngsters to experiment with radio and public address systems.



Sonora

Presents

the "Clear as a Bell Line"
... for 1940!



...A COMPLETE LINE...41 MODELS... "TEENY-WEENYS"...COMPACTS...MANTEL TYPES...



MODEL TV-48. A magnificently styled new AC-DC Superhet in one of the smartest plastic-molded cabinets ever created. Tunes 1720 to 535 K.C. Features include: new 150 mil tubes—no ballast, no heater cord; P.M. Dynamic Speaker; 1½-Watt Output; A.V.C.; large malded Full-Vision Dial; attached 20-foot antenna hank. Size: 8¾" x 4½" x 3¾". Available in Ivory or Walnut. A sensational Style and Value Leader!



MODEL TW-49. America's lowest-priced Automatic Tuning Radiol! A brilliant AC-DC plastic-malded Superhet. Tunes 1720 to 535 K.C. Built-in "Sonaroscope"—no aerial, no ground required; no ballast tube or heater cord; 5" P.M. Speaker; 1½-Watt Output; A.V.C.; effortless ¾" stroke 4-Button Automatic Tuning; Full-Vision Drum Dial; size: 11½" x 6½" x 5¾". In Ivory or Walnut.



MODEL TK-44. A value leader using the new 150 mil tubes. No ballast tube, no heater cord. Tunes 1720 to 535 K.C. 1½-Watt Output; P.M. Dynamic Speaker; 20-foot built-in attached antenna hank; beautiful Gem-loid dial. New cabinet creation is of Walnut with Gold bond overlay. Size: 7¾" x 5¼" x 4¾".



MODEL TN-45. Another 1940 AC-DC Superhet of outstanding beauty and appeal. 1720 to 535 K.C. range; built-in "Sonaroscope"—no aerial or ground needed; new 150 mil tubes—no ballast or heater cord; 1½-Watt Output; A.V.C.; 4" P.M. Dynamic; Gem-loid Dial. In a new style sensation walnut cabinet, 8¾" x 5¾" x 5¼".

See the
SONORA
Line at the
Show—On
Display at
The Black-
stone Hotel!

A FAMOUS NAME
•
A COMPLETE
JOBBER POLICY
•
A GREAT
"PACKAGE
PLAN."



MODEL TT-52, A 1940 SONORA Smash Hit! An A.C. Superhet with "Umph!" Tunes 1720 to 535 K.C. Presented in an entirely new type of walnut table model cabinet of rare and appealing artistry. Features: built-in "Sonaroscope"—no aerial, no ground required; 5" Electro-dynamic Speaker; effortless ¾" stroke 4-Button Automatic Tuning; 2-Watt Output; new 1-piece Tenite-malded escutcheon and dial crystal, 5¼" x 4¾"; Gem-loid dial face. Size: 13" x 11" x 7½". A 1940 SONORA Sensation!

Sonora

Clear as a Bell

RADIO AND TELEVISION CORP.

2626 W. WASHINGTON BLVD., CHICAGO
132-4 WEST 22ND STREET, NEW YORK

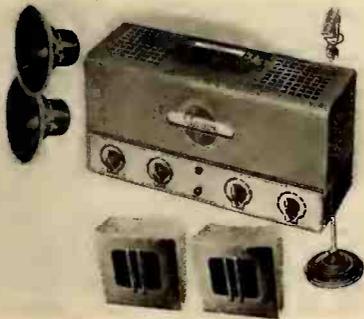
A GREAT NAME SINCE 1914

New Sound Products



Five-tube amplifier

★ Five-tube amplifier provides 10 watts output with frequency response from 50 to 10,000 cycles. Uses push-pull 6V6 beam-power amplifiers in output stage. Input channels provided for low-level mike and phonograph and provision for mixing the two. Included are a tone control and a built-in output transformer. Comes inclosed in steel cover with handle. Available alone or with coordinated sound system. Operates from 115 volt AC line. Lafayette Radio Corp., 100 6th Ave., New York, N. Y.—RADIO TODAY.



High-power sound system

★ 24-36 watt, four channel-two microphone amplifier and sound system features dual microphone input, simultaneous operation of two microphones and phonograph and optional remote control of two microphone channels. Has seven tubes including two beam power tubes. Inverse feed-back, field supply for two heavy duty speakers, tone control and multiple impedance output transformer are other features. Model A-40-R amplifier lists at \$42. less tubes and cover. Complete system includes amplifier, microphone, floor stand, two 12 inch dynamic speakers, two wall-type baffles. Model C-439. List \$128.73. Transformer Corp of America, 69 Wooster St., New York, N. Y.—RADIO TODAY.

Mobile amplifier

★ 28 watt AC-DC mobile amplifier has three input circuits with separate gain controls accommodating two high-impedance mikes and

a phono pick-up. Standby switch turns off vibrator plate supply eliminating "warm-up." Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.—RADIO TODAY.



Record player

★ Professional transcription and record player has remote control unit able to operate 50 feet from player and control volume. Uses 16 inch aluminum turntable accommodating all records and transcriptions up to 17½ inches. Other features include: built-in amplifier with four watts output, 10 inch P.M. dynamic speaker, induction type phono motor with 78 and 33 1/3 R.P.M. speeds for 110 volts AC or DC, 25-60 cycles. Built-in tone control. "Knight." Allied Radio Corp., 833 W. Jackson Blvd., Chicago.—RADIO TODAY.

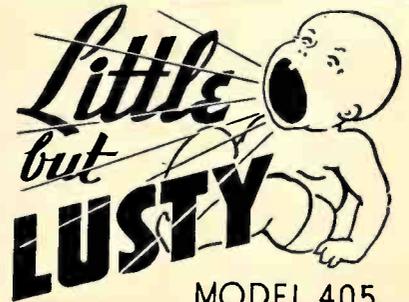


P.A. loudspeaker

★ Split range wide frequency band P.A. loudspeaker uses two loudspeakers in one to give flat response from 60 to 10,000 cycles. Power handling capacity is 25 watts continuous. Weatherproof and waterproof. Has rubber tired rim for elimination of resonance. Bell opening is 32 inches in diameter. Overall length 22 inches. Model W.C. Also in Model S.W.C. with bell opening of 24 inches diameter, overall length 17 inches. University Labs., 195 Chrystie St., New York, N. Y.—RADIO TODAY.

25-inch loudspeaker

★ Weather resistant speaker consists of single metallic exponential type horn driven by two dynamic receivers in aluminum housing. Has substantially uniform frequency response over range from 110 to 6,500 cycles. When driven by 50 watt amplifier is capable of radiating about 17 watts of acoustical energy. Directional characteristics permit faithful reproduction throughout 30 degree angle. Weight 65 lbs. Measures 50 inches overall in length, 25 inches wide at bell. Model 6030. Western Electric Co., 195 Broadway, New York, N. Y.—RADIO TODAY.



MODEL 405



6 WATT PORTABLE PUBLIC ADDRESS UNIT

A favorite with traveling lecturers, concessionaires, and small orchestras. Extremely portable, light, compact. Gives lusty, clear reproduction. Has in-built tone control to vary type of frequency response. Comes in a durable leatherette carrying case, housing the entire unit. One part acts as the amplifier base . . . the other as a speaker housing. Heavy duty electro dynamic speaker with 25 feet of cable, and a Model 8720 Crystal Microphone Assembly with 15 foot cable and plug. Complete description and price in

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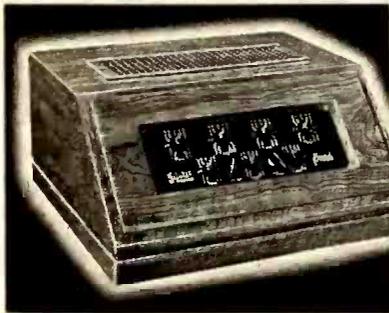
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More Sound Products



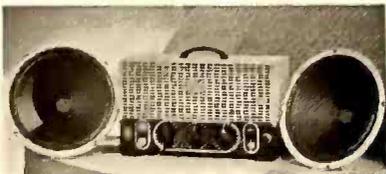
Professional recorder

★ Leader in new line of recorders is model with 12 inch turntable recording at 33 1/3 or 78 r.p.m. Dual action lever control cutting head. Internal rim drive completely insulated. Symphonic induction play-back. Indicator for depth of cut. David Bogen Co., Inc., 663 Broadway, New York, N. Y.—RADIO TODAY.



Sound amplifier

★ New series offers two sizes of sound amplifiers with 30 and 70 watt RMA ratings. Featured are extreme fidelity, four low-impedance (250 ohms) mixing circuits, all with remote mixing, and walnut-finished cabinet with slanting panel recessed and edge-glow illuminated. Pre-amplifier and power stages are sectionalized and designed for rack-and-panel mounting. Second mixer and extra power stages can be added up to total output of 280 watts. Webster Co., 5622 Bloomington Ave., Chicago.—RADIO TODAY.



12 watt sound system

★ Compact 12 watt portable sound system comes complete with amplifier, crystal mike with 20 foot shielded cord and plug, banquet microphone stand, 2—10 inch P.M. dynamic speakers with 50 foot

cords and plugs and split type portable carrying case. Frequency characteristics within 3 db. from 45 to 10,000 cycles. Power output 12-13 watts at 13 per cent distortion. Outputs 2/4/8/250/500 ohms available. Power consumption is 72 watts at 115 volts. Webster Electric Co., Racine, Wis.—RADIO TODAY.



AC-DC amplifier

★ Simple switch changes DC input to AC on universal amplifier. Output is 15 to 20 watts on both voltages. Universal motor and turntable mounted on removable cover with tangent arm crystal pick-up. Separate inputs with electronic mixing for mike and phono. Output is tapped for all speakers. Amplitone Products Co., 135 Liberty St., New York, N. Y.—RADIO TODAY.

Marine horn

★ Weather-proof marine type exponential horn and unit has frequency response 300 to 6,000 cycles. Overall depth is 12 inches with bell-opening-diameter of 15 1/2 inches. Voice coil impedance of 15 ohms. P.M. field. Coverage angle of 30 degrees. Handles 20 watts audio input, efficient at 2 watts with good output level. Has three holes for mounting. Model WSH-101, list \$115. Atlas Sound Corp., 1451 39th St., Brooklyn, N. Y.—RADIO TODAY.

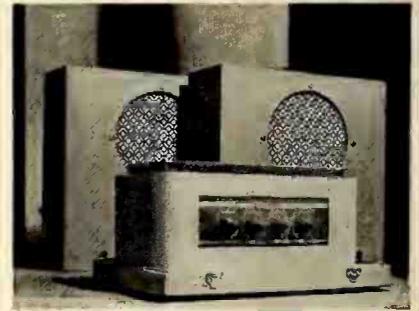
Recorder-playback

★ Low cost recorder will cut up to 12 inches on acetate coated or aluminum discs with 5 1/2 minutes playing time. Monitoring of volume done with earphones. Equipment includes high frequency cutting-head, amplifier, turntable and dynamic or crystal mike. Comes in portable leatherette case with P.M. speaker and cord in lid for use as p.a. system. Universal Microphone Co., 44 Warren Lane, Inglewood, Cal.—RADIO TODAY.

Communication receiver

★ Ten tube communication receiver with built in frequency monitor, uses noise limiter, an "R"

meter, one stage R.F. and two stages of I.F. with a beat frequency oscillator and optional crystal filter circuit. Output of 4 1/4 watts supplied to external speaker. List \$79.95 with speaker, less crystal. Howard Radio Co., 1731-35 Belmont Ave., Chicago.—RADIO TODAY.



15 watt system

★ 15 watt high gain amplifier uses inverse feed-back. Tone compensator helps eliminate speak-back difficulties. Three input channels with separate volume controls mix two microphones and phono pickup. Has beam power output tubes and tap switch for selecting impedances. Includes 2-inch P.M. loud speakers and choice of dynamic, velocity or crystal mike. System can be wired for remote control and is available without carrying cases for permanent installation. Bell Sound Systems, Inc., 1183 Essex Ave., Columbus, Ohio.—RADIO TODAY.

Motor and pick-up assemblies

★ Two phonograph assemblies each include pickup of high-impedance crystal type with true tracking feature, non-set stop, 10 inch turntable and mounting plate. Both play 10 or 12 inch records. Model AKX has G.I. KX motor while Model ACX has CX motor. Available for all AC voltages and cycles. Not furnished for DC. General Industries Co., Elyria, Ohio.—RADIO TODAY.



Dynamic mike

★ Dynamic microphone available in three models: 30, 200 and 500 ohms. Last two incorporate a built-in, wide-range impedance-matching transformer. Response curve of each unit individually plotted, copies free on request. Model 702-D. Carrier Microphone Co., Inglewood, Cal.—RADIO TODAY.



RADIO

Shoots the Works

New 1940 General Electric line offers more sales-making features than you've ever seen before . . .
PRICED AT SENSATIONAL NEW LOWS

In features—in styling—in performance and values the new 1940 General Electric line tops any radio line in G-E history.

There are 33 brilliant new plus-value models, covering every important price bracket. The line is especially strong in radio-phonograph combinations and record players.

The sensational new features include:

- New Super-Beam-a-scope
- New Super-Powered Chassis
- New Sight-Angle Visualux Dial
- New Dynapower Speaker
- New Television-Audio Key
- New Feathertouch Tuning

plus a score of other great new improvements. Dealer showings start June 20th.

Phone, wire or write your G-E Radio Distributor **NOW!**



Model H-118

4 GREAT NEW G-E COMBINATIONS

Watch them set the pace
in Combination Sales



Model H-79



Model H-638



Model H-78

**DON'T FAIL TO SEE THE NEW
G-E X-RAY SALES MAKER**

*. . . the greatest sales-clincher
ever seen on a radio dealer's floor*

RADIO AND TELEVISION
DEPARTMENT, BRIDGEPORT, CONN.

GENERAL ELECTRIC

Radio Prices—and Profits

Must receiver prices go up—or expense go down—to bring profits back to the radio dealer?

From most dealers, from all parts of the country, comes the plaintive cry that “a radio dealer can’t make money at present prices.”

There is little question that dealers *don’t* make money at present price levels—although whether they *can’t* make money is another matter.

Dealers say that at \$6.95 and \$9.95 and \$14.95, their margin is less than their unit cost of selling. But dealers continue to give discounts, even on these low-priced, short-margin sets. These two facts just don’t reconcile, though both are probably true.

From all indices at this time, it would seem quite likely that the bulk of our radio sets in the future will be sold around \$25.

PRICES IN OTHER LINES

First, because people are buying lower-priced homes.

Second, because people are buying lower-priced automobiles.

Third, because even the very small sets give such excellent performance that they are good enough for the tastes of most people.

Fourth, because console styling has so completely failed to harmonize with the furniture of milady’s choice that she still prefers to “hide the radio” if she can.

Fifth, because in most homes it has

become more desirable to have two or three small sets, than to have one large set, so that the diverse listening preferences of mother, father, and youngsters can be more easily satisfied.

From a survey among many radio dealers, it appears that the principal reasons radio dealers don’t make money on \$20 sets is because such dealers are at present set up to sell \$100 sets! It is time they reshaped their merchandising methods to present price levels.

The 5-and-10-cent stores have certainly demonstrated the fact that money can be made selling 5-and-10-cent articles. Radio dealers can learn much from the F. W. Woolworth outlets.

STREAMLINED SELLING

Their operation has been stripped of all non-essentials, and streamlined for speed and efficiency! And so must the dealer in radio streamline his operations from now on.

The 5-and-10 does a “cash and carry” business, which provides a maximum velocity of capital turnover, a minimum of system, expense and personnel, and no credit losses.

If 5-and-10 merchandise fails, or is defective, they *replace—never repair*—and so make unnecessary an ex-

pensive system for handling service on their products.

To meet the “low-priced radio” problem, radio dealers must streamline their operations.

These are some of the things radio dealers must do, if they expect a return of profits to their business.

TEN STEPS TO TAKE

1. Sell small radios “cash-and-carry,” or add a charge for delivery.

2. Give service at the store only, or charge for the pickup and delivery.

3. Take on other lines of merchandise to absorb overhead, and thus reduce the fixed cost chargeable to radio. Such additional lines are cameras, photo supplies, hearing aids, phonograph records, small electric appliances, major electric appliances, sporting goods, etc.

4. If the dealer’s high-rent location doesn’t provide the store traffic necessary for radio, and he doesn’t care to add other merchandise then he must get out of the high-rent district.

5. Arrange store displays so as to most effectively display radio merchandise and sell it.

6. Sell time-payment radio on a “weekly payment at the store” basis and thus keep exposing customers to store selling displays.

7. Keep postcard “direct-mail” working, consistently, to keep customers and prospects aware of the store and the new things they should buy.

8. Know just what it costs to do business—and why.

9. Reduce expense wherever possible.

10. Stop giving away profits to customers.

Dealers who are doing these things, are showing a profit, selling radios at present prices.

Radios tagged \$3,000

★ While the American radio market concerns itself with set prices around \$9.95, a new line is being produced in Britain to sell at \$3,000 up.

The wealthy rajahs and merchant princes of India have a wild taste for fancy radios, elaborately dolled up with jewels, inlays, filigree, and all the spangled knick-knacks. So Philco Radio & Television of Great Britain engages the famous American industrial designer, Raymond Loewy, to create the super models to sell for three grand.



This streamlined store shows how Bailey Electric of Albert Lea, Minn., spreads overhead, maintains uniform sales, by diversifying lines.

A Message of Importance to Every Radio Dealer



E. A. NICHOLAS
President, Farnsworth Television & Radio Corporation

Farnsworth Television & Radio Corporation—Manufacturers of Radios, Radio-Phonograph Combinations, Television Receivers, Television Transmitters and Special Apparatus — 3700 Pontiac Street, Fort Wayne, Indiana.

"Farnsworth Television & Radio Corporation plans to introduce a complete line of radio receivers and radio - phonograph combinations. This line will cover every important price market, ranging from an outstanding price leader in the \$10.00 bracket up to deluxe automatic combinations equipped with a special new record-changer designed and manufactured by the Capehart Division of the company.

"Initial shipments of this new line will be made within the next 60 days and I strongly urge that every dealer plan to consider the volume and profit opportunity in Farnsworth before concluding arrangements for the Fall season. Details of the line and the promotional program will soon be announced through a national distributing organization that is rapidly being completed."

E. A. Nicholas

Farnsworth RADIO

RADIO-PHONOGRAPH COMBINATIONS — TELEVISION

THE HISTORY OF TELEVISION IS THE HISTORY OF FARNSWORTH

Television's First Month

How Dealers Are Using It to Sell Radio

As we go to press, television in New York is five weeks old, and is still just a toddling infant.

Television has a tremendous future as an industry. That everyone will agree. But like all great industries, it must go through its transition stage, in developing methods, manpower, engineering applications, etc. Television has great promise. But its immediate development is necessarily slow. And in these weeks of 1939 we are watching the future giant creep.

RADIO TODAY has kept in close touch with the way television has been selling, how it is being used to help sell other things, and can now tell you definitely what has happened.

As was expected, initial public interest ran high, and people flocked to see television demonstrations during the first two weeks. But this interest now seems to have passed its high point for the present.

REALIZATION LESS THAN ANTICIPATION

Sales to the public in the New York television area have totalled about 350 sets during the first five weeks, a considerable disappointment to expectations. But with future improvement in programs and increase in the number of outlets, considerable strengthening of television-receiver selling is looked for in the Fall.

Television has started slowly.

The prediction of RADIO TODAY in April that "television has already done its greatest damage to radio sales, and from now on will have less

influence," is amply borne out.

The public came, they saw, but didn't buy television.

All dealers questioned reported that "television has not hurt current radio sales," in fact, owing to the popularity of portable battery radio, "radio sales are as good as, or better than last year."

Most dealers, and particularly department stores and others with a broad assortment of merchandise, capitalize on "looker interest" by so placing their television demonstrations that lookers will be exposed to many selling displays.

In contrast to this, many small dealers have found their stores literally packed with lookers, making sales of radio, or anything else, almost impossible. Typical of such a condition is the picture of the Burnett & Hillman store at Ridgewood, N. J.

One interesting means of preventing looker interest from conflicting with store selling was adopted by the Wm. P. Squire Co. of Pompton Lakes, N. J., who erected an outdoor booth, adjacent to his store.

PROGRAMS CRITICIZED

Most dealers told an honest story of television, and made no real effort to sell television. One large dealer frankly tried to sell, to see what could be done. He reports the sales of 12 televisors, which had no effect on his radio sales.

Although most actual sales have been of the small picture sets, most "looker" criticism was on programs.



Two of the six new Philco television sets revealed at French Lick this month. The 10TRS (top) delivers a 10-inch picture, with sound. The 6TC converter (below) can be used with any 1940 Philco, and produces a 6-inch picture.

Common comment at recent demonstrations has been "Television has a long way to go before I'll want to buy one."

Although a telecast of a college baseball game made news, the field of view of the camera was so limited that only the announcer's play-by-play description kept the telecast alive.

This telecast added nothing to the public's desire to own television.

Undoubtedly, as experience and technique permit, programs will improve. And as programs become more frequent and more nearly meet public desire, sales will improve.

LESS THAN 10,000 FOR YEAR

RADIO TODAY's estimate of television's 1939 sales is 7,000 to 10,000 units, with more than 60 per cent of total sales made in the last quarter.

In the next few months we have little to fear from television, except the fear itself. But we should expect very little in direct sales.

Throughout the country, dealers should watch New York, take courage in the fact that television's greatest damage to radio has already been done.

It is a good sign indeed for radio that television is coming slowly, that manufacturers and dealers are not stampeding and that the public has its buying feet on the ground.



Crowd attracted to a demonstration of Dumont television receiver in store of Burnett & Hillman, Ridgewood, N. J., during television's first month on the air.

YOU HAVE A COUPLE OF DATES WITH US!

Majestic

PREVIEW

AT OUR FACTORY
JUNE 10th to 24th

*Take a Yellow—
charge Majestic*

•
FORMAL
DISTRIBUTORS'
CONVENTION
DRAKE HOTEL

JUNE 28th • JULY 3rd



*It's so much easier
to sell Majestic!*

SEE MAJESTIC
ADVERTISEMENT
ON PAGE 11

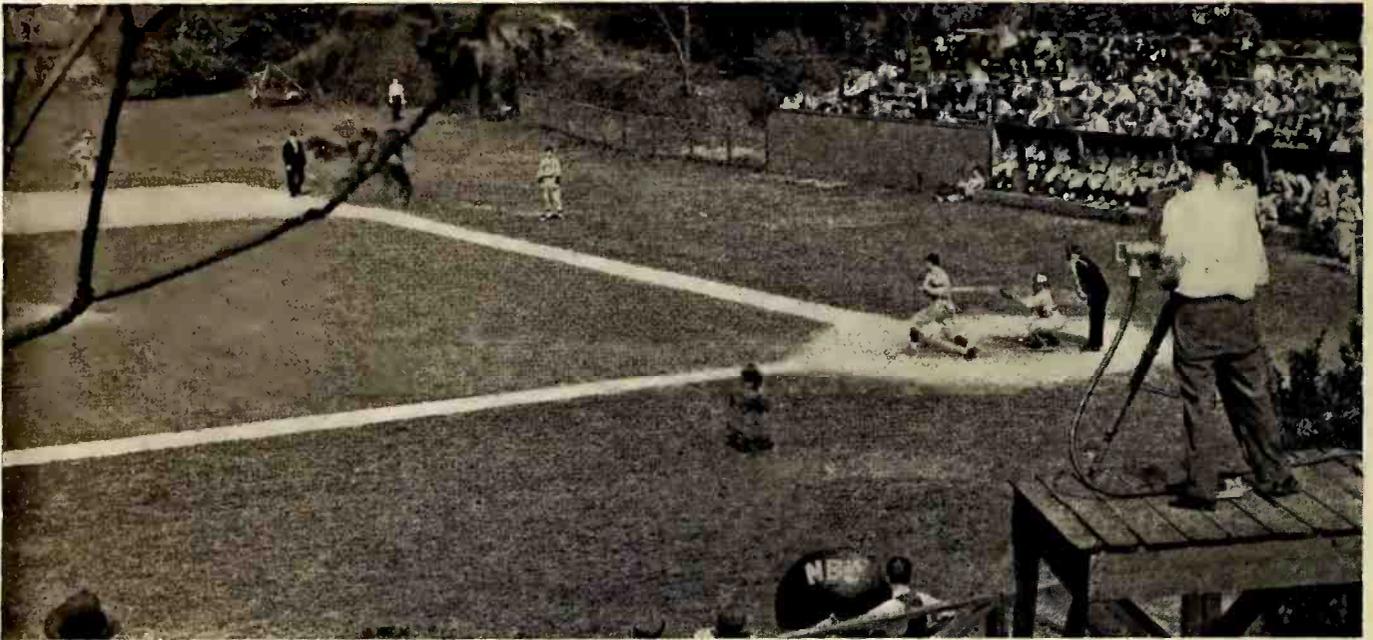


MIGHTY
MONARCH
OF THE
AIR!

Majestic

RADIO & TELEVISION CORPORATION
2600 W. 50th STREET • CHICAGO, ILL.

Cable Address: "Majestico-Chicago"



Forecasting the day when a million rabid fans will cheer lightning double-plays in their own homes, here's the first baseball game ever televised, RCA television camera at Baker Field, New York, May 17.

When Television Comes

Television is now available in limited areas. But even in those territories it is taking hold very slowly.

No rush of buyers has yet emerged from the crush of lookers at the television demonstrations in New York.

Television receiver sales are starting very modestly. So far only a few hundred sets have been sold. So Radio Today repeats: "Radio has little to fear from television."

* * *

With the hysteria of anticipation behind us, we can now plan calmly and soundly for the future of television. Here are some suggestions:

1. Television discounts must necessarily be studied, else the consumer price may be too high and sales will be restricted. Short discounts will prevent price cutting.

2. Prices to consumers should be held as low as possible, to widen the market to its limit.

3. Distribution will have to be limited to competent jobbers and dealers because of the installation and service problems involved.

4. Manufacturers cannot survive in television without adequate engineering and service.

5. Experience abroad indicates that the cost of antennas and installations vary widely, and should be priced separately.

6. The industry and trade should cooperate in formulating promptly a virtual code of ethics or code of practice for television—establishing the right principles at the outset, to start television merchandising along sound and profitable lines.

Radio men have suffered enough from the jungle methods of unrestricted commercial warfare.

Let's sell Television right when it goes national.

CROSLLEY FREEZORCOLD TWO TEMPERATURE

SHELVADOR

puts Crosley dealers
in the refrigeration busi-
ness head and shoulders
above competition.

1 FREEZING COLD STORAGE

for meats, game, frozen food, ice cream, pie dough. Gives women NEW ideas on home refrigeration—advantages of frozen food sales—provides EXCUSE to get rid of old, out-moded refrigerators.

2 MOIST FOOD STORAGE

High humidity efficiently obtained by use of secondary coils keep cooked and other foods at peak of flavor—does not dry them out—keeps vegetables garden fresh for incredible time.

QUALITY PRODUCT

Freezorcold Shelvadors incorporate every proven practical feature of standard refrigeration. Fabricated from A-1 materials throughout in the finest plant of its kind in the U. S. Equipped with quick ice cube release, high humidity crisper, sliding and removable shelves, illuminated cold control, interior light, improved electro-saver, hermetically sealed power unit. Dulux finished exterior, acid resisting porcelain interior, brilliant, oversized sturdy hardware.



3 PRACTICAL SHELVADOR

It is to be expected that such a practical method of making ALL refrigerator space usable would be imitated.

But the Shelvador is a feature of convenience that does not cut into the space inside of the refrigerator.

—and the entire refrigerator is accessible by the opening of only ONE door.

The Shelvador's efficiency and convenience is attested in signed statements by women from one end of America to the other.

PRICES START BELOW \$200.

**NO OTHER
REFRIGERATOR
COMBINES THESE
3 ADVANTAGES**

**ONLY 15 TO \$20. MORE THAN PRICES
OF COMPARABLE REGULAR & DeLuxe SHELVADORS**

CROSLLEY REALLY OPENS THE PROFITABLE REPLACEMENT MARKET

Here is an entirely NEW refrigerator that will revolutionize home refrigeration. It will be a source of steady business for alert dealers right through this summer and next winter.

THE CROSLLEY CORPORATION
Home of "the Nation's Station"—WLW—70 on your dial
POWEL CROSLLEY, Jr., President CINCINNATI
See the Crosley Building at the New York World's Fair

MAIL COUPON TODAY

Crosley Corporation,
Cincinnati, Ohio.

Send me literature,
discounts and information on products
I have checked.

**I WANT TO
MAKE MONEY**

Name.....

Address.....

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

- Crosley Automobile
- Freezorcold Shelvador
- 6 ft. LEADER Shelvador at \$99.50
- Crosley Press Jr. Camera
- Crosley Radio
- Reado facsimile
- Washers and Ironers
- Gas and Electric Stoves

Sound Man's Paradise at N.Y.

"Lagoon of Nations" at N. Y. World's Fair proves to be the answer to a sound man's prayer. "World of Tomorrow" impossible without sound of today.

Of all visitors to the N. Y. World's Fair none will return with such a richness of ideas, such faith in his importance in the work-a-day world, as the man who earns his salt in sound.

Every step he takes—and he'll take many—will be accompanied by music or speech issuing from installations deemed almost impossible by conservative engineers a year ago. Everywhere he looks he'll see the masterpieces of his fellow craftsmen in sound.

But the satisfaction derived from viewing these most modern of sound installations is nothing compared to the profit to be reaped from their application to the sound man's local opportunities in his own town. Fairs and displays are an American tradition, and no matter how small the community, opportunities for reputation-building installations are knocking on the sound engineer's door. County fairs, political rallies, ball games, sports meets, amusements, public auctions, and a thousand-and-one attractions are dependent upon sound for their success. All of these will be influenced by the surpassing installations at the World's Fair.

The immense sound installation under the Perisphere at the N. Y. World's

Fair was described in RADIO TODAY's April issue. None the less impressive is that in the Lagoon of Nations, where a breath-taking display of synchronized sound, water, lights, gas flames and fireworks takes place at nine each evening.

Here eight huge projector units are called upon to handle the output of a 2000-watt amplifier system, distributing concerts to outdoor crowds which at times reach 300,000 people.

Operation of this entire sight and sound presentation is remote-controlled from a glass-enclosed tower atop the nearby Federal building.

LIGHT, FLAME, WATER, SOUND

Here control boards for the sound system, and banks of hundreds of tiny toggle switches enable operators to control every action of lights, water, fire and fireworks. When it is realized that the fountain consists of 1,400 water jets, flame of approximately 150 jets, the fireworks display of 300 mortars and the lighting of well over 600 units each capable of providing light of a half-dozen or more colors, the proportions and complexities of the control system can be appreciated. Thus it is possible instantly to vary the height of water from any jet, or

group of jets, the height of the flames (some of which can be made to rise 50 feet in the air), and the number, intensity and color of individual lights and groups.

All of these operations are varied in accordance with special scores for music and for each of the elements; all coordinated in one awe-inspiring symphony of gigantic proportions, combining the aesthetic with the elemental on a scale never before attempted. Every operation is timed to a split second and perfectly synchronized by means of cue sheets moving before the operators at the various control panels and at the studio. There are some ten or twelve operators in all, with John G. Lawrence (who has worked on the project since its inception) now superintendent in charge of the entire display.

COMPLEX PROBLEM

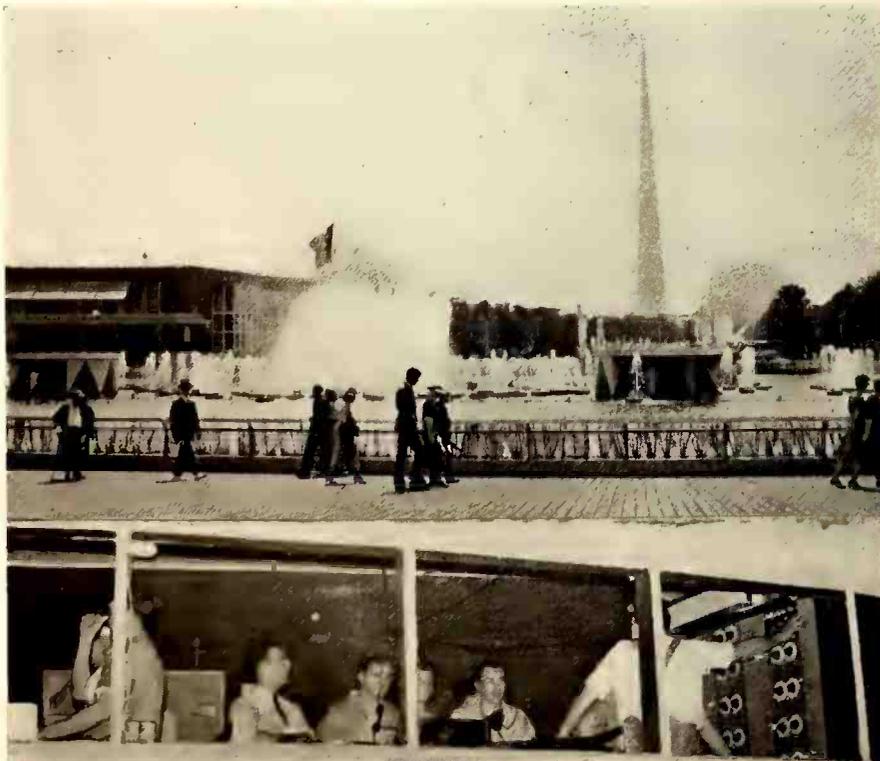
The problems of the Lagoon of Nations installation were such that some of the leading authorities in the field believed they were insurmountable. Here was a great oval lagoon, planned as the scene of a symphony in which, perhaps for the first time in the history of the world, music and the elements—water, fire, light, and even thunder and lightning—were to be combined in one great extravaganza of sight and sound.

Volume requirements for the musical reproduction were set by a number of factors. First, the location was outdoors with the audience massed in a great circle averaging 250 feet or more distant from the sound projectors. Second, the projectors were to be located in the heart of the spectacle amidst fountains throwing 20 tons of water into the air at one time, great jets of flame consuming half a million cubic feet of gas per hour and burning with the roar of blast furnaces, and with intermittent percussions of aerial bombs and other fireworks.

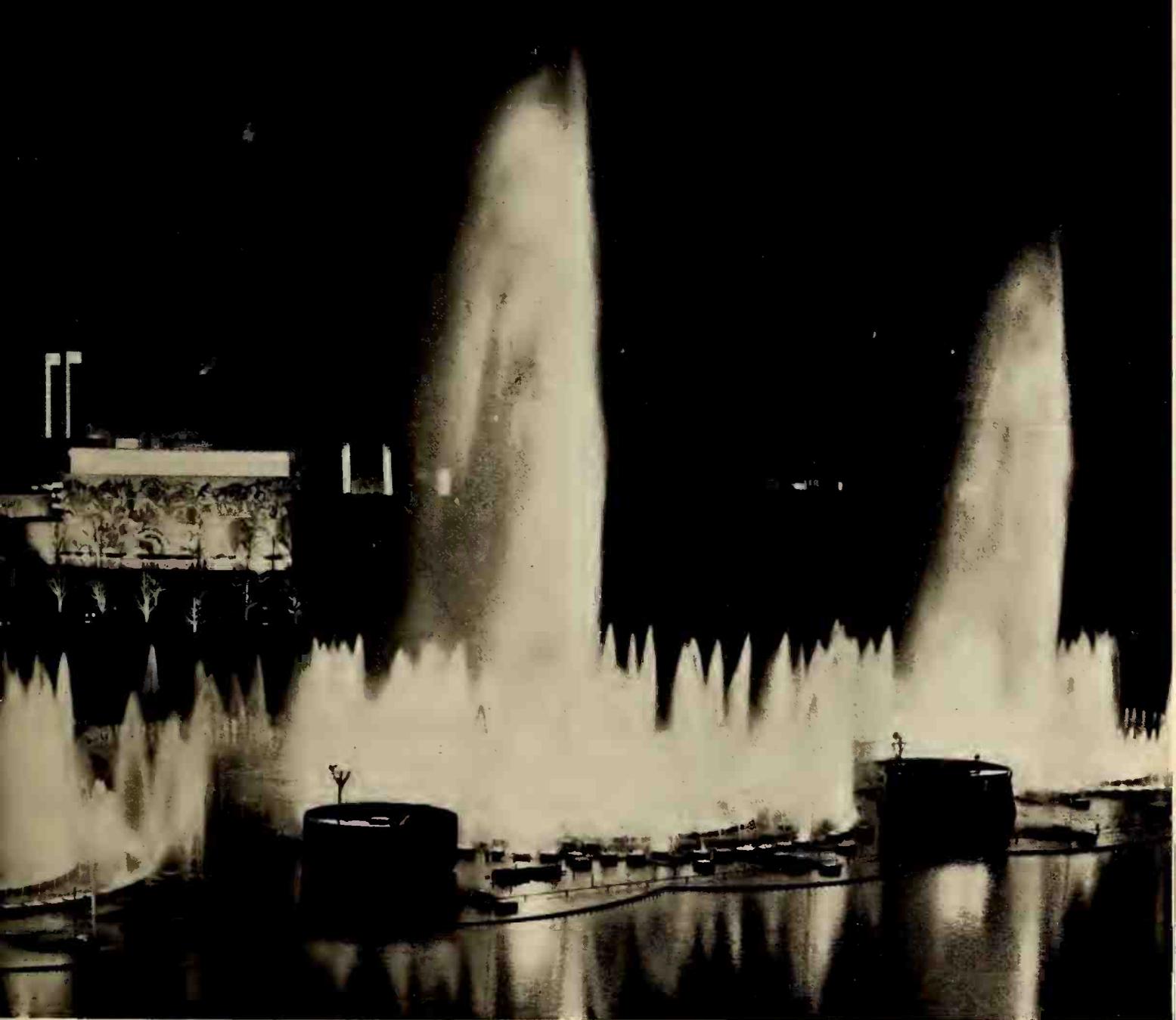
The quality of reproduction must obviously be of the highest, in keeping with the every other phase of the demonstration. This meant that every link of the chain, from microphone to reproducers, must be as flawless and perfectly coordinated as human ingenuity could make them.

BLUDWORTH CO-ORDINATOR

It was into such a maze of unusual problems that T. Frank Bludworth was drawn as chief planner and coordinator. Obviously the sound projectors and their driving units constituted the first and most pressing problem. The finally accepted system being the one developed by Cinaudagraph engineers. This system consists of a group of four drum-like structures



The Lagoon of Nations and the loudspeaker "igloos" by daylight. Below—a glimpse into the control room for the spectacle.



Sound, light, color and flame combine nightly in this stunning spectacle of the Lagoon of Nations at the N. Y. World's Fair. The great speakers, delivering 2,000 watts, and producing stereophonic and unison effects, are contained in the circular "igloos" seen in the foreground. T. F. Bludworth, New York, planned the sound layout, equipment for which was furnished by Cinaudagraph, Western Electric, Amertran, and United Transformer.

24 feet in diameter and 7 feet high, into each of which is built two great horns which are turned back within themselves to conserve space, bringing their wedge-like apices back to the center of their mouths. Each of these horns has an opening approximately 13 feet wide by 7 feet high and is so shaped as to project sound in a shallow layer of such predetermined width that the combined area of coverage of all horns is a full 360 degrees but with sufficient overlapping to permit a special stereophonic effect described later.

As mentioned, these drums, or "igloos" as the engineers at the Fair have dubbed them, must necessarily be located in the center of the spectacle, which means that the loudspeaker units are operated in a consistently saturated atmosphere, with tons of water pouring over their housings at

times, and great masses of spray actually blown into the horn openings. This was a relatively minor problem, however, compared with the radical requirements established for frequency response, power handling ability and efficiency.

UNIT 28 TO 256 CYCLES

To meet these requirements, a Cinaudagraph dynamic unit is combined with two Western Electric 594-A high-frequency units as the driving equipment for each projector. Some idea of the unusual features of this Cinaudagraph unit is obtained from the fact that its "pot" weighs just short of 500 pounds, its diaphragm is 27 inches in diameter and its voice coil 6 inches in diameter. It is mounted inside the apex of the horn, thus providing it with a reasonable amount of protec-

tion from spray, especially as its diaphragm is facing to the rear toward the hairpin bend of the horn and therefore directly away from the opening.

This speaker unit is called upon to handle the frequency range from 28 cycles to middle C, since obviously it would be impossible to have a single unit meet the requirements for efficient operation at 28 cycles and at the same time provide effective response in the higher ranges. The higher register is taken care of by the pair of Western Electric units. These feed through a twin-coupler into a smaller W.E. cellular horn mounted in a cut-away section of the apex of the large horn but facing outward with its mouth centered in that of the larger horn opening.

Two projectors in each "igloo" are mounted side by side, their mouth

openings constituting approximately 120 degrees of the circumference of the structure. The other two-thirds of the interior of these drums is utilized for housing the relays and valves for the fountains, flame jets, etc., all of which are remotely controlled from switchboards in the main control tower some hundreds of feet distant from the lagoon.

The four "igloos" are spaced to form the four corners of a rectangle 130 feet long by 60 feet wide. This placement was planned without consulting the sound engineers and at first seemingly involved a serious problem of phase relationship. But the wide spacing was turned into an asset through the rather simple expedient of designing the entire system to function in a stereophonic manner.

STEREOPHONIC EFFECTS

The pick-ups are placed at each side of the band (the sound system being designed primarily for the reproduction of band music) and the amplifier and sound channels associated with each microphone are kept separate throughout, each terminating in projector units diagonally opposite from one another. Thus listeners standing at any positions will hear the reproduction in its original perspective. From the projectors at their right will come predominantly the instruments located in the right half of the band, while those at the left will be heard principally through the projector at the left. Thus a highly effective and natural binaural or stereophonic effect is produced. Within limits the effect varies as the listener moves away from any of the four positions, but this would also be true were he to move to one side of the studio in listening to the band directly. It is believed that this is the first sound installation to attempt such an effect outdoors and over an entire 360-degree projection area.

Each "igloo" has its separate amplifier channel following the common speech amplifier located in the studio. Special lines are supplied by the telephone company and are such as to provide response up to 15,000 cycles. Because they are cabled in with other audio and control lines of the company, they are tested daily for response and impedance.

Sound Man Announces Names of Lost Kiddies

One way in which Roy Bannon, owner of the X-L Radio Shop, of Morris and Sandwich, Ill., builds a lot of good will in his territory is by announcing over a public-address system at his display booth the names of lost children at various country and township fairs.

This is a service which is free, and many fair visitors take advantage of it. People have come to know that when they are looking for lost children to let Mr. Bannon know and he will give the item broadcast notice on his local sound address system. He takes care to announce such items at a time when people are listening.

"This service is deeply appreciated by parents," says Mr. Bannon, "and while I would do it solely as a civic gesture, I do know that it has brought me business in a number of instances."

Selling Sound



New use for sound. Guides taking groups through Schlitz brewery, press buttons starting recorded speeches describing each operation. Results in better explanations, better heard by visitors, than when guides formerly attempted own explanations.

Guide's Push Buttons Start Recorded "Lectures"

The Schlitz Brewing Company, Milwaukee, had a problem on its hands when it found that 5,000 people came every week to visit its plant and inspect the brewing operations. The guides had a difficult time, both in remembering what to say and also in trying to override the noise of the machinery. The solution proved to be the installation of a record-playing and amplifying system using marine horns made by Atlas Sound Corporation.

The record transcriptions were made by Bob Heiss, announcer for WTMJ. Installation was completed by the Continental Engineering Corporation of Milwaukee.

The speakers, installed in the brewing house, racking house, engine room, in the sternewirt, and the bottling house, now speak forth in loud stentorian tones, as the guide presses a button at each position, initiating an excellent stage-by-stage description of the Schlitz brewing operations.

Tower Chimes Win Public Favor

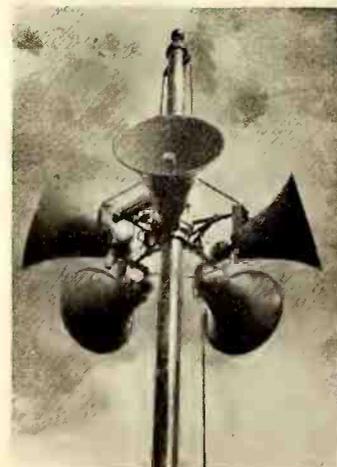
One of the most complete electronic installations made during the present popular trend toward tower chimes, is that made by Rangertone in cooperation with W. D. Morton of the Kolograph Company, at the Institute for the Blind, Indianapolis, Ind.

Here an unusual opportunity was offered with a fine landscaping effect because of the ample grounds around the school. The tower rising above the school gives a commanding outlook for miles around on the north side of the city. Through James Lowry, special engineer at the school, excellent facilities were provided for the chimes installation with a small studio-like soundproof room containing the 25 tubular chimes and the 49

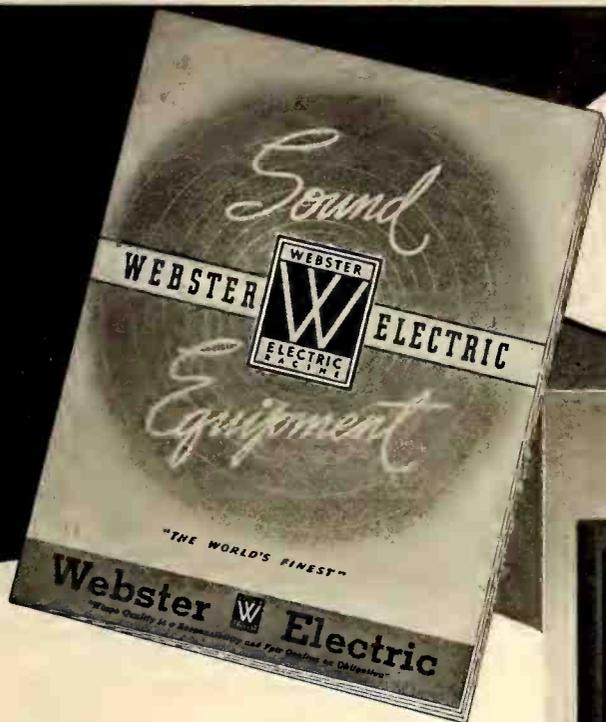
note Vibraharp. The microphone pickup is led to an adjoining room with double-glass partitions between the two, for observation purposes, and a 200-watt amplifier delivers the audio output to four speakers in the tower. A manual and automatic console operates the equipment; one keyboard plays the chimes and the other keyboard the Vibraharp. The automatic player works from paper rolls and in conjunction with an electric clock, gives four selections at specified times during the day. An automatic ringing mechanism in conjunction with another electric clock provides the Westminster melodies for hours and the quarters, from nine in the morning to nine at night.

"It would be hard to find an installation which is more favorably situated—spiritually as well as physically," comments Col. R. H. Ranger.

Up Go Speakers!



University speakers raised by a winch attached to pulleys on sliding sleeve is unique sound installation at Nutley, N. J. Sound coverage is reported excellent over bowl with 8000 seats.



A request on your letterhead will bring you this new, fully illustrated catalog with all specifications of the entire line of Webster Electric Sound Equipment.



HERE IS A 12 WATT JOB THAT IS FLEXIBLE

Read about it in this New Webster Electric Catalog

● This sound system is extremely versatile in that the amplifier may be slid out of the case and used with other, or permanently located, speakers; or the two permanent magnetic speakers may be used temporarily to expand the coverage of another system. There is no need to carry the added weight of the amplifier to a job where the speakers only are needed, nor to handle the bulk of the entire case and speakers where only the amplifier is wanted. The amplifier may be easily carried by one hand by means of the convenient handle attached to the hood.

The high quality amplifier has four stages; power output of 12-13 watts at 5% distortion; automatic volume control; dual tone control; power gain of 129 DB for microphone, 79 DB for phono; frequency characteristics within 3 DB from 45 to 10,000 cycles; hum level of 54



DB below full output for mike, 65 DB for phono. It measures only 13 $\frac{3}{4}$ " long, 7" wide, by 8" high.

The catalog illustrated above will give you still more facts about this amplifier; its application to both fixed and portable systems, as well as similar information regarding all the units in the Webster Electric line. Write for it today.

"Licensed by Electrical Research Products, Inc., under U. S. Patents of American Telephone and Telegraph Company and Western Electric Company, Incorporated."

WEBSTER ELECTRIC COMPANY, RACINE, WIS., U. S. A.
Established 1909 · Export Dept., 100 Varick St., New York City
Cable Address: "ARLAB", New York

Webster Electric

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

YOURS - FOR "GO



No. 470-PF

RADIO-PHONOGRAPHS



No. 411-PT



No. 411-PF



No. 420-PL



No. 420-PF



No. 430-PL



No. 430-PF

FINE RADIOS THAT WILL SELL
Today ... AS THE SOUND
REPRODUCERS FOR A *Future*
TELEVISION PURCHASE!

When Stromberg-Carlson announces a Labyrinth Radio for only \$99.95* (No. 430-M), and an automatic Radio-Phonograph for as little as \$139.50* (No. 420-PL), it's a certainty that the radio business is going to be GOOD . . . that is if you are handling a good line like Stromberg-Carlson. And just look at the rest of the line: You will find new Radio-Phonographs, including a Table Model

TABLE MODELS



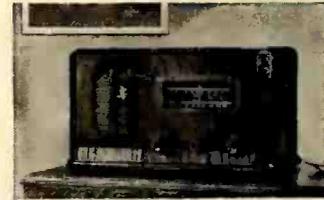
No. 400-H



No. 402-H



No. 405-H



No. 410-H



No. 410-J



No. 420-H



No. 430-H

*There Is
Nothing Finer
than a*

OD" RADIO SALES

3 TIMES THE INDUSTRY AVERAGE
IN BIG-PROFIT SALES IN 1938 . . .
THIS NEW LINE WILL *Increase*
THAT LEAD IN 1939!

and an Authentic Period Design Occasional Table (No. 411-PF). There are new Table Models...three of them Authentic Designs, one in maple. There is a portable Battery Radio, and a superb new line of Consoles in a wide variety of woods and styles to delight any prospective purchaser. With such a new line, you don't have to be a prophet to predict that Stromberg-Carlson...which showed three times the industry average in big-profit sales last year...will increase that lead in 1939.

Be "in the money" this year by selling Stromberg-Carlson radios. They are yours for "good" radio sales.

*All prices f. o. b. factory

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



CONSOLES



No. 420-L



No. 430-L



No. 430-M



No. 440-M



No. 450-M

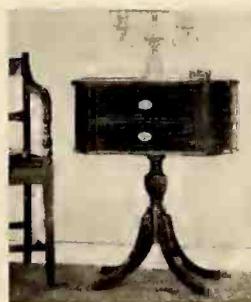
OCCASIONAL TABLES



No. 400-N



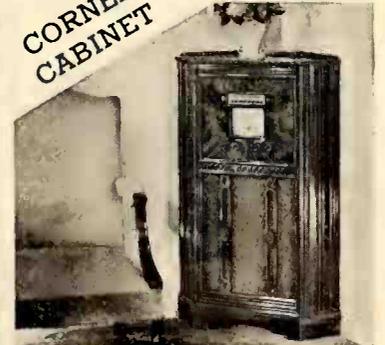
No. 400-S



No. 410-T



No. 480-M



No. 340-Y

CORNER
CABINET

Stromberg-Carlson

Stromberg-Carlson Telephone Mfg. Co.
232 Carlson Road, Rochester, N. Y.
I am interested in the Stromberg-Carlson line.
Name.....
Address.....

YOURS - FOR "GOOD" RADIO SALES



No. 410 PF

RADIO-PHONOGRAPHS



No. 411 PR



No. 411-PR



No. 420 PL



No. 420 PR



No. 430 PL



No. 430 PF

FINE RADIOS THAT WILL SELL *Today* ... AS THE SOUND REPRODUCERS FOR A *Future* TELEVISION PURCHASE!

When Stromberg-Carlson announces a Labyrinth Radio for only \$99.95* (No. 430-M), and an automatic Radio-Phonograph for as little as \$139.50* (No. 420-PL), it's a certainty that the radio business is going to be GOOD . . . that is if you are handling a good line like Stromberg-Carlson. And just look at the rest of the line: You will find new Radio-Phonographs, including a Table Model

TABLE MODELS



No. 400 H



No. 402 H



No. 405 H



No. 410 J



No. 410 J



No. 420 H



No. 424 H

There Is Nothing Finer than a

3 TIMES THE INDUSTRY AVERAGE IN BIG-PROFIT SALES IN 1938 . . . THIS NEW LINE WILL *Increase* THAT LEAD IN 1939!

and an Authentic Period Design Occasional Table (No. 411-PF). There are new Table Models . . . three of them Authentic Designs, one in maple. There is a portable Battery Radio, and a superb new line of Consoles in a wide variety of woods and styles to delight any prospective purchaser. With such a new line, you don't have to be a prophet to predict that Stromberg-Carlson . . . which showed three times the industry average in big-profit sales last year . . . will increase that lead in 1939. Be "in the money" this year by selling Stromberg-Carlson radios. They are yours for "good" radio sales.

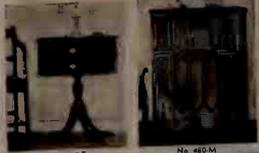
*All prices f. o. b. factory

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

OCCASIONAL TABLES



No. 400 N



No. 400 S



No. 410 T



No. 400 M



No. 340 Y



CONSOLES



No. 430-M



No. 410-M



No. 450-M

CORNER CABINET

Stromberg-Carlson

Stromberg-Carlson Telephone Mfg. Co.
232 Carleas Road, Rochester, N. Y.
I am interested in the Stromberg-Carlson line
Name _____
Address _____

How the Detector Operates

An explanation of the basic principles involved in detection, with emphasis on ways of determining whether or not the detector is operating properly.

By VINTON K. ULRICH
Hytronic Laboratories

Formerly Managing Editor of
RADIO TODAY

No part of a modern radio or television receiver is more important than the detector; yet on the other hand, it is one of the biggest mysteries insofar as servicemen are concerned. While its purpose is fairly well known, there have been very few tests for determining just how well the detector is working.

In present-day receivers there are the following common types of detectors: diode, grid-leak, plate, and infinite impedance. Because a diode detector can be used to supply an AVC bias, it is by far the most popular circuit.

The one purpose of all types of detectors is to rectify the received radio signal in such a manner that the audio modulation is not distorted. In Fig. 1 are shown carriers with sine-wave modulations of 25%, 50%, 75% and 100%. The variations in the envelope (dotted lines) of the carrier represent the modulation which is superimposed upon the carrier wave. (This is known as amplitude type modulation, and this article will be limited to modulation of this type.)

MODULATED WAVES

There are certain things about the modulated wave that should be noted. First of all, there is the unmodulated carrier wave which is shown at the left as being of continuous or having constant peak amplitude. The modulation in the form of a sine wave causes

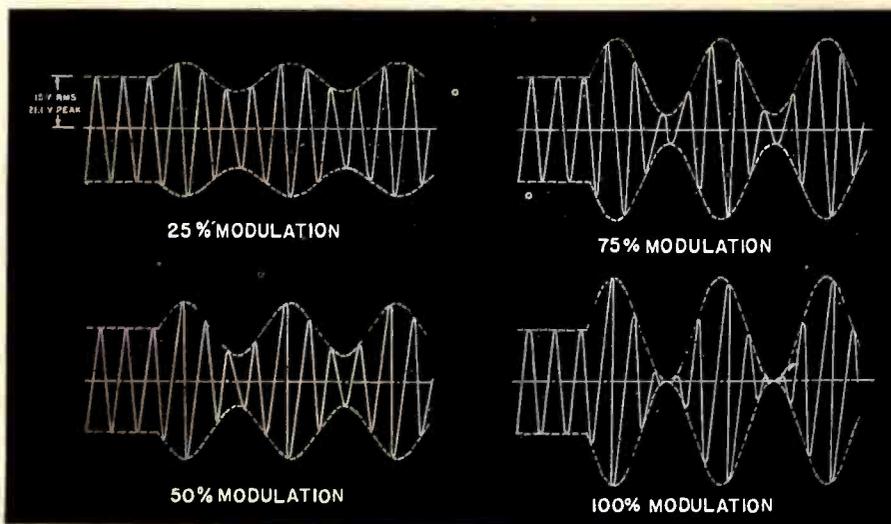


Fig. 1—When carrier is modulated, peak amplitudes of carrier waves vary in accordance with modulating signal. The greater the percentage modulation, the larger is the change in amplitude. Dotted lines represent modulation envelope.

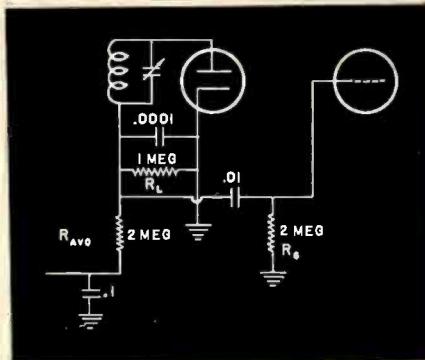


Fig. 2—Typical diode detector circuit used in superhet receiver.

the peak amplitude of the radio-frequency wave within the envelope to vary. When the modulation increases and decreases the peak amplitude of the carrier by 25% of its unmodulated value, the modulation is said to be 25%. If the peak carrier voltage is instantaneously increased to 100% of its normal value and reduced to zero, the percentage of modulation is 100% as illustrated in Fig. 1.

The frequency of the modulation for a sound receiver generally ranges from 50 to 7,500 cycles for high-fidelity reception and is considerably less for average sets. For video work in television, the frequency of modulation ranges up to 3 or 4 megacycles.

REQUIREMENTS OF A DETECTOR

For perfect reproduction the detector must be able to:

1. Handle incoming signals from

the minimum to the maximum carrier voltages without objectionable distortion.

2. Rectify signals having modulation frequencies ranging from the desired minimum to the desired maximum without introducing noticeable distortion.

3. Provide distortionless detection of signals having modulation percentages from zero to well over 80%. (Actually up to 100% is desirable, but it is hard to achieve in commercial practice.)

In order to test a detector for these requirements, the serviceman must know how the detector operates; and to correct any defects that cause improper detection, it is necessary to understand of a few of the simpler basic design factors.

In view of the fact that the diode is most commonly used and is the simplest form of detector, it is natural that it come first in this discussion. In Fig. 2 is shown a typical 2nd detector as used in a superhet receiver employing the diode tube. The values of diode load resistor, AVC filter network, and coupling components to the grid of the first audio are those commonly employed.

DIODE DETECTION CHARACTERISTICS

The family of characteristic curves of a diode detector is shown in Fig. 3, which is technically termed, a transrectification diagram. Each curve, representing a specific value of RMS carrier signal input, was obtained by varying the DC load resistance of the diode while maintaining a constant carrier signal input. The diode DC currents and DC voltages were measured and curves plotted. The plots show how the tube behaves for different values of unmodulated carrier voltages, which is useful in calculating the performance of the detector under dynamic operating conditions.

Since each radio uses a specific value of diode load resistance, the proper value should be drawn in on the diagram. 1,000,000 ohms is a very common value and is shown in Fig. 3. Starting from zero (point A) at the right, the load line is erected having a slope equal to 1,000,000 ohms. For 40 volts a current of 40 microamperes would flow through 1,000,000 ohms. Consequently, the second point (B) that determines the load line is 40 volts and 40 microamps. This procedure of drawing in the load line is similar to that employed with amplifiers and was discussed on pages 50 and 51 of the October issue and pages 52 and 53 of the September issue of RADIO TODAY.

Assuming a carrier voltage of 15 volts RMS, point "O" becomes the op-

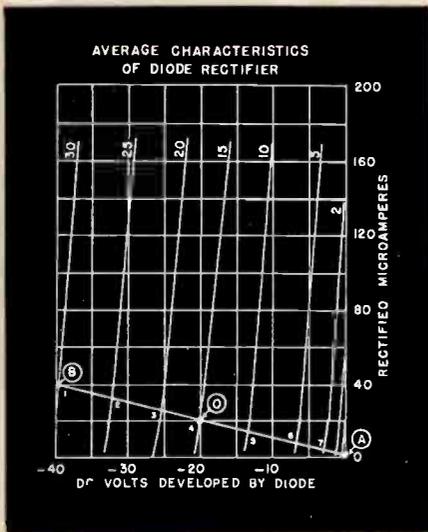


Fig. 3—Characteristics of a diode obtained by varying load resistance and plotting DC volts versus DC microamperes for various values of carrier voltages as indicated on curves.

erating point of the detector. When modulation is applied to the carrier, the peak carrier voltage is no longer constant, but fluctuates above and below the unmodulated peak value in accordance with the modulation percentage as shown in Fig. 1. When there is no modulation, the output is DC. When modulation occurs, the AC modulating signal or voltage is superimposed upon the DC. Incidentally, it is this DC voltage that is used for AVC control purposes after the AC variations have been filtered out. For a detailed discussion of AVC, the reader is referred to "Automatic Volume Controls" appearing on pages 30 and 31 of the May issue.

So far no mention has been made of the modulating frequency and its possible effects. The diode load shown in Fig. 3 is the DC value of the resistance, which is 1 megohm as shown in Fig. 2. For AC, however, the effective diode load is lower than the DC resistance since it is shunted by the .0001 mfd. condenser, the AVC filter resistance R_{AVC} and the grid coupling resistor R_g . Both of these resistors have values of 2 megohms, and in parallel (through the .01 and .1 mfd. condensers) they have a combined value of 1 meg.

This composite value of 1 meg. is effectively in parallel with the diode load resistance of 1 meg. for audio frequencies. Thus two 1 megohm resistors in parallel have a resultant value of $\frac{1}{2}$ meg. for audio frequencies of 100 cycles and above.

HIGH AUDIO FREQUENCY SHUNTING

For low values of audio frequency the paralleled .0001 condenser has but a negligible effect because its reactance is very high. However, at 5,000 cycles, the reactance of a .0001 condenser is approximately 320,000 ohms. The parallel combination of 500,000 ohms resistance and 320,000 ohms reactance gives an impedance of 270,000 ohms. Thus it is seen that the bypass condenser at 5,000 cycles greatly reduces the value of the load impedance of the diode detector.

How these variations in the load impedance adversely affect the operation

of the detector will be shown shortly.

Insofar as operation without modulation is concerned, the 1,000,000 load resistor in Fig. 3 fills the requirements. In order to make the curve more suitable for explaining the operation of the detector, the points 1, 2, 3, 4, etc., have been plotted for DC diode-current versus carrier-voltage input. The resultant curve is for operation for a load of 1 megohm and is shown in Fig. 5 in the upper left-hand corner.

In Fig. 4 the load resistances of 500,000 ohms and 270,000 ohms have been drawn in, since previous calculations show that for operation at modulation frequencies from 100 to 5,000 cycles, the effective load impedance varies over that range. On the 270,000 ohm curve, the points, 1, 2, 3, etc., have been marked and are plotted in Fig. 5.

CALCULATING DETECTOR PERFORMANCE

With a carrier voltage of 15 RMS volts, point "O" is the operating point of the detector. According to Fig. 5, when an unmodulated carrier is rectified by the detector, the output will consist of the positive half-cycles of the applied carrier signal: Since the amplitude of each successive cycle of the carrier is constant when not modulated, the output waves or diode current pulses will be equal amplitude. The .0001 condenser across the diode load resistance has such a value, that it becomes charged by the current pulses and does not have a chance to discharge appreciably before the next cycle of the carrier comes along.

It is this manner that the .0001 condenser filters out the I.F. or R.F. carrier voltages. The operation of this condenser is the same as that of any

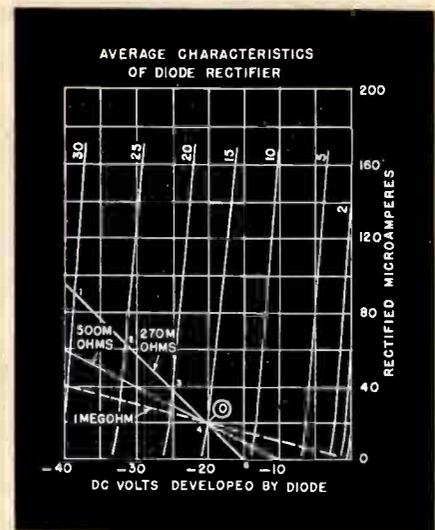


Fig. 4—Dotted line is DC load resistance. For audio the AC load resistance of 500M to 270M must be used. "O" is the operating point for a 15-volt carrier signal.

filter condenser—it smoothes out the variations.

When modulation is applied, the peak amplitude of the carrier wave is varied in accordance with the modulation. Instantaneously the amplitudes are varied above and below the normal or average carrier amplitude—in this instance, 15 volts RMS.

As explained, for various modulation frequencies, the load impedance changes and it is necessary to use the value of the load line in Fig. 5, corresponding to that which is existent

(Continued on page 49)

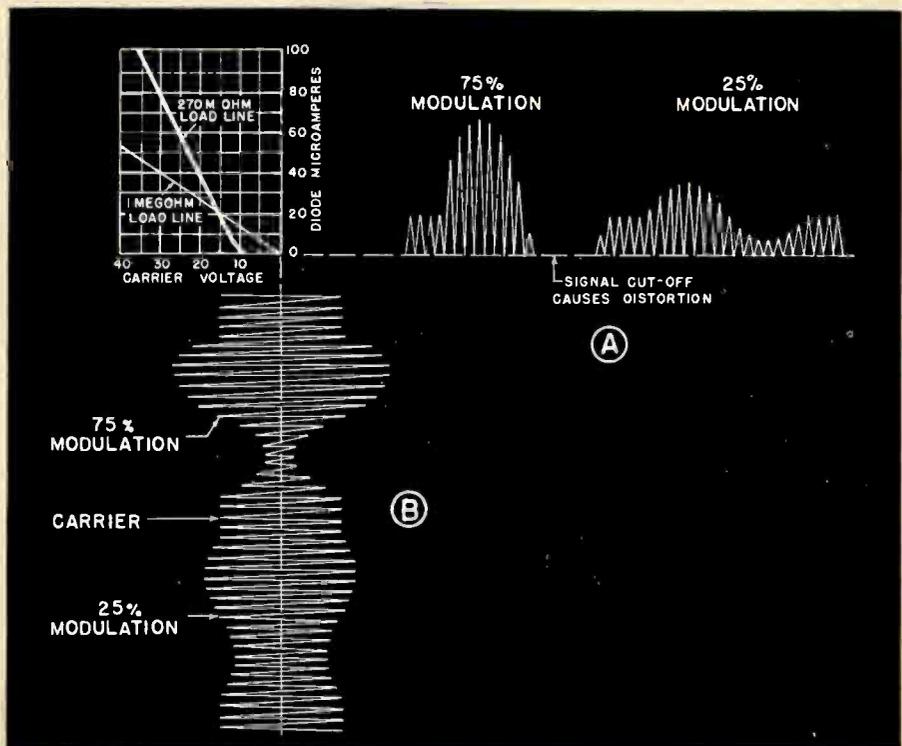


Fig. 5—Data from Fig. 4 plotted in upper left corner, for carrier voltage versus diode current. For low signal values with the 270M load, the current cuts off. "B" is input signal—"A" is output current. Note cut-off with 75% modulation when 270M load is used.

They're Both Important:

COMPANY DEPENDABILITY-

PRODUCT DEPENDABILITY



But

EVEN MORE IMPORTANT IS: **PROFIT DEPENDABILITY**



IF YOU WERE ASKED—"What factor is most important to a retailer buying radio tubes?" . . . what would your answer be?

We think both company and product dependability are vitally necessary to a retailer's success. But even *more* important, you'll agree, is *profit dependability*.

Hygrade Sylvania Corp., Emporium, Pa. • Also makers of Hygrade Lamp Bulbs.

Before you invest more money in other tube lines, compare them with Sylvania on all three points—company, product, and most important, **PROFIT DEPENDABILITY**. We sincerely believe that such a comparison—made honestly and without bias—will lead to only one conclusion . . . *a shift to Sylvania*.

SELL SYLVANIA

SET-TESTED RADIO TUBES

Meet us at Booth Nos. 18 and 20, Chicago Radio Show, June 14-17

• D E P E N D A B L E A L L W A Y S •

for the modulation frequency being considered.

Again assuming a carrier of 15 volts RMS, point "O" is the operating point for the detector. For 5,000-cycle modulation, the 270,000 ohm curve should be used. Note the absence of linearity in the 270,000 ohm curve and that it cuts off before zero voltage is reached. That means that the diode will not be conducting for low values of instantaneous carrier voltage. This cut-off causes serious distortion for high values of modulation percentage, as will be shown.

Below the plot in Fig. 5 showing the characteristics of the detector tube, are sample modulation waves having percentage modulations of 75% and 25% as marked.

Since only the positive half-cycles of the carrier wave are rectified, the zero axis of the input wave coincides with the zero line on the detector characteristics plot.

NON-LINEAR DIODE DETECTION

Assuming a modulation frequency of 5,000 cycles, the characteristic for 270,000-ohm load impedance is used. It is on this basis that the projections of the input waveform have been made and transferred to the right. The wave at the right is the output current from the detector. Note how for extremely low values of instantaneous RMS carrier voltage (75% modulation), the output current is distorted, due to the cut-off characteristic.

Because the 1 megohm load impedance is fairly linear and continues to zero RMS carrier voltage before cut-off, detection with such a load would have no distortion. Values of

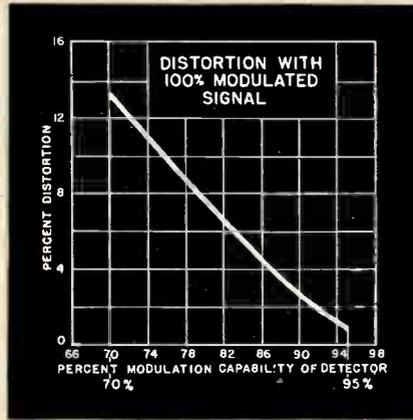


Fig. 6—As modulation capability of detector is decreased, the detection distortion increases.

load impedance between 1 meg. and 270,000 ohms would create distortion values lying between the two extremes illustrated.

In Fig. 5, there is no distortion for low values of modulation percentage as is shown for 25% modulation. Since the distortion that is created is a function of the percentage modulation, detectors are rated in terms of their modulation capability. A detector that will handle 75% modulation without appreciable distortion, is said to have a modulation capability of 75%.

Since present-day broadcasting stations use automatic modulation control for maintaining a high percentage modulation, it is not uncommon for the average modulation to be 60% with numerous peaks that range from 80%

to 95%. It is these peaks that will be distorted, unless the receiver has an adequate modulation capability.

Fig. 6 shows the amount of detector distortion that exists when a 100% modulated signal is applied to detectors having modulation capabilities from 70% to 95%. A detector with 95% modulation capability produces less than 1% distortion. If, however, the capability is only 75%, the distortion is 10% for a 100% modulated signal.

Naturally this distortion is fed into the audio amplifier and reproduced by the loudspeaker. Because of the fact that this distortion is present only at high modulation levels, ordinary tests with the conventional service oscillators having a modulation of 400 cycles at 30% to 50% are valueless.

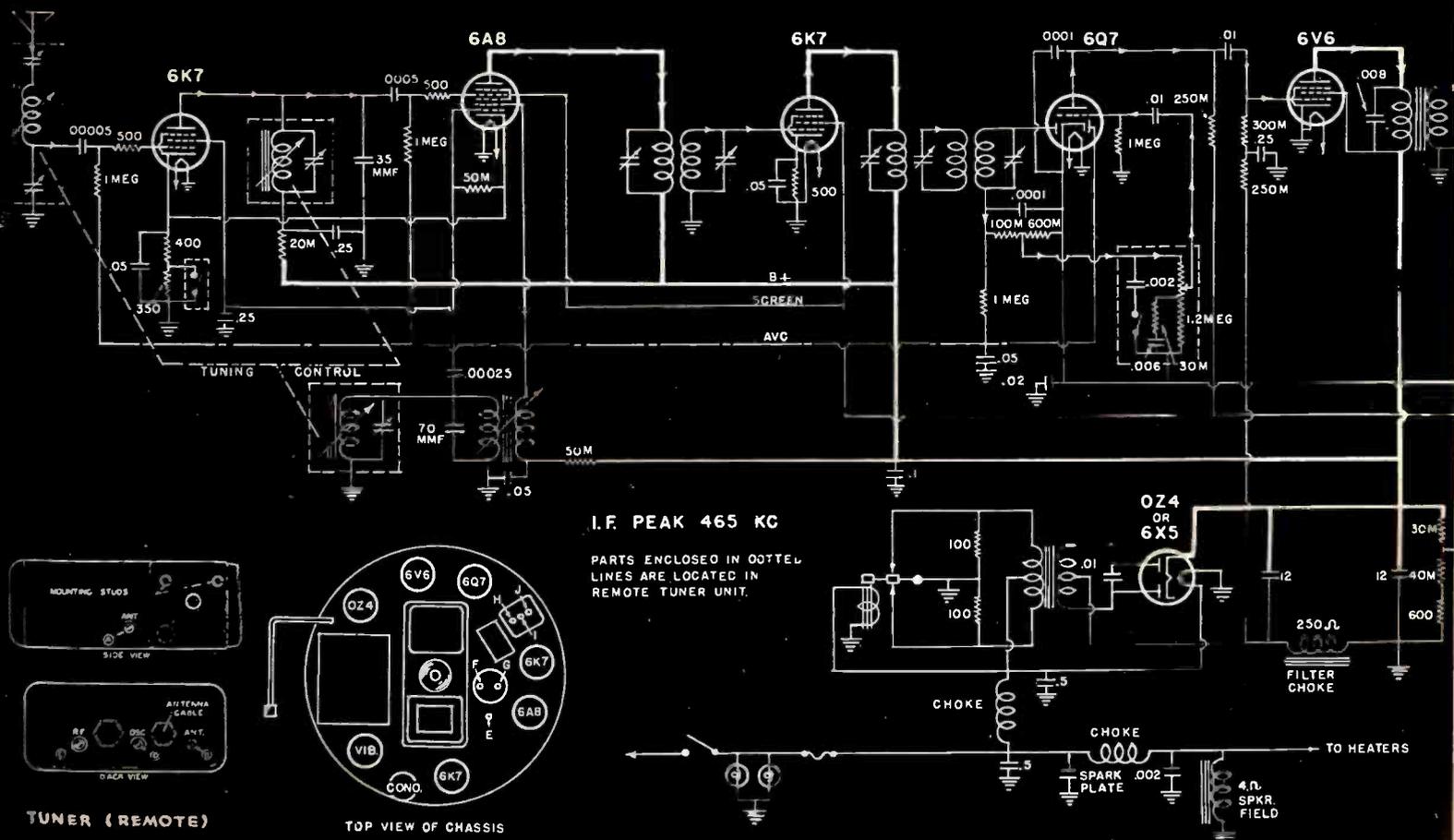
Permeability push-button tuning in Belmont model 677

Inductance type tuning is employed in some of the newer Belmont auto radio sets. Housed in a compact remote unit with push-button tuning, the high-frequency circuits are tuned by iron-core units that move inside antenna, radio frequency, and oscillator coils.

The use of these ganged permeability-tuned circuits does away with the need of a variable tuning condenser. In addition tuning by means of the mechanical push-button tuning unit, full manual tuning is always available. The high-frequency circuits which are separated from the chassis are shown

(Continued on page 56)

BELMONT MODEL 677



BITTER

Helps You Sell Records
PROFITABLY!

Bitter Record Merchandising Equipment enables you quickly, easily and profitably to install a record department. Bitter Equipment is designed for maximum efficiency in displaying, selling and storing merchandise connected with record and album sales.

Write for Free illustrated literature showing full line.

MERCHANTISER No. 28

For display or storage. Sets on counter or hangs from wall. Sheet steel, sprayed Duco finish walnut color. Holds 140 10" records. 21" long, 37" high, 9" deep.

Price \$6.25

Boxed F.O.B. Factory



CABINET No. 100

May be used independently or as a unit of a large record department. Outside facings of birch finished in walnut. Recessed ebonized maple base. Dustproof construction. Holds 500 10" and 500 12" records and 75 album sets. 2' 10 1/2" long, 7 2" high, 14 1/2" deep.

Price \$44

Uncrated F.O.B. Factory



UNIT No. 101A

Free standing floor display and selling unit. Upper part fitted with metal 2-side display holding 240 10" records and with space for circulars and album display. Bottom rear subdivided for record or album stock. Holds 650 10" or 12" records. Panels of laminated veneer in sprayed Duco finish, walnut color. 44" long, 58" high, 17 1/2" deep.

Price \$33 Uncrated F.O.B. Factory

Also available in hardwood finishes; prices on request.



A. BITTER CONST. CO.

2701 BRIDGE PLAZA NORTH
Long Island City, New York

American Record Offices Move to Bridgeport

All executive, sales and advertising offices of *American Record Corp.*, 1776 Broadway, New York City, moved May 19 to new enlarged quarters at the company's factory, 1473 Barnum Avenue, Bridgeport, Conn., announced Edward Wallerstein, president. The artists and repertoire departments will remain in New York.

In addition to modern executive offices, the record factory is being renovated and modernized. New equipment including a new material plant has been installed. The factory includes four buildings with a total of 190,000 square feet of floor space. Adequate room for expansion and increased production is provided.

LET'S LOOK AT

The Record

Records are producing store traffic and paying the rent for more and more dealers.

Contrary to general opinion, it's not only the swing addict that buys records, but also the lovers of fine music, who buy many records, pay more for them, want better pickups, and record players, record cabinets, etc.

Dealers must recognize that the selling methods, displays, demonstrations, customer follow-up, to best reach these two classes of buyers are as distinct as the buyer's tastes, and they won't mix freely, except at the expense of one or the other. Both are essential to a really successful record business.

Sweet music enjoys as large a following as swing and is much steadier. Even some leading swing bands have to cater to the sweet music devotees, counting them *as much as 50 per cent of their following*. Such exponents of sweet stuff as *Guy Lombardo, Wayne King, Tommy Dorsey, Ozzie Nelson, Kay Kyser, Hal Kemp and the Casa Loma* are the orchestras to string along with in this line.

Selling Home Recording

Here are suggestions on selling the Wilcox-Gay Recordio, a new combination radio for home recording:

1. SEND A CARD TO EACH regular customer of your store. Ask them to Come Into Your Store and Make One Recording FREE. Be sure your invitation requires the attendance of a responsible member of the family and you'll sell on the spot without further demonstration or delay.

2. A TELEPHONE CALL to a selected prospect list arranging private store demonstrations, preferably to the entire family is much in order. The Recordio will pretty nearly sell itself to such a group.

3. RURAL CHURCH ORGANIZATIONS where a single pastor serves several congregations are good prospects. The sermon for any service where his presence is impossible can be transcribed and reproduced when desired.

4. DON'T OVERLOOK THE FACT that every family even faintly considering the purchase of a new console radio is a good prospect for a Recordio. Why should they buy any other console radio when the Recordio gives a radio reception unsurpassed by any, also makes and plays recordings perfectly.

Wax worth watching

SAMMY KAYE and his orchestra playing Pippinella with VR by Jimmy Brown and The Three Barons, and My Heart Has Wings with VR by Clyde Burke—Victor 26238.

THE SMOOTHIES, with orchestra, singing Show Your Linnen, Miss Richardson, and If I Had My Way—Bluebird B10228.

ANDREWS SISTERS singing Beer Barrel Polka and Well All Right—Decca 2462.

MILDRED BAILEY and her orchestra playing And the Angels Sing and That Sly Old Gentleman, both with VR by Miss Bailey—Vocalion 4815.

HORACE HEIDT and his Musical Knights playing The Girl Behind the Venetian Blind with VC by Heidt's High Lights, and The Last Trip on the Old Ship with VC by Larry Cotton—Brunswick 8363.

BOB CROSBY and his Bob Cats playing Hindustan and Mournin' Blues—Decca 2482.

ROY SMECK and his Serenaders playing Wishing and I Never Knew Heaven Could Speak, both VC by Donald King—Decca 2484.

OZZIE NELSON and his orchestra playing The Tinkle Song with VR by Mr. Nelson and Rose Anne Stevens and Yours For a Song with VR by Miss Stevens—Bluebird B10270.

DOROTHY LAMOUR with orchestra singing Strange Enchantment and That Sentimental Sandwich—Bluebird B10265.

5. MANY PURCHASERS will plan on making the Recordio pay for itself and can do it. An occasional recording made for acquaintances or neighbors will easily keep up the monthly payments.

6. WEDDINGS are perfect examples of the important occasions when the Recordio is indispensable—A permanent record of the service for the bride and groom if they wish it. In any case a grand way to keep and cherish the kind words and greetings of friends and relatives. Every marriage offers you an opportunity to start the new couple off with a modern Recordio.

7. THE SALES MANAGER wants to put the emphasis of the spoken rather than the written word in his message to salesmen and important customers. He tells it to the Recordio, stamps it, and drops it in the mail. He is a GOOD prospect.

8. EVERY BUSINESS OFFICE, every store, every lawyer or doctor will find dozens of practical ways to use the Recordio.

A supplement to the RCA Victor Record Catalog which contains a handy 31-page index of all Victor Red Seal and Victor records released up to and including June, 1939, has been announced and is available to dealers through the company's distributors.

In New York Rises Radio City—Lofty Symbol of RCA World-wide Service!

The home of
Radio Corporation of America
—the headquarters of the only
organization engaged in
every phase of radio

SET IN THE HEART OF NEW YORK is a city within a city. It is Radio City. Its "city hall" is the seventy-two story RCA Building. From here are directed all of the manifold services of RCA.

Basis of all is RCA Laboratories. In them vital research is carried on in radio and television. Great universities are usually thought of as the homes of research. The fact is that in RCA Laboratories there is now a group of research men who probably exceed in number and can certainly match in ability, those engaged in any one phase of research, in any university in the world.

RCA Services In Every Field of Radio

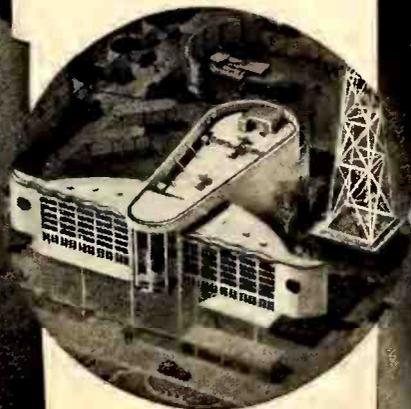
RCA serves the listening public through the Red and Blue Networks of the National Broadcasting Company. In the home, RCA Victor Radios, RCA Victrolas, and Victor and Bluebird Records afford the finest in radio and records. Now RCA Victor Television Receivers are bringing the thrills of television to families in the New York Metropolitan Area. And, added to these services for the home are those rendered in manufacturing a complete variety of radio equipment, sound equipment, and motion picture equipment such as RCA Photophone, the Magic Voice of the Screen.

Through R. C. A. Communications, world-wide communication service is provided to and from 43 foreign countries, and among leading cities in the United States.

Radiomarine, another of the RCA family, offers communication service to ships at sea. It also builds radio devices for safeguarding lives and property on ships.

Because of this background of experience in every field of radio, RCA keeps ahead, offering dealers an ever better and ever increasing opportunity to make more money by going "RCA All the Way."

See Radio's World of
Tomorrow at New York
World's Fair



Great crowds of visitors are enjoying the exhibits at the RCA Building at the New York World's Fair. And, across the country, many thousands are being thrilled by similar RCA exhibits at the San Francisco Exposition. Chief attraction is the demonstration of television which offers many visitors their first opportunity to see how television pictures appear on the screen of a television receiving instrument.

As you look at the complete exhibit of everything RCA does . . . you will understand more clearly why RCA offers you the greatest opportunity for profits.

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



Radio Corporation of America

RADIO CITY, N. Y.

RCA Manufacturing Company, Inc.
RCA Laboratories

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

Radiomarine Corporation of America
RCA Institutes, Inc.

Methods That Clicked

What successful dealers are doing to promote the sale of more and better radio sets

Let electric-light company help

"Solicit the cooperation of your local electric light and power company in a campaign to get radio owners to have their defective sets repaired," advises Harold Davis, radio parts jobber of Jackson, Miss., who stimulated such a campaign in his own city.

"The power company will be interested because—'Dead radios not only tell no tales, but burn no juice,'" adds Mr. Davis.

In Jackson the power company sent solicitors from door to door, leaving at each home a card with the names and addresses of dealers and servicemen on one side, while on the other was a list of all the popular radio programs the owner of the dead set was missing.

Record dealers profit by ad tie-in

Victor and Bluebird record dealers in small towns have developed an effective means of capitalizing on RCA Victor's nation-wide advertising program in leading magazines by placing marked copies of the issues carrying RCA Victor ads in barber

shops, dentists' and doctors' waiting rooms, and beauty parlors.

Printed labels pasted on the magazine covers call the reader's attention to the page on which the RCA Victor advertisement appears. On the pages opposite the ad are pasted sales messages featuring the names of recording artists and the latest records, with the store's name.

Study each prospect; sell intensively

"Start to size up your prospect the minute he steps into your store," says Philip F. Yahn, owner, of the Yahn Radio Co., 1929 Palmer Ave., Larchmont, N. Y. "That's the way to sell radios. If he looks like the kind of customer who would like Tchaikovsky, don't give him Benny Goodman swing!"

Mr. Yahn's salesman, J. F. Straus, had just sized up a casual customer correctly—and had made a big sale. The man had just come in "to look around."

Mr. Straus had just talked with his prospect at first. He had told him about what was new. Meanwhile, as he talked, Mr. Straus sized up his prospect, found what points seemed to interest him and which didn't. Mr. Straus found out that

the prospect showed most interest in records—series of symphony recordings that could be played without interruption.

Having determined roughly from the man's speech and his appearance what he might be willing to pay, Mr. Straus determined the course of his sales effort. Immediately he showed the prospect a big, new combination radio-and-record player. Inside of five minutes he had made the sale without wasting the customer's time on things in the store in which he would not have been interested.

Incidentally, agree Mr. Yahn and Mr. Straus, the trend today in their community is definitely toward phonograph combination radios. The store has sold more of these in three months than it has in the preceding three years.

Office radios

During the European war crisis, one enterprising radio man minted a young fortune by going to business offices in the Wall Street district, and offering to install a small desk radio and one of the new steel-rod window antennas complete in working order for \$75. He got more business than he could handle, and had to press in several assistants to install the jobs as fast as he sold them. Business houses ordered these radios readily when the possibilities were explained about keeping in touch with flash news. Some concerns even assigned special employes to sit at their radios all day, to listen in and report any important news.

After the crisis eased, the demand for these office radios fell off, but the salesman still finds enough office customers to keep him busy.

A business man in the Grand Central Palace has his radio connected to a rebuilt desk telephone, so he can listen to news silently without disturbing office routine. Picking the telephone off the hook-switch, turns on the radio-set. Anyone seeing him at his radio, would think he is merely waiting for a long-distance phone call. After using this arrangement for a year, he declares that this is the ideal form of office radio.



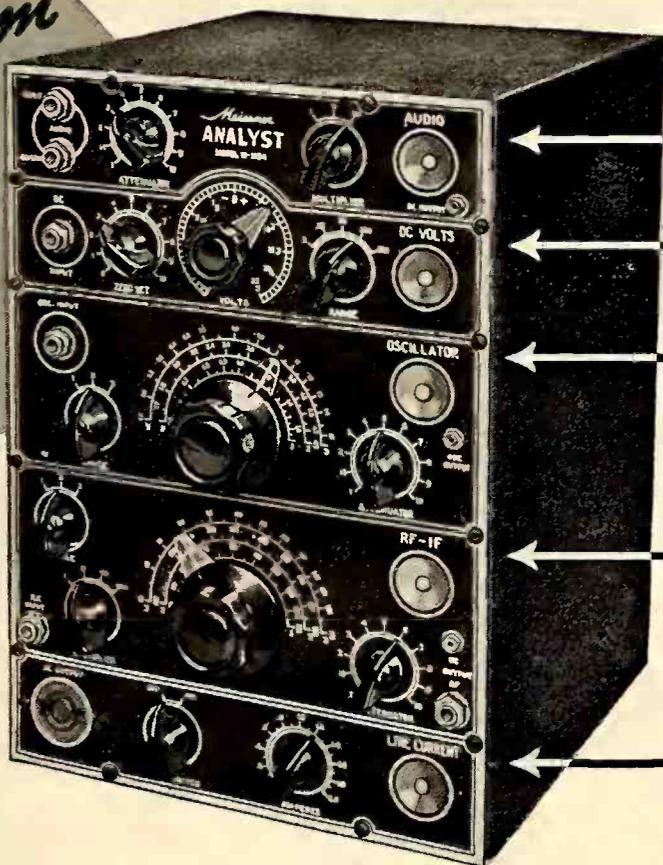
Thirteen dealers and servicemen from Allentown, Pa., visiting Arcturus Radio Tube Co., Newark, N. J. Trip was sponsored by E. M. Frank Electric Co. of Allentown.

A New TROUBLE SHOOTER

THE MEISSNER ANALYST

*In Kit form
at about
half the
price*

**SERVICES
ANY TYPE OF
RECEIVER
\$60 NET**



*Note Ease of Reading
Channel by Channel*

AUDIO
50-50,000
CYCLES

VOLTMETER
5, 15, 50, 150,
500 VOLTS

OSCILLATOR
0.6 to 15.0 MC.

RF-IF
95 to 1700 KC

LINE CURRENT
0.3 to 3.0 AMP.

The Meissner ANALYST is not only highly efficient—covering every conceivable phase of signal testing—but is surprisingly easy to read and operate. This up-to-the-minute instrument will work wonders in raising the standard of service in your shop. It will take the kinks out of your toughest servicing problems... step up your efficiency... save valuable time... increase your profits.

It accurately measures both control and operating voltages without affecting the operation of the set. Channels can be tested individually or simultaneously. Reading is greatly simplified. There's an individual panel for each channel.

And best of all you buy the ANALYST in KIT FORM... Save nearly HALF the cost of a factory-wired set of comparable quality and efficiency. And at the same time acquire a fundamental knowledge of this instrument and what it will do for you that could not otherwise be obtained by weeks of study and experiment.

Get the facts on this revolutionary TIME and TROUBLE SAVER... See the Meissner ANALYST at your Parts Jobber's—or mail coupon below for FREE FOLDER... It tells the whole story!

This Folder gives you complete facts on the Meissner ANALYST. Explains in detail the scores of testing operations it performs faster and better.



MAIL IN ENVELOPE OR PASTE ON PENNY POSTCARD

MEISSNER MANUFACTURING COMPANY
Mt. Carmel, Illinois, Dept. T-6

- I want that folder on the Meissner ANALYST
- Also your 1939-40 Catalog on the complete Line

Name.....

Address.....

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



A 3 POINT PLAN YOU'LL LIKE

1. Better QUALITY
2. Faster SERVICE
3. Moderate PRICE



Dial or Jewel PILOT LIGHT ASSEMBLIES

The Drake "3-point plan" of operation has attracted the majority of America's radio manufacturers. Experience has proved to them the advantages of getting finer quality and quick, efficient service at a cost no higher than ordinary types on the pilot light assemblies they use. Radio engineers and service men have also come to rely upon Drake products because of their never-failing dependability.

PRECISION BUILT

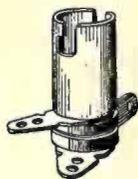
Only the finest of materials, equipment and skilled precision workmanship is good enough for Drake products. Absolute uniformity is assured by thorough inspection of each unit with an ingenious electrical testing device of our own invention.

BIG VARIETY

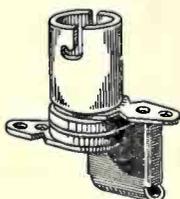
A most complete selection of sizes and types is offered. In fact, regardless of your requirement, we can supply it from stock or design a unit specially adapted to your needs. Standard Types, Special Types, "Underwriters Approved" Types, Bayonet, Bracket and Screw Types, Jewel types and hundreds of others are available.

WORLD'S LARGEST MAKERS

Within a few years, Drake has become the world's largest exclusive manufacturers of Dial and Jewel Light assemblies. Efficient big-scale production permits low prices. Investigate now. May we send you complete information?



Bayonet Type Socket with Three Terminals



Bayonet Type Socket with Flange Brackets



Screw Type Socket with Flange Brackets



Jewel Panel Light

Send for FREE catalog!

DRAKE MANUFACTURING CO.
1713 W. HUBBARD ST. • CHICAGO, U. S. A.

Service Notes

(Continued from page 49)

in the accompanying schematic enclosed in dotted lines.

Alignment of the receiver is made as follows using an I.F. dummy antenna comprised of a 0.5 mfd. condenser. The broadcast dummy is a 125 mmfd. condenser.

I.F. ALIGNMENT

To align the output I.F. transformer without using a cathode ray oscillograph a 10M ohm resistor must be shunted across the diode coil of this unit.

1. With the dial of the Remote Tuner Unit set at 1400 K.C. and with volume control full on, connect test oscillator set at 465 K.C. in series with I.F. dummy to grid of 6K7 I.F. tube.
2. Adjust trimmers "H" and "I" of output I.F. transformer for maximum gain (see chassis layout drawing).
3. Disconnect the 10M ohm resistor which has been shunted across the tertiary winding and adjust trimmer "J" for maximum gain.

(a) This transformer is now correctly tuned. Under no circumstances re-adjust trimmers "H" and "I" after the 10M ohm resistor has been removed.

(b) For alignment of the output I.F. transformer using a cathode ray oscillograph the 10M ohm resistor is not used and the procedure is similar to the alignment of any two circuit I.F. transformer; merely tune for a symmetrical curve of maximum amplitude.

(c) Output connections for the cathode ray oscillograph should be made to pin No. 8 on 6Q7 tube socket and to the end terminal on the terminal strip; at this point the diode load resistors terminate.

4. Move test oscillator connection to grid of 6A8 tube and adjust trimmer condensers "F" and "G" of input I.F. transformer for maximum gain.

BROADCAST ALIGNMENT

1. With the dial on the Remote Tuner Unit set as 1560 K.C., connect test oscillator set at 1560 K.C. in series with broadcast dummy to the antenna lead of receiver.
2. Adjust oscillator trimmer (adjustment "D," on back of Remote Tuner Unit) to resonance.
3. Re-set test oscillator to 1400 K.C. and pick up signal by rotating dial on Remote Tuner Unit. Adjust R.F. Trimmer (adjustment "C," on back of Remote Tuner Unit), to resonance.

CAUTION: In order to realize maximum gain out of the antenna adjustments, back out antenna shunt trimmer (adjustment "B") on back of remote tuner unit all the way out and then adjust antenna series trimmer (adjustment "A") on side of remote tuner unit to resonance.

4. Re-set test oscillator to 600 K.C. and rotate Remote Tuner Unit dial to 600 K.C.

Adjust shunt oscillator adjustment "E," rotating dial to and fro at the same time adjusting shunt oscillator for maximum gain. This adjustment is accessible from the top of the radio chassis.

5. Go back and check 1400 K.C. If adjustment is made here, check 600 K.C. again.

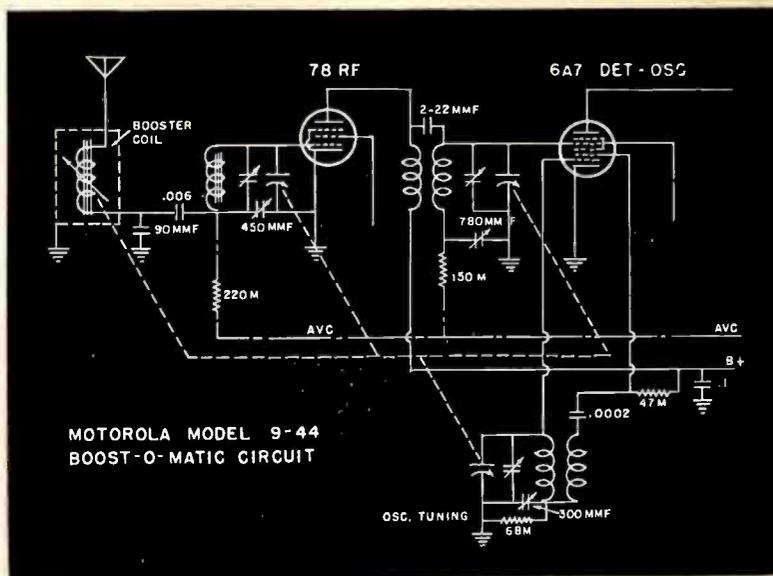
Boost-o-matic Tuner

Automatic tuning of the antenna circuit is provided for in the Motorola model 9-44 auto receiver. Known as the boost-o-matic, the device is a permeability-tuned antenna coil as shown in the accompanying circuit.

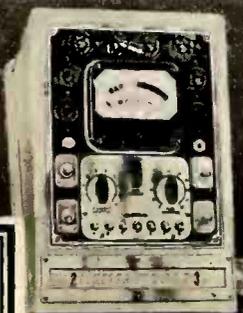
Tuning to resonance is accomplished through a flexible shaft that moves an iron core axially within the booster coil. The shaft in turn is actuated by a cam in the receiver.

A gain of about 15 times in the sensitivity is obtained by tuning the antenna circuit. The booster coil in a shielded case is located at the base of the antenna where the lead comes through the cowl.

The antenna circuit is then coupled to the low side of the R.F. coil which is tuned by one section of the 3-gang variable condenser.



**"HERE'S HOW I
PROFIT TWICE
on Every Tube
I Sell!"**



**SELL GUARANTEED
QUALITY!**

When you sell Arcturus Tubes you can really talk **QUALITY**. Made by the Company which pioneered 8 of the 10 major tube improvements, Arcturus Tubes have always meant top performance—long life—dependable, trouble-free service.

Now, Arcturus leads again in the development of tube types for present-day receivers. Here is one of Radio's most complete lines—regular Gloss, Coronets, "G," Midget, Battery, Majestic, Sponton, and the popular Bollost tubes—more types for more applications than ever.

Cash-in on this wide variety—be prepared to supply any needed replacement with a high-quality Arcturus Tube. It means better service, satisfied customers, more profit for you!



**MODERN SHOP EQUIPMENT
AT ALMOST NO COST . . .
with Purchases of Radio's Finest Tubes!**

"Take it from me, brother, signing up for an Arcturus Equipment Deal was the smartest thing I've ever done! It's the sweetest tube proposition on the market today! Now I handle real quality tubes—tubes that are easy to sell, and stay sold—tubes that bring me new customers . . . help me keep the old ones.

"And you should see my shop! . . . Arcturus practically gave me a brand-new one! The most modern equipment that money can buy—the kind of service and store equipment I've always wanted, but could never afford—practically dropped right into my lap just because I buy Arcturus Tubes! I figure that's all 'gravy'—an honest-to-gosh **EXTRA PROFIT** from every Arcturus Tube."

GET STARTED NOW!

YOU can be just as fortunate as this typical Arcturus dealer—the **ARCTURUS EQUIPMENT DEAL** is available to responsible dealers and servicemen anywhere in the United States. Get the facts! See how Standard Tube Prices, Low Down Payments, Small Tube Requirements, Quick Delivery of the units you select, make the Arcturus Plan the finest, fairest and easiest Equipment Deal ever offered.

MAIL THE COUPON!

Arcturus
Radio Tube
Co., Newark,
New Jersey.

Gentlemen:

Send complete details of the Arcturus Equipment Deal and my copy of the Arcturus Dealer Helps Folder.

- I am a Dealer.
- I am a Serviceman.

ARCTURUS

**INDEPENDENT TUBES FOR DEALERS WHO
DO THEIR OWN INDEPENDENT THINKING**

Name _____

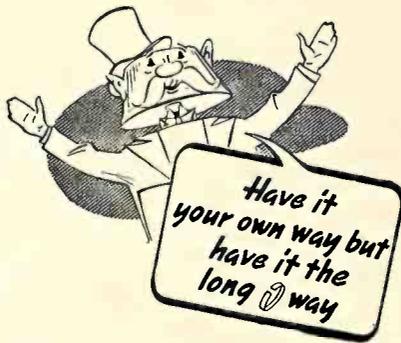
Address _____

City _____ State _____

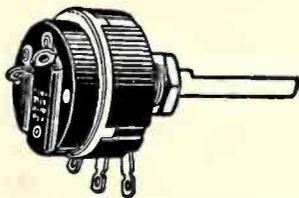
My Jobber is _____

(OFFER GOOD IN U. S. A. ONLY)

T-20



Old Man Centralab is willing to be neutral as to your choice of Volume Control as long as you select one of his famous products . . . with the wall type resistor strip that hugs the inner circumference of the bakelite housing. Choose one of the Centralab family — STANDARD . . . MIDGET . . . or ADASHAFT . . .

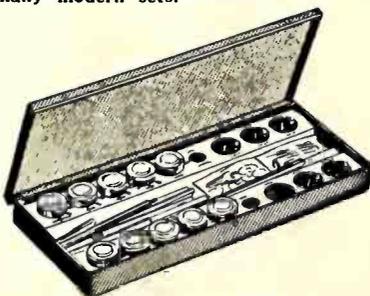


STANDARD RADIOHM

The old reliable "Standard" that is 1 3/8" in diameter . . . used wherever sufficient space for this control is available.

MIDGET RADIOHM

1 1/8" in diameter . . . this small size necessary for replacements in a great many modern sets.



ADASHAFT KIT

Housed in a metal box, hinged, contains ten Midget Radiohms, five types of attachable shafts, etc. . . . for more than 400 makes of receivers . . . actually thousands of different models.

Centralab

Division of Globe-Union, Inc., Milwaukee, Wis.

SERVICE NOTES

Charging Portable Batteries from Line

A number of readers have inquired about the proposed practice of charging portable dry-batteries from the line, under conditions when the portable set is plugged into an AC 110-volt outlet. Because there has been some question raised regarding this practice, the editors of RADIO TODAY put the query up to experienced battery engineers. We quote their comment, substantially as given in the words that follow:

Some battery portables are now on the market, and others soon will be announced, which will also operate from a 110-v. line. Using the battery as a filter, it is claimed that use of the set on house current will recharge the battery. That looks fine on paper. But the actual facts, according to battery men, are that such a practice may shorten the life of the battery as much as 75 per cent, and in any event will do more harm than good.

RECHARGING DRY CELLS

Dry cells can be given some recharge, but the charge must follow very quickly after the discharge, and must take place at a very slow rate. The internal heat generated by the flow of current through the battery will dry out the mix and shorten the life of the battery if the battery is given normal use.

Watch out carefully for any attempt to float the battery across the line, as a filter, or for recharging, and be sure, by your own tests that such a practice will not give the customer an unpleasant surprise, and yourself, a dissatisfied customer.

Sells thru service calls, 6 out of 10

Gerald Saeger, operating Radio Service, Mukwonago, Wis., believes in making his service and sales work tie in to bring him more radio set sales.

Saeger does most of his own repairing, therefore he knows which people in his locality have new or used radios. After he has repaired an obsolete set and made the acquaintance of the owner, Saeger lets two to three weeks slip by; usually he has given the prospect a few folders on new radio sets, and this allows time to glance through them.

At a time when Saeger thinks his man is interested in a new set, Saeger loads a console into his car and drives to the prospect's home.

He tells the prospect that he has a new set in his car and would like to give him a demonstration of it right in his own home—no obligation.

If this procedure were worked on a cold-canvass basis it would not produce results, says Saeger, but because he has already repaired the old radio, he knows the home owner and can make such a request.

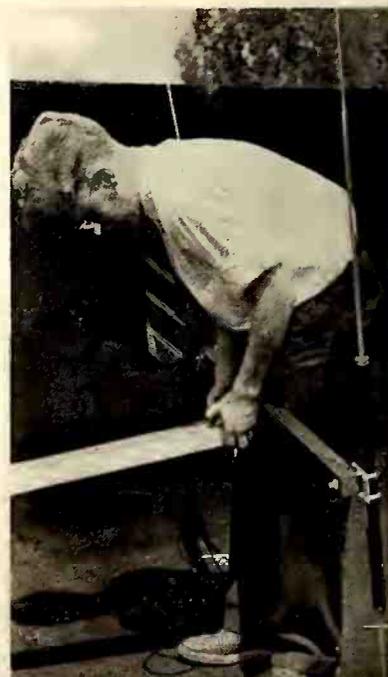
"In practically nine out of ten cases the owner lets me bring the new radio in," states Saeger. "Once a prospect sees the new set in his home, observes how fine it looks and how well it brings in various stations, he can usually be sold. Out of every 10 radios brought into a home in this manner we sell 6, which gives us a 60 per cent batting average."

"Automatic Volume Controls" by NRI

The article on "Automatic Volume Controls—Characteristics of AVC Systems and How They Work" which appeared on pages 30, 31 and 41 of the May issue of RADIO TODAY, should have been credited to the National Radio Institute, 16th and U Streets, Washington, D. C. This valuable presentation was taken from the Institute's course of training, and omission of the credit line occurred through a typographical error. J. E. Smith is president of the National Radio Institute, and Joseph Kaufman is director of education.

Adjustable Television Antenna

A television antenna with universal joint mounting, permitting adjustments in all directions, is now offered by Technical Appliance Corp., 17 East 16th St., New York City. The di-pole antenna is constructed of heavy duralumin rods held together with a sturdy center insulator. Two extension rods screw into the center rods for attaining the correct length of the di-pole. Mounting straps are provided for mounting to an iron pipe or wooden mast. Precision adjustments are possible in both the horizontal and the vertical planes, simply by loosening a nut and tightening same after the correct position is obtained. A reflector is available wherever needed, and the same easy adjustments are provided for the full antenna-reflector assembly.



Taco's di-pole television antenna.

Now!

WORLD'S OLDEST, LARGEST CAPACITOR MANUFACTURER

Announces **NEW CAPACITOR** Analyzer and Bridge



CAPACITOR ANALYZER

Cornell-Dubilier's new Capacitor Analyzer. Measures quickly, accurately all important characteristics of paper, mica, oil and wet and dry electrolytics, including A.C. motor starting types. It is the only instrument which provides a complete and thorough capacitor test.

Some of the advanced features of the new C-D analyzer model BF-50 are:

- Capacity measurements, .00001 to 240 mfd.
- Power-factor measurements 0 to 50%.
- Insulation resistance measurements to 1,500 megohms.
- Push button switch control.
- High sensitivity control provides sharp or broad balances for quick and accurate readings.
- Checks leaky, shorted, open, high and low capacity.
- Requires no outside standards, headphones, meters or other accessories.
- It's complete in itself! It's portable. It's outstanding!

The Analyzer is supplied in attractive walnut cabinet with removable hinged cover. Model BF50 list, less tubes . . . \$41.50.

DEALER NET **\$24⁹⁰**

CAPACITOR BRIDGE

NEW C-D CAPACITOR BRIDGE for quick and accurate measurement of all type capacitors between .00001 and 50 mfd.

- Indicates power-factor of electrolytic capacitors.
- Checks, opens, shorts, high and low capacity.
- Dual type "visual eye" detector indicates bridge balance.

The most compact and useful instrument of its type ever offered to the radio service field!

The Capacitor Bridge is complete, requires no head-phones or other accessories, is supplied in attractive bakelite case 3 $\frac{3}{8}$ " x 5" x 3", with detachable leads and instruction booklet. Model BN Capacitor Bridge, complete, less tubes . . . List \$16.50

DEALER NET **\$9⁹⁰**

C-D CAPACITOR DECADES



Ideally suited for test circuits, filter design, bridge measurements, and many other service and experimental applications. Capacity range between .0001 and 10 mfd. is available in three decade units. They can be used continuously in circuits where voltages do not exceed 220 V. A. C. or 600 V. D. C. Encased in compact, attractive bakelite cases, 3 $\frac{3}{8}$ " x 5" x 3". Individual chart furnished with each Capacitor Decade.

TAKE ADVANTAGE OF THE LONGEST CAPACITOR EXPERIENCE IN THE INDUSTRY

Equip now for greater profits with Cornell-Dubilier advanced, guaranteed test equipment. For limited time only! This offer expires Aug. 1, 1939. The Coupon below is worth \$1.00! Present it to your local C-D jobber and he will allow you \$1.00 toward the purchase price of any single instrument. See your C-D jobber today! Bring the coupon with you.



CORNELL-DUBILIER ELECTRIC CORPORATION,
SOUTH PLAINFIELD, NEW JERSEY

- Please rush to me the following catalog material.
- Catalog No. 167A on Capacitor Instruments.
 - Catalog No. 165A on industrial and transmitting capacitors.
 - Catalog No. 166A on Quietone Interference Filters.
 - Place me on your mailing list for Free C-D House Organ.

Name
Address
City State

CORNELL-DUBILIER ELECTRIC CORPORATION

1022 Hamilton Boulevard, South Plainfield, New Jersey
Cable Address: "CORDU"

Sales Helps



Capacitor Can

Solar Mfg. Corp., Bayonne, N. J., have announced a bright red-blue-and-white carton to furnish "buying urge." The carton, like the tubular paper capacitors it contains, is "sealed."

Appliance Aid

A complete assortment of advertising promotional material is being shipped to all Philco Conservador and Cool-Wave distributors by Hutchins Advertising Company of Rochester, in conjunction with dealer presentations being held throughout the country. Included in this material are dealer kits, presentation brochures, looseleaf presentation books, and various display items for Conservador refrigerators and York Cool Wave air conditioning units.



This display of American Condensers by the Radio Parts Co., 612 W. Randolph St., Chicago, quickly proved its selling power by boosting condenser sales. M. Ceaser, Radio Parts Co. president, believes that "you must show 'em to sell 'em."

Video Viewer

Handy booth called "Peek-A-Booth" has been designed by Len Cramer, general sales manager of Allen B. Dumont Labs., Inc., Passaic, N. J., as an aid in demonstrating television in brightly lighted stores. The booth forms a huge shadow-box making dim illumination for best showing of video images making a television section which prevents detracting from radios and other merchandise.

Bulletin Board

Combination bulletin board and folder rack is now being distributed to jobbers by Clarostat Mfg. Co., Inc., 285-7 N. 6th St., Brooklyn, N. Y. Arranged to be hung on a wall or stood on a counter by means of its easel back, the green and yellow card takes 8½ x 11 news bulletin sheets which slip in place announcing timely items of interest to servicemen and other users of resistors and resistance devices. By slipping a rack over the lower portion of the board cleared of the news bulletin, the display features the products of the manufacturer, calls attention to the new service manual, and offers a colorful folder out of the rack or box. The folders cover line-voltage ballasts and regulators, plug-in resistors, composition and wire-wound controls, sound system controls and attenuators, and power resistors.

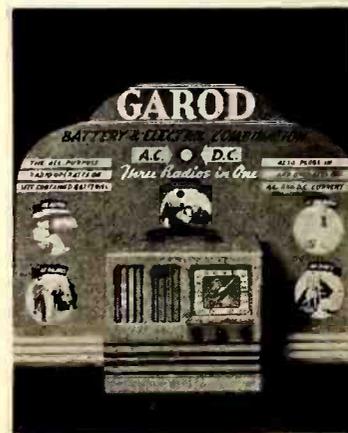
world wide recognition
certainly merits yours...

see the new

GARRARD
Automatic Record Changers

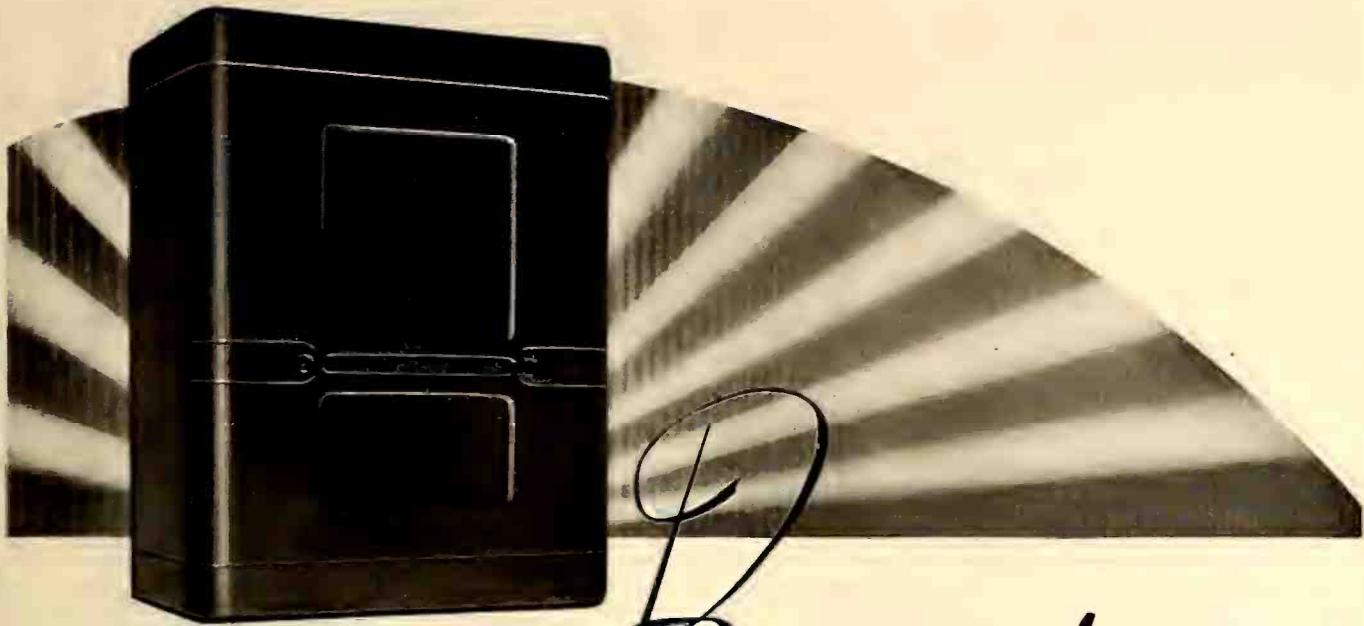
SEND FOR
new
CATALOG
67F

GARRARD SALES CORP. • 296 BROADWAY • NEW YORK



Portable Display

Display board featuring a four tube battery-AC-DC portable super-het with built-in loop, vernier tuning drive, and AVC is released by Garod Radio Corp., 115 4th. Ave., New York, N. Y.



NEW *Beauty* **IN JENSEN PERI-DYNAMIC** *Bass Reflex* **REPRODUCERS**

JENSEN SCORES AGAIN! First—the introduction of those basic new principles in the acoustic art—*Peri-Dynamic* and *Bass Reflex*. In terms of actual performance this meant that new low frequency octaves could now be heard and over-all performance was raised to the highest level in the history of the cone type loud speaker. The skill and ability of Jensen engineers produced this scientific accomplishment which, when applied, delivered a complete product with compelling advantages. Cabinets were of acceptable dimensions, even though exceeding an infinite baffle in ability and cost was surprisingly low. Now, Jensen creates and adds to these exclusive values, cabinets as appropriate in beauty as the Reproducers are outstanding in performance.

These newly styled cabinets are finished in rich brown lacquer in subdued contrasting colors. Ideal for home, studio and public address use, these new cabinets further stress the Jensen policy of providing the utmost in practical values without price premium. Thus, Jensen provides Dealers, Service and Public Address Men with consistently greater opportunities for increase of volume and profit. Remember—*Peri-Dynamic* enclosures are shipped in convenient knock-down form; can be assembled in a few moments.

FIVE NEW MODELS

These new Reproducers are available with either 8, 10, 12, 15 or 18-inch Speakers; each speaker size with its own specially designed cabinet. Prices for complete reproducer (including speaker) from \$22.85 up. For Cabinet only, from \$16.00 up.

Write for illustrated literature.

Jensen
*"The Name
Insures the Quality"*

JENSEN RADIO MANUFACTURING COMPANY . . . 6601 SO. LARAMIE AVE., CHICAGO, ILL.

Now for the BIGGER JOBS

Get your share of the profits from the higher priced intercommunication installations. The market is wide open for hotels, department stores, hospitals, offices, at the low prices we ask for this excellent 2-way system.

Demonstrate our Model 143 to these prospects. 4 speakers on each substation and up to 10 substations adaptable. No other system can offer these features. More profits for you! \$10.00 with 50 ft. of wire.



MASTER STATION

AS ILLUSTRATED

\$47⁵⁰

Complete with Wire Ready for Installation

Write today for catalogues showing all new models.



REMOTE STATION

REGAL AMPLIFIER MFG. CORP.
14-16 W. 17th Street, New York

NOW READY! INCLUDES TELEVISION!

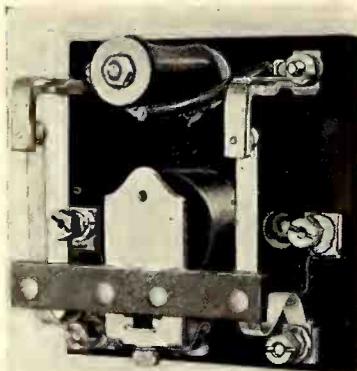


TO WHAT EVERY RADIOMAN SHOULD KNOW
JUST PUBLISHED—1939
—All the latest information on the new developments in Radio & Television. Explains Repairs, Servicing & Building of Sets for pleasure or profit — Easy to read & understand. Gives all the important phases of Modern Radio, Electricity & Sound. Ready reference guide. A real Helpful, Easy Way to secure authentic data on Radio Troubles—Static Elimination—Broadcasting—Antennas—Electronic Television—Repairs—Service—Short Wave—Auto Radio—Including Questions and Answers—34 chapters—772 Pages. Over 400 Diagrams & Illustrations. Handy Size, Sturdy Flexible Binding. A Good Investment for Servicemen—Experimenters—Electronic Television Students—Aviation & Marine Radio Operators and all others. Get this practical information in handy form for yourself. Fill in and mail coupon today.
4 COMPLETE - PAY ONLY \$1 A MO.

THEO. AUDEL & CO., 49 West 23rd Street, New York
Mail AUDEL'S NEW RADIOMANS GUIDE for free examination. If O. K., I will send you \$1 in 7 days; then remit \$1 monthly until price of \$4 is paid. Otherwise, I will return it.

Name _____
Address _____
Occupation _____
Reference _____
R. T.

More New Things



Safety relay

★ To eliminate contact with high voltage supply of ham transmitters relay discharges the filter condensers through the discharge resistor. Tested maximum—2000 volts DC. List \$10.00. Ward Leonard Electric Co., Mount Vernon, New York.—RADIO TODAY.

contact between rotor arm and center terminal. Steel coil spring on shaft eliminates end-play. Unit has 5-finger silent element contactor. Made in 17 popular ranges and tap-type units from 5,000 ohms to 2.0 megohms. International Resistance Co., 401 N. Broad St., Philadelphia, Pa.—RADIO TODAY.



Ham frequency meter

★ Visual frequency monitor allows complete band-spread of amateur bands and numerous accurate check points on all bands. Features of this self-powered, AC-DC unit include visual and aural zero beat indicator; accuracy greater than .01 per cent; reads to 2 Kc. on 20-M band; built-in mixing circuit and dial calibrated for six amateur bands. Amateur net price \$27.45 less tubes, \$31.35 with tubes. Browning Labs. Inc., 750 Main St., Winchester, Mass.—RADIO TODAY.



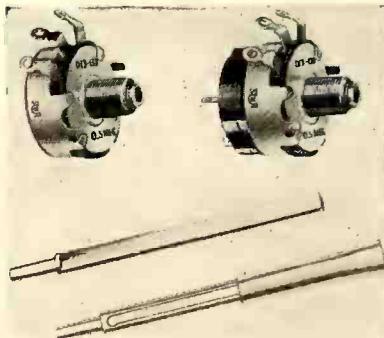
Resistance capacity test meter

★ Service-substitution box instrument determines proper value of capacities and resistances for replacement work. Capacities from .005/.01/.05/1/5/1mfd/4mfd/8mfd/25 mfd. Resistance values from 200 ohms to 2 megohms. Variable controls in negative leg of circuit. Model 750. \$6.95 net. Approved Technical Apparatus Co., 57½ Dey St., New York, N. Y.—RADIO TODAY.



Rotary converters

★ New line of rotary converters consists of: type AK, 100 to 200 watts; type BK, 300 to 500 watts and type CK 750 to 1,000 watts; other units of greater capacities. Features include all cast iron frames and built-in ventilators on four sides. Available with filters for radio operation, also for constant speed phonograph work. Also announced is complete line of both motor generator sets and centrifugal pumps. Pioneer Gen-E-Motor Corp., 466 W. Superior St., Chicago.—RADIO TODAY.



Midget controls

★ Controls for use in small receivers use metallized type resistance element. Spiral spring connector eliminates metal-to-metal



You are cordially invited
to visit
Ken-Rad Headquarters
at the Blackstone Hotel
during the
Radio Manufacturers Association Convention
and the
National Radio Parts Trade Show
June 13-17
Hotel Stevens Chicago

Ken-Rad Tube and Lamp Corporation
Manufacturers of Ken-Rad Radio Tubes
Owensboro, Kentucky

POWERFUL PROMOTION MAKES

RCA VICTOR RECORDERS

TALK *Big Money!*



Portable RCA Victor Recorder, MI-12701 comes in attractive gray carrying case with handle. Turntable speed 78 r.p.m. Will handle discs up to 12". Volume indicator meter. Tone control. Completely self-contained. All necessary elements for recording and reproducing, including RCA Aerodynamic Microphone. Employs outside-in recording method. \$179.
RCA Victor de luxe Recorder Console Model MI-12700 - also available at \$475.

Profitable New Business for You Backed by Hard Selling Displays, Ads, and Mailing Pieces

A profitable new business offered to you on a platter! Backed by a money-making plan of action, RCA Victor Recorders have a great sales potential in your town. You'll be amazed at the results the RCA Victor 4-way Profits Plan will produce. Demonstrate...use your window...advertise...and put the mailing pieces to work.

You'll find that any one and everyone is a hot prospect. Schools, Music Teachers, Home Movie Fans, Parents, and many others. Go out after this new business. Make more money right now.

*Prices f.o.b. Camden, N. J., subject to change without notice. For finer radio performance—RCA Victor Radio Tubes.

4-Way Profits Plan



1. Demonstrate!
2. Use Your Window
3. Advertise
4. Use The Mails

RCA Victor supplies everything you need to make this plan click.

How You Profit!

1. On recordings made in your store. 2. On recordings made outside your store. 3. On the sale of RCA Victor Recorders to your customers. 4. On the sale of RCA recording discs. 5. By the great increase in your store traffic. 6. By making sales of RCA Victor Radios, RCA Victrolas and many other musical instruments for which this product will create new interest.



Commercial Sound Section, Department RT-6
RCA Manufacturing Company, Inc., Camden, N. J.
Please send me without obligation full details on RCA Victor Recorders

Name

Street..... City..... State.....

PUT IT ON  A RECORD

RCA Victor RECORDERS

COMMERCIAL SOUND SECTION

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

DEALERS
WHO HAVE
"SOMETHING
ON THE
BALL!"



We're interested in dealers who have a reputable radio service business; dealers who can turn over their tube stock at least every three or four months; who have facilities to display sales-producing advertising materials; and who have a reputation for maintaining standard prices.

Dealers who qualify as Tung-Sol retail partners sell to a market free from interference with already established Tung-Sol retailers, and they make full profit on every sale.

*If you have this type of establishment
— write us today.*

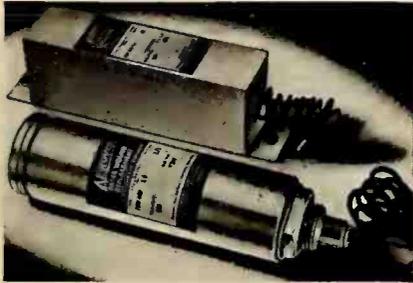
*Vibration
Tested*

TUNG-SOL RADIO TUBES

Booth 410, Radio Trade Show

TUNG-SOL LAMP WORKS INC. Dept. C Radio Tube Division
SALES OFFICES: Atlanta - Chicago - Dallas - Denver
Detroit - Kansas City - Los Angeles - New York
General Offices: - - - - Newark, New Jersey

New Things



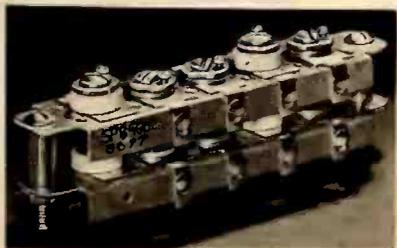
Electrolytic replacements

★ Paper wound condensers series, matching dry electrolytic metal can condensers. Available in three types replacing the 4-600, 8-600 and 8-8-600 electrolytics with actual capacities of 2.0, 2.75, and 1.75-1.75 mfd., respectively. PWP series matches cardboard-case dry electrolytics of 4-600, 8-600 and 8-8-600 with actual capacities of 2.0, 3.0, and 2.75-2.75 mfd. Units have low power factor and leakage. No polarity need be observed. Aerovox Corp., 70 Washington St., Brooklyn, N. Y.—RADIO TODAY.



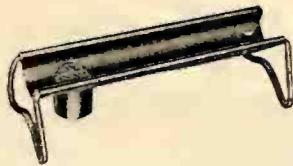
Small capacitors

★ Midget capacitors have tinned leads securely anchored to foil, designed for ease in wiring into circuit. Available in several capacities and sizes for each of 25, 50, 150, 250, 350, 450 volts DC. American Condenser Corp., 2508 S. Michigan Ave., Chicago.—RADIO TODAY.



Two-deck tuner strips

★ Two-deck, 5-gang trimmer strip adjusted by single screw. Makes possible the use of push-button tuning in two-circuit receivers. Two adjustments necessary when used with permeability coil-tuned or trimmer-tuned oscillator circuits for three-circuit receivers. No. 6677. Also available 8 and 10 gang single-deck tuner strips. Sprague Products Co., North Adams, Mass.—RADIO TODAY.



Soldering-iron stand

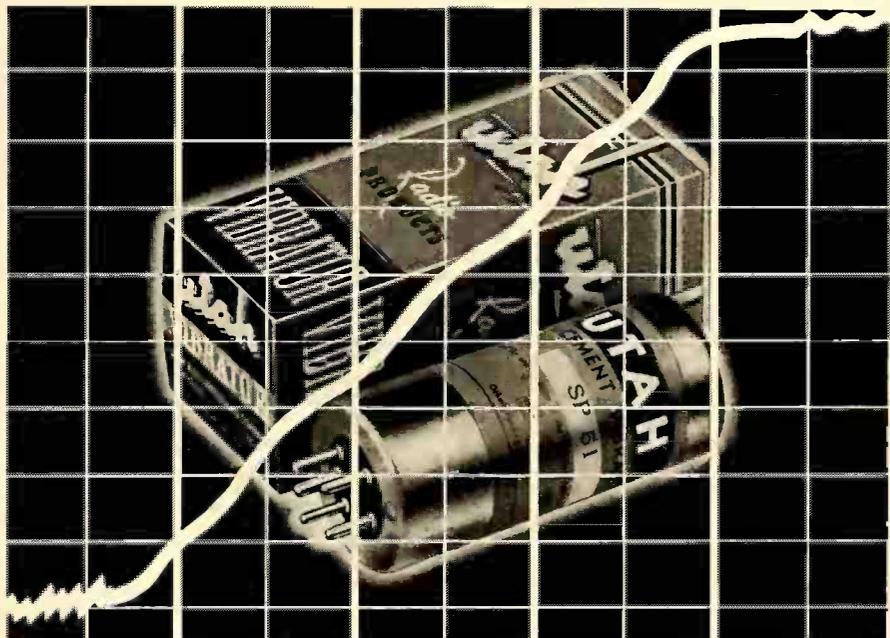
★ Cup filled with steel wool for removing oxide from iron, is feature of soldering iron stand. Stand will be included free with soldering-irons for radio servicemen. Drake Electric Works, Inc., 3654 Lincoln Ave., Chicago.—RADIO TODAY.

Clips

★ Assortment of most popular types of insulated and uninsulated Alligator clips plus solid copper clip for radio frequency test work.



Improvements include finely meshing teeth, comfortable thumb grip and choice of screw or soldered connection types. Mueller Elec. Co., 1583 E. 31st St., Cleveland, O.—RADIO TODAY.



HOW UTAH VIBRATORS CONTRIBUTED TO THE 900% Increase IN AUTO RADIO VOLUME

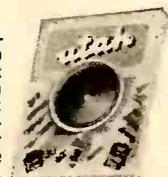
● The immediate acceptance of the numerous vibrator developments which were originated in the Utah laboratory, contributed largely to the spectacular increase in auto radio volume of 900% in four short years. And those same improvements *plus* the performance and advanced engineering of Utah products have won a continued preference from all branches of the industry.

Because Utah designs and produces *both* vibrators and transformers, Utah engineers have a decided advantage in "matching" the characteristics of the two and in developing maximum performance features. The complete fabrication of vibrators and transformers *in the Utah factory* enables absolute control of correlated characteristics of

both—thus assuring dependability, uniformity and satisfactory performance.

Utah service, too, has been important in the development of the industry—Utah engineers have from the first cooperated with receiver manufacturers, by directing the use of vibrators best suited for each individual requirement. For original equipment or replacement requirements there is a Utah Vibrator to meet every need.

WRITE FOR FREE CATALOG. In addition to complete information about vibrators the new Utah catalog contains important facts about Speakers, Transformers and Utah-Carter Parts. Write for your free copy today—no obligation.



SPEAKERS • TRANSFORMERS • UTAH-CARTER PARTS



UTAH RADIO PRODUCTS CO.
CHICAGO, ILLINOIS
CABLE ADDRESS: UTARADIO—CHICAGO



Oxford Announces 2 Inch Perm Mag Speaker

- Highly sensitive
- Excellent frequency response
- Powerful, high permeability, permanent magnet
- Complete dust proofing

This new Oxford unit will provide unlimited new outlets to alert manufacturers, engineers, sound-experts and amateurs for the development of new, more compact radio and sound equipment.

MAIL THIS COUPON NOW

Please Send Full Details at Once.

Name _____
Address _____
City _____ Dept. F.

OXFORD-TARTAK
RADIO CORPORATION
913 W. VAN BUREN ST. • CHICAGO, U.S.A.

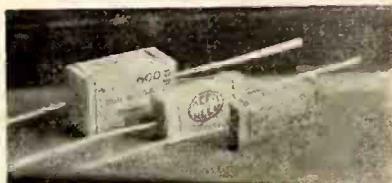


WAXES AND COMPOUNDS FOR INSULATION & WATERPROOFING of ELECTRICAL and RADIO COMPONENTS

● 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
120 - 26th ST., BROOKLYN, N. Y.

NEW THINGS



Paper condenser

★ Type "AM" paper condenser molded in ceramic material for low-loss. Will withstand high heat. Small additional cost over conventional type paper tubular condensers. Acid proof and moisture proof. Does not contain any air-pockets. Dumont Electric Co., Inc., 514 Broadway, New York, N. Y.—RADIO TODAY.



Bench tester

★ Zero current voltmeter features rectangular meter with 8 1/4 inch scale length. Circuit gives infinite ohms per volt to 250 volts DC. Television ranges include 1,000 and 10,000 volts at 88,888 ohms per volt. Over 888 megohms resistance at 10,000 volts. Metered power output in panel checks power consumption at any time. Covers usual AC-DC ranges at 1,000 ohms per volt to 2,500 volts DC milliamperes, resistance to 50 megohms, capacity to 200 mfd. and decibel ranges. Model 210X. Hickok Elec. Instrument Co., 10514 Dupont Ave., Cleveland, Ohio.—RADIO TODAY.



Circulating heater

★ Economy model oil-burning heater with ventilated top. Prismatic flame panel reflects glow of flame into room. Burner equipped with adjustable pilot ring. Also

models with visual control dial to indicate flame-setting across entire room, and base which reduces drafts by bringing in air at several levels. Quaker Mfg. Co., 223 W. Erie St., Chicago.—RADIO TODAY.



Low power inverters

★ Complete line of low-power inverters for operating small AC motors and 35 watt devices from 6, 12, 32, 110 and 220 v. lines. Each powered by plug-in inverter vibrator using four 1/4 inch diameter tungsten power contacts and two silver alloy contacts. List \$9.95 and \$10.95. American Television and Radio Co., 300 E. 4th St., St. Paul, Minn.—RADIO TODAY.

MR. ROY NEUSCH
SALES MANAGER
CLARION INSTITUTE
OF
SOUND ENGINEERS
WILL BE ON HAND AT THE
National Radio Parts Show
AT THE
HOTEL STEVENS, CHICAGO
BETWEEN JUNE 14 AND 17
to greet members and friends.

●

This is the opportunity to get the inside story of the greatest merchandising plan in "P. A."

SALES HELPS



Battery Boost

Usalite sales display No. 81 consists of six Junior Red-Head plastic molded flashlights mounted on colorful display; 6 free adjustable bracket holders and 24 Usalite 10c flashlight batteries. Dealers' net is \$4.44. United States Elec. Mfg. Corp., 222 W. 14th St., New York, N. Y.



Musical Merchandise

Designed for sales counters in record shops an RCA Victor phonograph needle merchandiser is ready for dealers. A full-view glass display panel in base shows various needle packages together with a card explaining their uses. The panel is lighted by light-bulb in top of display. A stock of over 500 needle packages may be stored in vertical bins in back of the unit. Bins have slanting shelves and ledge strips for safe storage and are labeled with the various RCA Victor needle types.

Hytronic Labs will offer its new beam power output tube for replacements in sound equipment at the Parts Show in Chicago. Designed specifically for replacing type 6L6 and 6L6G the 6L6GX eliminates leakage and arcing between the pins by means of a ceramic base. Net price \$1.25.

See the complete new line of

PRESTO RECORDING EQUIPMENT

at the **NATIONAL RADIO SHOW**

BOOTH 116—BELL STREET

PRESTO MODEL J RECORDING PHONOGRAPH \$169⁵⁰*

Complete with microphone and stand.

*Slightly higher west of Rockies.

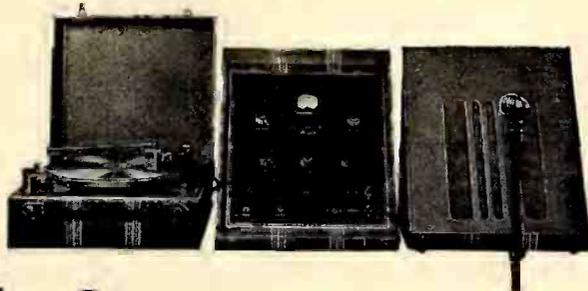


PRESTO MODEL G RECORDER AND PUBLIC ADDRESS SYSTEM \$325⁰⁰

Less microphone and stand.

PRESTO MODEL Y PORTABLE 16" RE- CORDER \$595⁰⁰

Less microphone and stand.



PRESTO MODEL M DUAL TURNTABLE RECORDER

\$550⁰⁰

Less microphone, stand and speaker.

PRESTO MONOGRAM DISC

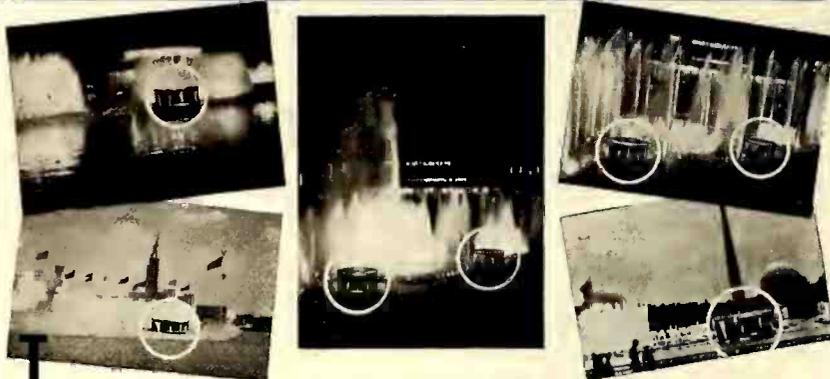
A new low-cost disc equal in performance to the Presto discs used by broadcasting stations and recording studios.

Size	Price pkg. of ten
6"	\$2.50
8"	4.00
10"	6.00
12"	7.50



PRESTO RECORDING CORPORATION
242 West 55th Street, New York, N. Y.

**MORE THAN
600 HOURS IN A SALT BATH
-AND STILL GOING STRONG!**



If you're looking for evidence of speaker stamina, engineering genius and amazing dependability, take a trip to the World's Fair. See in the Lagoon of Nations, where nightly magic fountains are set to music, the world's largest speakers. Built to specifications by Cinaudagraph engineers, these units must withstand tons of salt spray night after night. For more than 600 hours they've "taken it". And still going strong!

In the Utilities and General Motors exhibits, you'll find other Cinaudagraph speakers just as faithfully on the job. World's Fair engineers chose these speakers for the mighty Public Address system networking the entire grounds. Seventy-six installations—1800 speaker units! That's Cinaudagraph's contribution to the World of Tomorrow. And proof enough, we think, that Cinaudagraph can build to any specifications—and build well.

For performance, protection and bigger profits in your business, look to Cinaudagraph for speakers. You, too, will agree with enthusiastic Fair engineers, "it pays to insist on the finest". For the speaker line designed for the World of Tomorrow is more than capable of today's demands.

Description of the Cinaudagraph 27" electro-dynamic speaker installation at the New York World's Fair available on request. Also catalog describing the entire Cinaudagraph line of speakers. We cordially invite you to visit our display of Cinaudagraph Products at the National Radio Trade Show. Our booth number is 927 Faraday Avenue. Additional equipment will be exhibited in rooms 4A-5A-7A.



CINAUDAGRAPH CORPORATION
STAMFORD CONNECTICUT

Zenith Orders Up

Zenith Radio Corp. completed its annual conventions in New York and Chicago, May 31. The distributors attending these conventions, reports Commander E. F. McDonald, president, placed orders for their June and July requirements which represented an increase of 164 per cent over the orders placed by the same distributors at the same annual conventions last year. The increase of 164 per cent was in number of units. There was an increase of 149 per cent in dollars over the same conventions last year, largely accounted for by the introduction of the new radio line of receivers which do not require antennae, aerials or grounds.

Majestic Prevue and Distributor Convention

The 1940 Majestic line will be presented for its initial showing June 10 to June 25 in the new Majestic factory display room at Chicago. Majestic has recently constructed a specially factory designed room wherein the new models will be preved during the Chicago Furniture Show and the Radio Parts Show.

W. B. E. Norins, general sales manager of Majestic, has announced June 28 to July 3 for the Majestic distributor convention at the Drake Hotel, Chicago.

The Majestic line for 1940, according to factory announcements, will offer a complete price range and incorporate many Majestic engineering innovations. A wide variety of designs featuring new creations of the internationally famous artist-designer, Norman Bel Geddes, will be shown.

Andrea's Policy

Andrea television receivers and kits are being marketed in the New York-New Jersey area, under a "fair trade" contract which establishes the resale price, and permits no trade-in allowance or other discount from list prices.

These products will be sold only to dealers operating established retail stores, and no discounts will be allowed to industrial concerns placing their orders through their purchasing departments or to personnel departments of commercial organizations.

"We subscribe to the policy of using television as a means of restoring legitimate profits to radio dealers. We will give the dealer full protection to that end," says F. A. D. Andrea, "and we shall not hesitate to repurchase our products from stores that do not see fit to take advantage of this new set up."

"Phantom" Tele-Receiver

To introduce the mysteries of television to interested thousands at the N. Y. World's Fair, RCA has prepared a unique television receiver with a cabinet of transparent plastic material. Experienced guides satisfy the curiosity of the visitors by explaining and pointing out the video chassis, the all-wave radio chassis for sound reception, the cathode-ray tube, loudspeaker, tubes and other parts, which are chrome plated to make them more easily visible.

Philco Dealer Meetings Underway

Immediately following the Philco convention held at French Lick, Ind., June 5, 6, 7, and 8, Philco executives from Philadelphia headquarters began a swing around the country which will take them to 52 cities to attend Philco dealer and distributor meetings, which this year will be more completely detailed than ever before in Philco's history.

Thousands of dealers in the various territories will convene with their distributors and will see, for the first time, the 1940 Philco radio line, besides hearing Philco executives expound in detail merchandising and advertising plans for the coming year. Also, they will hear Philco's policy on television in conjunction with the announcement of a limited number of television receivers.

Included in the group of Philco executives who will deliver the principal addresses at the meetings are: Larry E. Gubb, president; Sayre M. Ramsdell, vice-president; Thomas A. Kennally, sales manager; Harry Boyd Brown, national merchandising manager; Max Enelow, James Carmine, Herb Stickle, John F. Gilligan, Cliff S. Bettinger, James M. Skinner, Jr., John Parsons, Jack Allison, Bob White.

Capehart-Farnsworth Group Plans New Markets

Capehart district managers assembled in Fort Wayne, Ind., May 31, for a three-day meeting, conducted by I. C. Hunter, sales manager, their first session as the Capehart Division of Farnsworth Television & Radio Corporation.

Plans were developed and policies formulated for the introduction, in sixty days, of a new line of Capehart instruments in price brackets somewhat below current models. These will be known as the Panamuse series, will contain an entirely new record-changer, and are expected to open broad new markets to Capehart dealers.

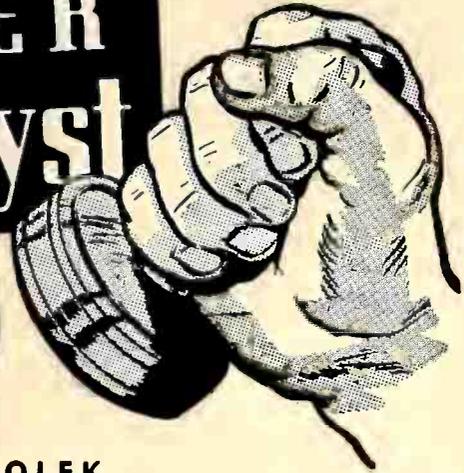
First showing of this line will be made at the convention of the National Association of Music Merchants to be held at the Hotel New Yorker, New York, August 1st to 3rd inclusive. No changes are contemplated in the present policy of limiting distribution to those dealers prepared to merchandise Capehart instruments by the highly specialized methods proven effective during the past ten years, but activity will be doubled to increase the number of communities in which Capehart instruments may be purchased. Present models in the higher price brackets will be continued.

Informal discussions were held with E. A. Nicholas, president, and E. H. Vogel, vice-president, of Farnsworth Television & Radio Corporation, who stressed the importance to Capehart dealers of the new opportunities resulting from associating the great strength of Farnsworth Television with the excellent acceptance of Capehart instruments.

The RIDER Chanalyst

T. M. REG. U. S. PAT. OFF.

NET PRICE \$107.50



Says **F. E. SMOLEK**
Service Manager of

ZENITH
LONG DISTANCE RADIO

ZENITH RADIO CORPORATION



April 21, 1939

John F. Rider,
404 Fourth Ave.,
New York, N. Y.

Dear Sir:

We are writing to congratulate you on the Chanalyst. We consider this instrument the most efficient and profit making tool available to the service industry. One has been in use in our service department for the past four months, and the man hours it has saved us, not only in locating obscure sources of chassis trouble, but in general service work, has repaid its cost many times over.

Its excellence in locating those difficult to find troubles, which usually waste so much time, and which are so common, is unexcelled.

Yours very truly,
F. E. Smolek
ZENITH RADIO CORPORATION

F. E. Smolek
Service Manager

SERVICE INSTRUMENTS, INC., 404 Fourth Avenue, New York City
FOREIGN DIVISION, 145 W. 45th Street, N. Y. C., Cables — "Servicin"

"PINCOR" Rotary Converters

Provide the most dependable means for converting direct current to alternating current. Particularly well adapted for operating radio receivers, public address systems, power amplifiers, signs, A.C. motors, etc. Available in two standard classifications "DA" and "TR"—both with or without filter—engineered for converting 6, 12, 32, 110 or 220 volts D.C. to 110 or 220 volts A.C., 40 to 2,000 watts. There is a "Pincor" converter for every requirement. Write for complete descriptions and data.

VISIT BOOTH NO. 210 AT THE CHICAGO TRADE SHOW



Pioneer Gen-E-Motor Corporation
Dept. R2F, 466 W. SUPERIOR ST., CHICAGO, ILL.
Without obligation please send me "PINCOR" Rotary Converter Catalog and Data.

NAME
ADDRESS
CITY STATE

Cash in-on Cameras

Radio dealers ideally set up to merchandise cameras and accessories. Aggressive advertising and promotion soon builds profitable line.

Many radio men are inclined to look upon cameras as a slow-moving, extra line, meant only for the small camera outlet or the large dealer who has enough capital to make a "department" store. The fact is, according to F. G. Klock of Universal Camera Corp., there are not now enough camera stores in America to take care of the rapidly increasing demand.

Camera fiends, like radio bugs, are well known for the habit of continually trying new developments, constantly buying new gadgets, never being satisfied with the equipment they own. The market for film, lenses, chemicals, and the dozens of other camera accessories is shown in the fact that one person in five in the U. S. now owns a camera. The hobby has grown so rapidly that retailers in other lines (not as closely allied as radio) are scrambling to reap the profit neglected by the camera man.

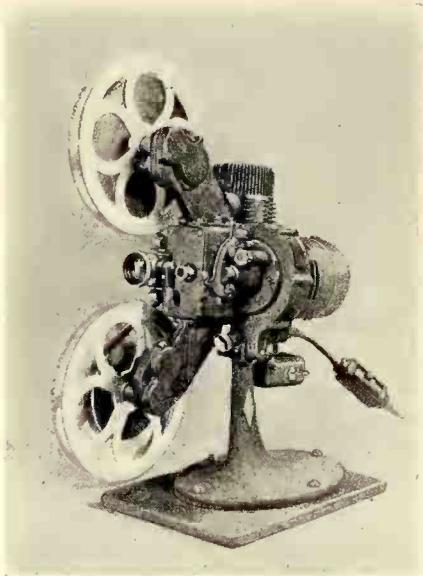
RADIO MEN BETTER MERCHANDISERS

"The reason the line has been under-sold," according to Mr. Klock, "is that the average camera dealer is a technical expert, not a merchant. It is his habit to spend so much time on technical details, and so little on merchandising, that the cream of the camera business has drifted away from him to the faster moving merchandisers of other lines. The radio and electrical appliance dealer knows how to demonstrate and merchandise, how to promote sales and satisfy customers. An installment or budget plan for

UNIVEX RAPID WINDER



Accessory for Mercury camera permits shutter to be set and film transported without moving camera from the eye. Converts camera into rapid-action repeater. Easily attached, it retails for \$2.50.



Bell & Howell's 16 mm. movie projector is entirely gear-driven. Simple shift of lever winds film quickly, quietly.

high priced articles is another point in favor of the radio-electrical dealer to whom deferred payments is the rule."

Since the camera season is best when the radio season is dullest, there is no need for one to interfere with the other. For that matter, traffic produced by the attraction of photographers will increase radio in the dull season, while customers for radio sets, tubes and parts will be exposed to photographic supplies in the camera off-season.

As an example of what an aggressive merchandising campaign can do, Vim Radio Stores, New York City, have been carrying cameras for a number of years. Stocking Univex, Eastman, Afga, and Bell & Howell lines, they started out to make cameras a major part of their operations. Finding that even without advertising or sales-effort customers would buy cameras, they placed an order for 2,000 Univex Mercury cameras and displayed models in the windows, tying in with advertising in the daily papers. The 42nd St. store has sold as many as 50 of these cameras in a week. Radio men have been trained to sell cameras, and a main part of the store has been turned over to photographic supplies.

More and more radio dealers are finding that cameras and photographic supplies are profit makers in radio's

off-season — and even help the year 'round sales and profit picture.

It's a fast growing business that deserves the attention of alert dealers.

Sleeper's "Television Handbook"

One of the oldest names in the industry is signed to a new book on the latest radio subject: "Look and Listen — The Television Handbook," by M. B. Sleeper, published by Norman W. Henley Co., 2 W. 45th St., New York, price \$1.00.

This book is written in the easy-to-find-the-facts style which has characterized M. B. Sleeper's magazine articles and books since 1915. And now in his Television Handbook, you will find a practical presentation of the television art as of April 30th, 1939, the inaugural date of telecasting. Leaving historical description to the textbooks, the author has divided this volume into two parts: First, a profusely illustrated, tersely written description of the NBC studios and the transmitter on the Empire State Building; Second, a simple exposition of television receiver circuits with the most elaborate instructions, including six diagrams for wall mounting, for assembling and servicing the assembled kit, as well as the equivalent Andrea factory-built receiver. A dictionary of television terms has been included, to explain a great number of new words which we must add to our technical vocabularies.

CROSLY "PRESS JR." MODEL



Crosley's miniature candid camera has reflector with universal focus with usable depth from three feet to infinity, built-in flash bulb synchronizer and battery supply. Lists at \$7.95 complete.

RCA to Show Television During Radio Parts Show

Distributors and dealers attending the Radio Trade Parts Show in Chicago will be given an opportunity to witness an elaborate television demonstration as the guests of RCA-Victor, it has been announced by Thomas F. Joyce, vice-president and advertising director.

"Each visitor will be permitted to appear before the television cameras, while fellow visitors see and hear him by means of stock RCA-Victor television receivers in an adjoining room," Mr. Joyce explained.

"The purpose is to give distributors and dealers who handle radio parts an insight into the future of their business," he continued. "Although television services are not yet available in most sections of the country, we are anxious that the trade anticipate the changes in the radio industry which the amazing new television art is bringing about."

Demonstrations will be held daily during the Parts Show (June 14 to 17 inclusive) in special television studios at the RCA-Victor Distributing Corp., 441 North Lake Shore Drive, from 10:00 to 11:45 a.m., and from 2:00 to 4:30 p.m. each day.

Majestic's Television Plans

The television development program of the Majestic Radio & Television Corporation has been augmented by a license agreement with the Allen B. Dumont Laboratories.

Dumont has for years been the manufacturers of the cathode-ray tube which is the heart of modern television receivers. Majestic has already been manufacturing under the radio and television patents of RCA and the Hazeltine Corporation.

Majestic under its present arrangement with Dumont is now in position to sell complete television receivers which are being manufactured by Dumont Laboratories, and intends to do so as the sale of television receivers seems desirable.

A full line of table and console models will be available. A feature of these receivers will be the unusual large size picture that they present. The regular receiver will present an 8 by 10-inch picture, and the special line will provide a picture 5 by 7 inches.

Presenting 2 Sensational New UNIVEX CAMERAS!



Univex TURRET "8"

\$25

with f4.5 lens

The last word in home movies! Enables the user to go from long-shots to close-ups . . . from brightest sunlight to shadow—with a simple turn of the turret. 3-lens rigid mount, changes in a split-second to any of THREE lenses! Viewfinder automatically frames field of vision for Telephoto use! In addition, this sensational Turret "8" embodies every feature of the new Univex Cine "8"! New built-in optical viewfinder; new snaplock hinged cover; new improved governor; new automatic shutter; new powerful quiet motor! Takes movies at less cost than snapshots! (Uses 69c Univex Cine Film.)

New! Univex MERCURY with 1/1500th Second Speed!



\$29⁷⁵

35mm. Deep Focus Tricolor f3.5 Lens

With this newest Univex triumph, America now takes unchallenged leadership in the candid field! No other camera, regardless of price, can match this speed! With its built-in photoflash synchronizer, automatic film transport and dozens of other sensational features, the Mercury "gets" every conceivable action picture—by night or day! With its simplified, quick action controls it delivers superb, prize-winning results to anyone who can press a button! Uses most economical Univex 35mm. film. Also with Hexar f.2 Lens and 1/1500 Speed \$59.50

Here are the 2 greatest cameras in all Univex history—the greatest values ever offered the American public.

All America will read about these 2 great cameras in the leading national magazines! You can cash-in by being the first to pro-

mote and feature these unbeatable values in your community. Send today for free literature, displays, and advertising mats.

UNIVERSAL CAMERA CORPORATION
NEW YORK CHICAGO HOLLYWOOD
Profit Protected In 43 States

Products

- Noiseless Auto Antennas
- Auto Radio Accessories
- Auto Radio Cable and Fittings
- Remote-O-Cable Replacers
- Adjustable AC-DC Ballasts
- Ballast Testers
- Window and Roof Antennas
- Woven Fabric Dial Belts
- Dial Cables and Cords
- And many others

Coming!

Sh! It's a big secret—a totally new product for live wire distributors—right in step with today's market.

▼
We'll be seeing you at the show. BOOTH 401

JFD

J. F. D. MANUFACTURING CO.

4111 FORT HAMILTON PARKWAY, BROOKLYN, N. Y.
EXPORT OFFICE: 116 BROAD ST., NEW YORK CABLE ADDRESS: ICARAD, N. Y.

NEW



"SEALDTITE" Wax-molded TUBULAR PAPER CAPACITORS

WAX
END-FILLED

FIG. 1

SPUN-END
VACUUM-FILLED

FIG. 2

NEW SOLAR SEALDTITE
WAX-MOLDED

FIG. 3

Of standard size and price, but **TOTALLY** sealed against moisture. An engineer's dream come true!

The new SEALDTITE assembly is not stuck into tubes—previous standard practice, with doubtful results as shown in Figures 1 and 2. It is centered in molds; an exclusive SEALDTITE wax compound is molded around it. Astounding test results! SEALDTITE for safety! Leading jobbers feature SEALDTITE in factory-sealed cartons of 10.

2 to 5
times
average
life expectancy

**the only
major advance
in tubulars
in the
last decade**

SOLAR MFG. CORP.

Bayonne, New Jersey

Sprague Acquires New Factory Set-Up

The recent purchase by the *Sprague Specialties Company* of a second set of factory buildings in North Adams, Mass., results in almost doubling the floor space now available for the manufacture of Sprague condensers and Sprague Koolohm resistors. This expansion was made advisable by steadily increasing business, both export and domestic plus the recent introduction of wire-wound resistors, push button-tuners and many new condenser types.

The new plant is a complete manufacturing unit in itself. It consists of an office building, three separate manufacturing buildings from two to four stories high, a power house, and three warehouses. Conveniently located for shipping either by truck or by rail, it is less than a mile from the present Sprague plant, thus lending itself readily to a rapid and highly efficient expansion of the company's manufacturing facilities. Buildings are of modern brick and steel construction.

Sprague general offices will be maintained as in the past at the original No. 1 plant. Both Sprague condensers and Koolohm resistors are distributed to the jobbing trade by the Sprague Products Company under management of Harry Kalker whose offices will also continue at the No. 1 plant.

Hutchins Called Back to National Union

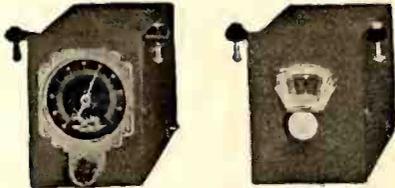
On leave of absence from his four-year vice-presidency of Western Advertising Agency's Chicago office, Henry Hutchins has returned to National Union, Newark, N. J., to direct its selling program. It was in 1930 that Henry was first appointed sales manager of N. U., guiding its policies during the formative years of the radio parts business until 1935.

"While recognizing all the evils and shortcomings of the radio tube industry," comments Mr. Hutchins, "I still think that it is the most fascinating business I know and one which still has, in my opinion, plenty of hope. Having specialized in sales promotion for many years, both on the sales side and on the advertising side, I am quite familiar with retail operations in many branches. I am convinced that the radio service business occupies a unique and fundamental position among retail establishments. Such a business, efficiently handled and capably promoted to the public has a bright and profitable future. And, of course, as the retailer and the jobber prospers, so does the manufacturer."

Tabloid-Page Facsimile

W. G. H. Finch of the *Finch Telecommunication Labs*, recently announced the development and successful commercial tests of a new tabloid-page printing facsimile transmitter and associated recording equipment. The new apparatus prints a full-size five-column tabloid producing 20 square inches of printed text and pictures per minute. As in other Finch facsimile the new product operates on either AC or DC or batteries and uses electro-sensitive paper.

SHORT WAVE CONVERTER FOR CAR RADIO



Model 600 & 700

Model 500

Can be attached to any car radio. Has on and off switch. Does not affect the reception on the standard broadcast bands.

MODEL 600—Covers 49, 31, 25, 20, 19 and 16 meter bands. Designed for reception of American and foreign short wave broadcast. Especially adapted in tropical countries and the more remote parts of the world. Distance range 5,000 to 10,000 miles.

LIST PRICE.....24.95

MODEL 700—Long wave converter covers 135 to 410 kc. Used in the U. S. to receive government weather reports, and in cars and boats of the water front districts. LIST PRICE.....24.95

For Use of Police and Other Law Enforcement Officers

MODEL 100-A—A police converter with single metal tube and triple variable tuning condensers. Covers 1,500 to 2,600 kc. LIST PRICE....12.50

MODEL 200—Police converter with variable condenser and illuminated dial. Covers 1,500 to 5,500 kc. LIST PRICE.....17.95

MODEL 500—Police converter with two metal tubes, variable condenser and illuminated dial. Very sensitive. Has exceptional distance range. LIST PRICE, 21.95 WITH AEROPLANE DIAL, 23.95

MODEL 800—Police converter with two metal tubes and triple tuning condensers. Covers 1,500 to 2,600 kc. Has exceptional distance range.

LIST PRICE.....15.95

MODEL 900—Police converter with one metal tube and double tuning condenser. Covers 1,500 to 2,500 kc. Has fair distance range. LIST PRICE...7.95

Jobbers and dealers wanted

A B C RADIO LABORATORIES

3334 N. New Jersey Street,
Indianapolis, Indiana

Problems of the Parts Jobber



By Leslie C. Rucker, President National Radio Parts Distributors Association.

The question of the hour is: "Shall I attend the meetings of the Radio Parts Distributors Association during the Trade Show in Chicago?" That, my jobber friend, is a question to which you can find the answer when you have duly considered the various problems of this period and decide whether they interest you. If they do, then you cannot afford to miss—if not, then most definitely you have no right there, unless you seek more light and come with a wide open mind to learn.

Let's look at the situation. We might say "There are tubes," but we dare not. We do say "where are tubes?" Maybe if enough of us voice our opinions nationally, we will see tubes as a stabilized item once more in the position of a clean profit to manufacturer, jobber and dealer, with the ultimate consumer paying a fair list price—a list in line with good business and less price cutting.

Can you, Mr. Jobber, as an individual, do anything to ward off a serious price cut on any one of your lines? If so, what? I dare say you'll take your price-sheet and scratch your head to see how you'll make both ends meet. Can you create more sales of transformers, volume controls, or filter condensers than the natural replacement demands?

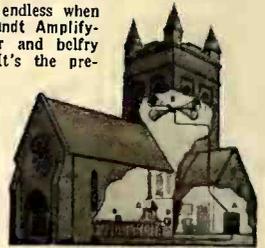
Replace old tubes

But tubes, yes. Lower prices will greatly assist us to replace many of the millions of old tubes, long ago past good operating point. The dealer will sell several times the number he now moves.

Don't you and I both agree that most of the manufacturers are swell fel-

MUSICAL TOWERS BELFRY CHIMES • CARILLON

Sales possibilities are endless when you sell and service Sundt Amplifying Systems for tower and belfry chime installations. It's the preferred custom built profit line to sell because high quality and performance is backed by real technical assistance and sales help.



Broadcasts chimes, organ recordings. Powered for 2, 6 and 12 mile diameter coverage. Used as P.A. unit indoors. Automatic record changer. Plays 10" and 12" records mixed, either 78 or 33 R.P.M. Special low-noise records for church service on acetate discs. We furnish everything—speakers, accessories, installation directions. Sales help. PROTECTED TERRITORY. Be first in this big profit field. Write today.

SUNDT ENGINEERING COMPANY
4260 Lincoln Ave. Chicago, Ill.

Sell & Use LITTELFUSES



Write for Catalog



For radio instruments, meters, transmitters, rectifiers, etc., "Quicker than a short circuit." FUSE MOUNTING . . . ALL KINDS. See your jobber or write today for catalog and prices.

LITTELFUSE INCORPORATED
4260 LINCOLN AVE. CHICAGO, ILL.

SERVICE MEN

Here is a soldering iron designed especially for your use. Note the features listed below and remember that "High Heat" means high value for you.

FEATURES

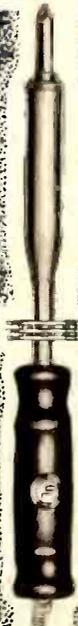
3/8 IN. COPPER TIP

125-WATT ELEMENT WOUND WITH NICHROME ON AMBER MICA WITH NICKEL PLATED SEAMLESS HOUSING

BAFFLE PLATES KEEP HANDLE COOL

LISTED BY UNDERWRITERS' LABORATORIES

6 FT. CORD UNBREAKABLE PLUG



No. 325 SPECIAL \$4.50 List (Complete with Stand)

See Drake Soldering Irons at your parts jobber's or at the Radio Parts Trade Show

DRAKE ELECTRIC WORKS
INC.
3656 LINCOLN AVE., CHICAGO, ILL.

REFLEXED **University** LOUDSPEAKERS
ACOUSTIC REPRODUCERS OF HIGH EFFICIENCY AND QUALITY

MODEL 8C-11 REFLECTED RADIATOR PROJECTOR
MODEL 8C-11 REFLECTED RADIATOR
MODEL 1W-11 THROATLASS PROJECTOR
MODEL WCC-11 WIDE BAND WIDE BAND LOUDSPEAKER
MODEL 1L-11 REFLECTED 18 FOOT HOORN
MODEL 6H-11 REFLECTED 6 FOOT HOORN

UNIVERSITY ANNOUNCES—the latest addition to its many basic pioneering developments.

THE "UNIVERSITY RUBBER TIRED RIM"

This "Rubber tire" eliminates all "ring" and "metallic resonance" from spun metal horns. Damping the rim of the horn makes it acoustically "dead." This feature incorporated in all models illustrated. Sound men have been waiting for this development for years. It will boost your sound sales if you feature it correctly. Its low cost makes merchandising problems simple.

Write for details. Get aboard the "UNIVERSITY RUBBER TIRED SOUND WAGON"

University also announces two new loudspeakers: Models WCC & SWCC are dual-driver speakers with uniform 60-10,000 cycle response at high power level.

UNIVERSITY LABORATORIES
195 CHRYSTIE ST. NEW YORK, N. Y.
Foreign Dept., 116 Broad St., New York

National Radio Parts Distributors Association

President—Leslie C. Rucker
1220 14th St., N. W., Washington, D. C.

Vice-President—Emmet J. Tydings
114 Ninth St., Pittsburgh, Pa.

Treasurer—Blakely E. Cross
40 Clyde St., Gloversville, N. Y.

Secretary—George D. Barbey
434 Walnut St., Reading, Pa.

Directors—

Joseph A. Demambro
1105 Commonwealth Ave., Boston, Mass.

Walter Hollenbach
221-5 Eighth Ave., Altoona, Pa.

R. C. James, Sr.
2117 Second Ave., Seattle, Wash.

William Shuler
902 Poydras St., New Orleans, La.

Arthur Stallman
128 E. Seneca St., Ithaca, N. Y.

lows? Well, after all, they are all human and they want our business. By the very nature of survival, they are very much interested in serving their customers, just as you and I do every day. Then why can't we get together and plan for the better mutual cooperation of jobbers and manufacturers? We all will welcome real good suggestions.

Are you perfect in your jobber-dealer set up? Most of us have learned much through our past conferences and many of those things learned have improved our set-up, which has meant more profits.

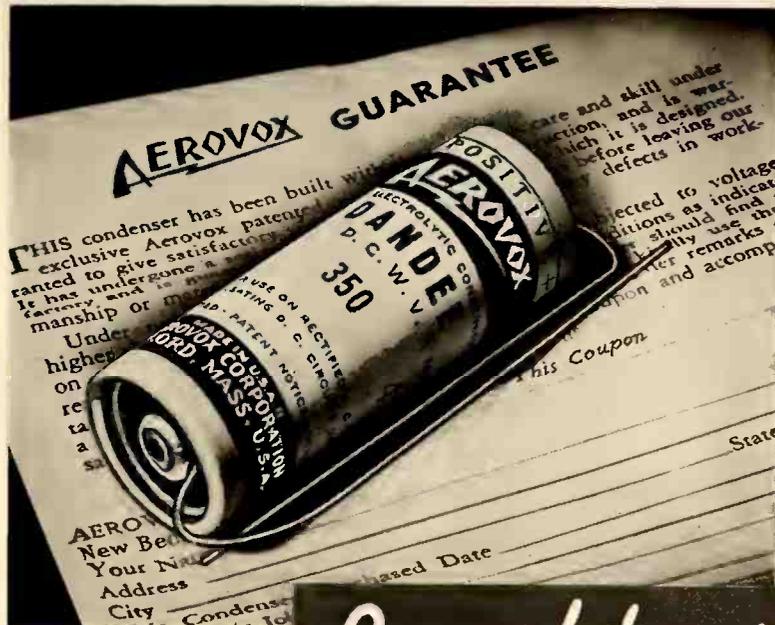
Demerits of individualism

Some of our jobber friends are so-called "rugged individualists." My hat is off to you, sir, if you are such a person, providing you are thoroughly successful in numbering men of all walks of life as your friends and if you are a pillar of power in your local community for others to look to your wisdom and acclaim you as a great man. If, on the other hand, you stand as a lone wolf and think that as long as you pay your bills the world can be damned, then, sir, I pity you, for you don't know how to live and you will ultimately be miserable.

To all of you, we open our association meetings and hope to have you with us. The workers in every organization are usually known as "the clique." Let's have a big, powerful clique, with each of us standing ready to carry on a great work already well under way. And when we go back to our homes, let's be thankful we know the answers to a lot more of the problems we are confronted with in our own businesses.

* * *

Ken-Rad Visited by Trade Group— On Friday afternoon, May 26th, a group of several hundred prominent business men from Louisville, Ky., paid a visit to Owensboro, where they were conducted on a tour of the Ken-Rad factories. The visitors were much impressed with Ken-Rad's extensive layout and particularly noticed the close supervision maintained in the manufacturing operations and the many safety features for the benefit of employees.



Bought with CONFIDENCE

• This tiny electrolytic condenser costs only 50 cents list. But it could cost many dollars to some serviceman, builder or manufacturer if it broke down and endangered tubes and costly components. That's why the AEROVOX guarantee slip really backing every AEROVOX condenser with which it is packaged, means so much to the radio trade today.

It is this sort of insurance against unwarranted failure that has built up supreme confidence in AEROVOX products. They are bought by those who simply cannot afford failure.

A Tremendous Stock . . .

Meanwhile, AEROVOX has built up and now maintains the outstanding jobber stock backed by a perpetual inventory system and constantly replenished by factory orders. This stock insures prompt shipment of all jobber orders, as well as minimized back-ordering.

An Adequate Choice . . .

The AEROVOX line, including every type of condenser in general demand, together with the most extensive line of exact-duplicate replacements, insures the right condenser for every job. Which means you get what you want when you want it, from that local AEROVOX jobber.

Ask for New CATALOG . . .

★ Look us up at 208 Conlomb St., Stevens Hotel. And if you get out New Bedford way, be sure to visit our plant.

2 THINGS
too good to miss

- ★ The 1939 National Radio Parts Trade Show
- ★ Our Display at the Show

1939 JUNE 1939			
WED	THU	FRI	SAT
14	15	16	17
FOR JOBBERS		GENERAL TRADE	

Stevens Hotel, Chicago



AEROVOX CORPORATION

New Bedford, Mass.



Sales Offices in All Principal Cities

JIM QUAM Says



In a few days it will be Independence Day, and with events transpiring as they are elsewhere in this funny world, perhaps I can be excused if I get somewhat patriotic. We Americans go along our busy ways, building speakers, selling radios and parts, or what have you, and, if I'm an example, we all do our share of grousing about this, that and the other thing. It might be a good idea on this 4th of July to take off an hour from that golf game for a little meditation about what it means to live in this country, and imagine under what conditions we would be conducting our respective businesses somewhere else, especially if it has anything to do with radio. Maybe the Fourth of July will have a little more meaning for us

QUAM-NICHOLS CO.

33rd Place & Cottage Grove CHICAGO 1674 Broadway NEW YORK



Mr. Serviceman
SOUND IS HOT TODAY
LAFAYETTE P.A. HOTTEST!



THEY'RE SELLING sound systems hand-over-fist today. Theatres, dance halls, ball parks, cafeterias, churches, plants—all want Public Address. Get in—and add Lafayette, the BIG profit line to your line!

LAFAYETTE GIVES YOU 3 complete lines to sell. Hit every price bracket with Lafayette's Economy, Standard and new DeLuxe models. Lafayette famed performance, Lafayette engineering experience, Lafayette amazing low prices make selling easy. Any way you take it, Lafayette has appeal! FIND OUT how much lower Lafayette prices are. Find out how complete this line is. Send for FREE book today. Earn more money, full-time or spare, selling Lafayette streamlined P.A.'s! The most complete line of sound equipment in the world.

LAFAYETTE RADIO CORPORATION
Dept. 12FP9
100 Sixth Ave., New York, N. Y.

LAFAYETTE

p. a. sales division

NEW YORK ATLANTA CHICAGO



Julius Finkel, proprietor of J. F. D. Mfg. Co., reports that a new antenna development will soon be announced by his company. In line with the company's policy of producing handy kits and antenna "packaging" a large promotion campaign is planned for the new product through 700 recognized jobbers.

Formation of a new Maryland corporation, *Intercommunications, Inc.*, to carry on the business of the New York company, *Intercommunications, Inc.*, has been announced by R. J. Malcolm, president of the parent company. The new corporation was formed to market products of the Swedish Ericsson Co., manufacturers of telephone equipment. Gray Mfg. Co., L. M. Ericsson, and R. J. Malcolm each own one-third of the stock in the new concern. Plans call for all equipment sold in the United States to be manufactured in the Hartford works of the Gray Telephone Company, as soon as manufacturing details are completed.

Solar Manufacturing Co.—Incorporating years of work on television problems by condenser engineers, *Solar's Bulletin T-1* gives complete specifications, diagrams and standards for the high-voltage condensers necessary for television work. The first company to furnish television condensers from published standards, *Solar* has supplied the condensers which were used by many of the leading television pioneers in sets now being produced.

Carl J. Hollatz, vice president of *Ken-Rad Tube & Lamp Corp.*, has announced the appointment of *Russell W. Metzner* as sales manager of the Lamp Division, with headquarters at the Owensboro, Ky., office. *L. R. O'Brien*, formerly equipment sales supervisor in Chicago, becomes manager of equipment sales.

Trilling and Montague, Philadelphia distributors, have been appointed by *Andrea Radio Corp.* to handle television sets and kits in the Philadelphia area.

A *Western Electric* "speech input" amplifying unit has been installed in the *N. W. Ayer & Son* studios to facilitate auditions and informal rehearsals.

NOISE REDUCING AUTO RADIO AERIALS

INCREASED EFFICIENCY with this NEW TYPE BOOSTER COIL ANTENNA



Here is the aerial every serviceman has been wanting. It combines increased efficiency and noise-reduction with the best in design. These tri-bar aeriels fold down to very short lengths (as shown in the illustration) or open out to reach well above the car to pick up broadcast signals. An ingenious slide arrangement allows these aeriels to be used at any length between the two extremes to give a variable capacity effect. They are furnished for either cowl mounting or hinge mounting. A trial will convince you of their performance.

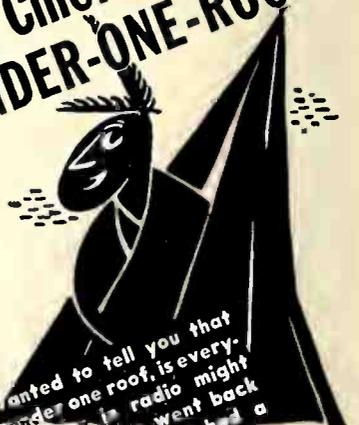
GUARANTEED RATTLE FREE

See Them at Your Jobber's Today!

CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS

516 S. PEORIA ST. CHICAGO, ILL.

Big Chief UNDER-ONE-ROOF



We wanted to tell you that here, under one roof, is everything a man in radio might ever need. So we went back to the Indians. They had a word for it! Our stock includes the hard-to-get items as well as the standard; the out-of-manufacture part and the latest television-kit; the condenser. We have the Indian sign on completeness. Why not make this your trading post and live economically ever after! Send for catalog.

WHOLESALE RADIO SERVICE CO. INC.
100 SIXTH AVE., NEW YORK, N. Y.
CHICAGO, ILL. • ATLANTA, GA. • BOSTON, MASS.
BRONX, N. Y. • NEWARK, N. J. • JAMAICA, L. I.

Too Many "Parts Jobbers" Says Kahn

Commercial hara-kiri is being committed today by manufacturers throughout the radio parts industry, in the opinion of Jerome J. Kahn, president of the Standard Transformer Corporation of America, Chicago, who points out the "vicious racket" being fostered upon manufacturers by increasing numbers of minor tradesmen seeking to establish themselves as "jobbers." The obvious object is to obtain the jobber discount.

"Every Tom, Dick and Harry who calls himself a radio parts jobber' today is demanding to be recognized in the same sense as a thoroughly established jobber, with all of the usual perquisites of soundly established jobbing practice," says Kahn. "And the funny part of it all is that many of the manufacturers in the radio parts business who are eager to obtain as large a volume of business as possible, look upon these demands with favor.

"The difficulty is that once one of these fellows obtains recognition from any manufacturer with a fair reputation, he uses that recognition to swing others into line, and the first thing you know he has weaned away from the legitimate jobber a certain portion of his potential market and weakened the opportunity for jobber and manufacturer alike.

"To meet these problems and to elevate the industry to higher standards of practice, our company has adopted the policy of limited distribution. By this policy the territory first is analyzed and the jobber is appraised of the number of outlets in it. Likewise the jobber's ability to serve the territory is analyzed. The facts are presented to the jobber and both Stancor and the jobber agree to work out the problem together.

"Stancor then surrounds this jobber with elements of 'protected inventories,' 'one jobber discount,' 'a complete line,' 'highest precision standards,' 'timely merchandising,' and other elements that provide real protection. Under this arrangement the jobber who really serves is really protected. The volume of business arising in that area is directed to him for his benefit as well as the benefit of the manufacturer. The volume then becomes large enough to enable him to render interested, active service, and thus both manufacturer and jobber benefit."

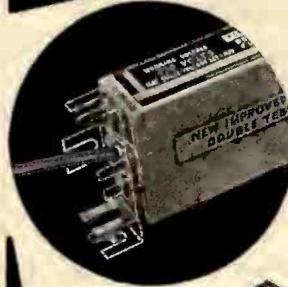
* * *

The Raytheon Production Corp. is announcing an elaborate new line of free displays and advertising material to help its dealers and servicemen increase their radio tube profits and speed up turnover. Spectacular window effects can be achieved with this material.

* * *

A new corporation known as the Ansley Corporation has been formed to take over the manufacture of the DynaTone (amplified piano). The Ansley Radio Corp. continues as the manufacturer of the Dynaphone line of electric phonographs and radio-phonograph combinations.

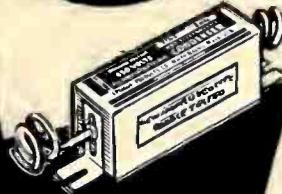
4 SPRAGUE CONDENSER LEADERS



SWING 'EM — BEND 'EM — OR ADJUST 'EM

Your job made easier! Always a leader in quality, Sprague Type PTM 450 V. small cardboard dries are now equipped with a Universal Mounting Tab which makes them doubly useful, doubly easy to install. Mount 'em in any old place or in any old place or in any old place or in any old place. Put 'em any old place or in any old place. And don't forget! PTM's are conservatively rated at 525 volts but will stand surges as high as 560 to 580 volts — and come back for more. They're tops for any radio need!

"The Quality Condensers for Those 'Careful' Jobs"



MONEY-SAVERS FOR UNIVERSAL REPLACEMENT USE

Sprague ATOMS (midget dries) are the fastest selling condensers on the market today — and for more reason only! The more you test them, the more you use them, the better you like them. Atoms are smaller. They are made in all sizes and dual combinations in all voltages for every replacement need. They've got lower power factor, lower leakage. They're unconditionally guaranteed against "blow-ups." They're first choice of smart buyers for old replacement jobs where the call is for big league condenser performance at a rock-bottom price.



TA-10, 10 mfd.
25 volts
1/2" x 1 1/8"
Net 24¢

Typical Atom Values

UT-8, 8 mfd.
450 volts
13/16" x 1 1/8"
Net 36¢

UT-88, 8-8 mfd.
450 volts
1" x 2 3/8"
Net 60¢

Other values and sizes in proportion

HIGH VOLTAGE PROTECTION FOR AMATEURS

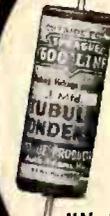
No chance to electrocute yourself here! Sprague Transmitting Condensers with the new Lifeguard Terminal Protective Caps are designed to protect every amateur who recognizes the danger of the high voltages now used in most rigs. Caps fit snugly over condenser terminals — give absolute protection against danger of accidental contact. Lifeguards supplied free with all Sprague Xmitting units, or you can buy them for your old condensers at 25c list per pair.

WRITE for complete Sprague Catalog of all types of Condensers, Interference Materials, Test Units, etc.



HERE'S REAL BY-PASS RELIABILITY

Servicemen who started using Sprague TC Tubulars more than ten years ago, still insist on them today. There is no better evidence of the dependability that has made TC's the most widely used condensers ever produced! Test voltage 1,200 volts; working voltage 600 volts. Made in all ranges from .001 mfd. to 1.0 mfd. Sold singly or in handy kits that save you time and money.

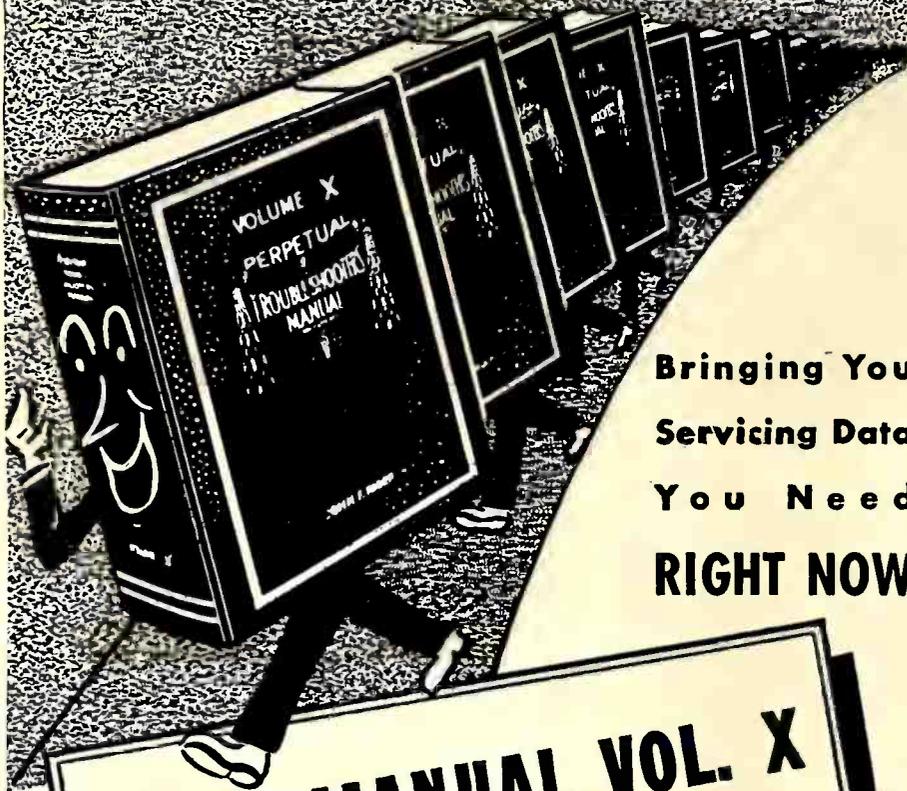


"Not a Failure in a Million"

SPRAGUE

THE NAME THAT HAS STOOD FOR BETTER CONDENSERS SINCE THE BEGINNING OF RADIO

ON THEIR WAY!



Bringing You
Servicing Data
You Need
RIGHT NOW

**RIDER MANUAL VOL. X
OUT AUGUST 19th**

**1650
PAGES
\$10⁰⁰**

THOUSANDS of copies of Rider Manual Volume X are on their way to the servicemen of America. The publication date this year has been advanced to August 19th in order to make available to you the tremendous amount of servicing material awaiting publication.

The great number of receiver models being produced by the manufacturers—the new television receivers—facsimile receivers—wireless record players—all have combined to create such a need—such a demand for servicing data that Volume X will be made available 4 months ahead of the usual date.

NEW SERVICE DATA

Complete servicing data you need on the receivers now in your shop . . . The data you would ordinarily get in November, ready for you four months ahead of time. The information you have asked us for—in the form you asked for it—all in Rider's Volume X.

LATEST DEVELOPMENTS

Television—Facsimile—Wireless Record Players—the servicing information on these important

new developments for the servicemen will be found complete in Volume X. You must have the manufacturer's instructions when you install or service any of these new sets.

NEW "HOW IT WORKS"

Easy-to-understand explanations on the theory of Television—Facsimile—Wireless Record Players, etc. are in the new, 64-page "HOW IT WORKS" section which is included at no extra cost. This is the type information you have always found so helpful.

Volume X index covers all 10 Rider Manuals.

Place Your Order Now

*You can't go wrong
with a RIDER
Manual!*



**YOU
NEED
ALL
10**

JOHN F. RIDER, Publisher, 404 FOURTH AVE., NEW YORK CITY

D. P. O'Brien, sales director Cinaudagraph Corporation, manufacturers of permanent and electro-dynamic speakers, and magnetic alloys, Stamford, Conn., announces that a complete display of all the different types of speakers of Cinaudagraph manufacture will be on exhibit at the National Radio Parts Trade Show. The large 27" electro-dynamic speaker, of the type used at the New York World's Fair, will also be demonstrated. Besides the regular booth exhibit on the main floor, Mr. O'Brien has reserved Rooms 504A 505A and 507A for the exhibition of special products and devices developed by Cinaudagraph engineers. The following Cinaudagraph executives will be in attendance with Mr. O'Brien at the show. Sherman R. Hoyt, L. Cornwell, K. Blake, W. Wilson, R. Augustine.



J. Earl Smith, manufacturer's rep, shown before leaving on a trip to visit factories he represents, the N. Y. World's Fair and the Parts show in Chicago.

Amy, Aceves and King, consulting engineers and specialists in antenna systems recently signed contracts with RCA and Belden Mfg. Co. for manufacture of antenna kits under A. A. and K. patents on a royalty basis. Contracts run for three years with optional renewal.

W. H. Ochiltree, G.E. appliance distributor, opened his new quarters at 101 Penn Ave., Pittsburgh, recently with tours of inspection and a special broadcast over KDKA. Ochiltree covers the territory of western Pennsylvania, eastern Ohio, and northern part of W. Virginia.

An expansion program to bring out several auxiliary service devices is planned by Radiotechnic Lab., Evanston, Ill. Charles P. Peirce is assuming general management of the enterprise while H. P. Manly will continue in charge of engineering, sales and developing of the new products.

Browning Labs., Inc., Winchester, Mass., has appointed Samuel S. Egert as sales representative in the middle Atlantic states including Metropolitan New York, New York State and New Jersey. Egert formerly represented Utah Radio Products Co., and the Webster Co.



President B. G. Erskine of Hygrade Sylvania, breaking ground for the company's new office building in Emporia, Pa.

Announcement is made by E. H. Vogel, vice-president of Farnsworth Television & Radio Corp., of the appointment of W. R. McAllister as a district manager. Mr. McAllister brings to his work a very thorough understanding of distributor and dealer problems, gained from fourteen years in this industry.

His first connection, made in 1925, was with the Federal Radio Corporation of Buffalo, later becoming sales manager. In 1925 he joined Brunswick Radio Corporation in the capacity of Western manager. More recently, Mr. McAllister was with Philco, contacting District Managers and Distributors, encouraging increased activity on radio-phonograph combinations. For Farnsworth, his first assignment is the southeastern territory from Philadelphia to New Orleans.

A. C. Rogers, managers of the home appliance department of Consolidated Automotive Company, Jacksonville, Fla., referring to *Radio Today's* May cover picture showing a winning poker hand, calls our attention to a similar sketch which he used on an announcement bulletin sent out to his Emerson dealers in February. The page is entitled: "A winning hand for 1939. Five sales-winning turnover models for Spring. Business is up. Sales are increasing. Show these Emersons in your windows." The editors of *Radio Today* hasten to assure Mr. Rogers that we had not seen his excellent bulletin, until receipt of his letter after the issue of our May front cover.

A model store interior featuring record counters, tables, racks, and display pieces of the A. Bitter Construction Co., will soon be ready for exhibition at Bruno-New York, Metropolitan New York distributor of Victor records.

Standard-Vox, Ltd., new Canadian transcription recording firm, has equipped its studios with two complete master wax recording machines with vacuum systems, master sound recording channel and amplifier from Universal Microphone Co.

E. T. Turney (W2APT) has resigned from the H. A. Marsh Advertising agency to become sales and advertising manager of *Kenyon Transformer Co., Inc.*, 840 Barry St., New York, N. Y.

ASTATIC



NEW CRYSTAL PICKUP

Spring-Axial Cushioning, Bakelite Cartridge Assembly, latest Torque Crystal Element, Ebonite water-proof crystal coating, massive Die-Cast Arm and other improved features.

MODEL AB-8 offers more advanced design features than ever before combined in a single pickup unit at a similarly low price. Truest tone reproducing qualities. Ultra modern in design and finishes. LIST PRICE \$10.00.

ASTATIC MICROPHONE LABORATORY, Inc.

Pioneer Manufacturers of Quality Crystal Devices

YOUNGSTOWN, Ohio

Licensed Under Brush Development Co. Patents

Can you test . . .

LOKTALS? BANTAMS? "S" TYPES?
35, 45, 50, 70, 85 VOLT
HEATER TYPES?



NATIONAL UNION QUALITY

QUALITY is the National Union By-World. Radio Service Engineers recognize and recommend the finer quality, research skill and time-proven experience that backs every N.U. tube. For absolute customer satisfaction, feature National Union Quality.

Take advantage of NATIONAL UNION offers NOW before contract points GO UP JULY 1st

Your Choice of these famous makes tube testers ALL GUARANTEED to TEST LATEST TUBES!

Here's the chance of a lifetime to get the tube testing equipment you always want and need. National Union *now* makes it possible for you to choose from all the newest models of leading instrument manufacturers . . . every one guaranteed to test all the latest tubes! **AND**—right now is the time to get it! Before the Purchase Points Go Up July 1st.

See your National Union jobber at once. He will give you details of the simple N.U. plan which has already provided thousands of satisfactory deals. Arrange to have the tester you choose shipped immediately.

NATIONAL UNION RADIO CORP.

NEWARK, N. J.

GET A NEW TESTER Free!

NATIONAL UNION RADIO CORP.
 57 State Street, Newark, N. J.

Please send me information on how I can get my choice of leading test equipment FREE.

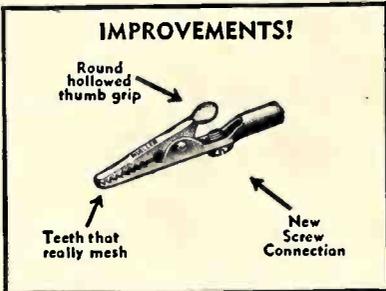
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Address

City..... State.....
 RT-639

MUELLER

Presents—
A Complete New Line of
ALLIGATOR CLIPS



6—NEW CLIPS—6
All Popular Types, Insulated
or Uninsulated, and a
**UNIQUE, SOLID COPPER
R.F. ALLIGATOR!**

SEND FOR FREE SAMPLES
AND SHEET 702

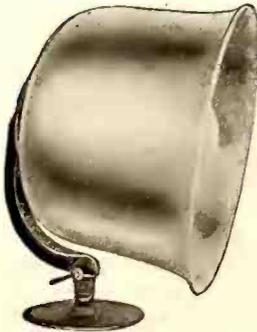
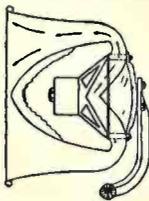
Mueller Electric Co.

1573 E. 31st St. Cleveland, Ohio

☒ "Marine Horns" Voted Best
By Sound Men Everywhere

"SOUND REASONS" Why ATLAS HORNS
Are Always Preferred

- ✓ Guaranteed 100% "Storm-Proof" under all weather conditions.
- ✓ Complete mechanical protection for delicate cone speakers.
- ✓ Ideal baffle for all-around public address applications.
- ✓ Ruggedly built . . . will withstand rough usage.
- ✓ PRICED RIGHT . . . allows use in most every installation.



Showing inserted method of speaker mounting in exponential baffle. Cone is protected and housing lined with acoustic felt to absorb any back pressure. Part of bracket arm shown attached to horn.

WX-8 for 8" cones
List . . . \$15.50
WX-12 for 12" cones
List . . . \$30.00

Write for FREE New Catalog!

Send for new WX Marine Horn Bulletin and your copy of the 1939 Sound Catalog F-39, describing the latest P.A. developments. See for yourself why the country's leading P.A. Jobbers sell and recommend Atlas Sound Equipment.

ATLAS SOUND

CORPORATION

1453-A 39th Street Brooklyn, N. Y.

R. C. Jenkins has been appointed factory superintendent of the Farnsworth Television & Radio Corporation. Mr. Jenkins entered the phonograph industry as chief inspector for the Victor Talking Machine Company late in 1928. By 1929 the company had become the RCA-Victor Company, and Mr. Jenkins was superintendent of radio receiver production. He has held a similar post at the General Electric Company for the past five years, which work he leaves to assume charge of Farnsworth production activities.

The appointment of J. R. Brandenburg, as northeastern district manager of the Stewart-Warner radio division, and transfer of H. P. Dunkley to the Metropolitan New York area, is announced by L. L. Kelsey, radio sales manager for the Stewart-Warner Corporation.

Mr. Brandenburg assumes his Stewart-Warner position with more than 14 years experience in radio and appliance merchandising. During this time he has held positions with several other leading radio and appliance manufacturers.

New district representatives appointed for *Anslay Radio Corp.* include: F. A. Baumgarten, 405 Penn Ave., Pittsburgh, Pa., in W. Virginia, Eastern Ohio and Western Pennsylvania; G. B. Miller, 8208 Santa Monica Blvd., Los Angeles, Cal., in California, Nevada, and Arizona; V. C. McNabb, 5105 N. Capitol Ave., Indianapolis, Ind., in Indiana, Louisville, Ky., Cincinnati and Dayton, Ohio.

Mr. Henry Forster, president of *Radio Speakers, Inc.*, says the company has four times the former space in their new quarters at 221 East Culbertson St., Chicago.

R.M.S. members are responding to *Philco's* announcement of the special air-conditioning and refrigeration training course prepared in cooperation with *Utilities Engineering Institute* of Chicago.

W. S. Hartford has been appointed sales manager of the *Thordarson Electric Mfg. Co.*, 500 W. Huron St., Chicago.

Oxford-Tartak Radio Corp. are again enlarging their factory.

Radio Has Only Begun!

No one who attended the first annual meeting of RCA stockholders, held on May 4th, 1920, could have fully foreseen the world-wide scope which radio would attain in twenty years, or the marvelous devices and services which would make such growth possible. Nor do I believe that there is anyone present today who can fully visualize the place radio will fill in the lives of all people in another twenty years.

I am convinced that the future of radio holds far more in store than all its accomplishments up to this time.

David Sarnoff, addressing RCA Stockholders, May 2.

TELEVISION ADVANCED TRAINING

FOR MEN NOW EMPLOYED IN
THE RADIO INDUSTRY

To those now employed in radio, we offer thorough, modern advanced training in television, endorsed by men in the radio industry, created by experienced engineers, backed by costly equipment conforming to RMA standards.

FOUR PLANS

Four plans, carefully designed to fit the individual needs of the majority of men now engaged in radio, are available. The tuition rate is low, yet outstanding quality is apparent.

TELEVISION HAS ARRIVED

Regardless of the position you hold or the kind of radio work you are doing, television will probably affect you. Then too, you should not overlook the new opportunities that television can place within your reach.

Write For Details

We invite you to write for complete information at once. Your inquiry will receive the personal attention of Mr. G. L. Taylor, President.

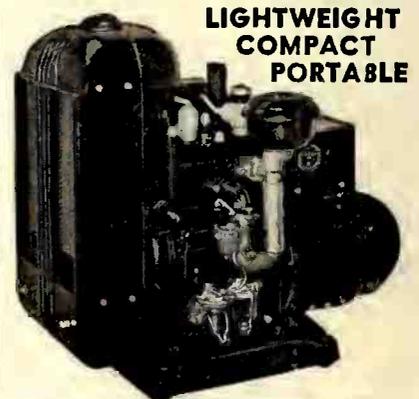
MIDLAND TELEVISION, INC.

Power and Light Bldg.,
Kansas City, Mo.

AFFILIATED WITH KMBC



COMPLETE ELECTRIC PLANTS



**LIGHTWEIGHT
COMPACT
PORTABLE**

THOUSANDS of ONAN ELECTRIC PLANTS are supplying ALTERNATING CURRENT all over the World, for Lighting, Operating All Appliances and Powering RADIO TRANSMITTERS and RECEIVERS for Amateur and Commercial Operators.

PORTABLE ONAN PLANTS are Operating Public Address Systems, Sound Truck Apparatus, Moving Picture Projectors, etc. Others are installed in Public and Private Buildings, to provide Electric Service in case of Power Line Failure. Many of these have prevented financial losses and even loss of life in such Emergencies.

ONAN ELECTRIC PLANTS are Dependable, Economical and Long-lived. Types from 350 to 5,000 Watts carried in stock. Models include 110 or 220 Volt, AC—12, 32 and 110 Volt DC—also Dual Voltage AC-DC Units. Furnished in either Manual, Full Automatic or Self-Starting Types. Shipped READY TO RUN. Prices start at \$99.

WRITE FOR DETAILS AND PRICES

D. W. ONAN & SONS

680 Royalston Ave., Minneapolis, Minn.



E. C. Cahill, who has been appointed division manager of the RCA Telephone group.

Electrical orchestra possibility for sound-men

Sound men, too, are in line for new consumers of their products. The first all-electric orchestra ever assembled created a stir recently in an informal concert at Steinway Hall in New York City. Tom Adrian Cracraft, stage designer who organized the group, says that he is much interested in producing new tones and finding composers to use this new-found freedom.

Since the sound vibrations of the instruments are picked up electrostatically, translated into electrical voltages and then into sound by amplifiers, sound men should be alive to the possibilities presented when the idea grows. Amplifiers, tubes and other parts will be needed in quantities and capable service will be at a premium.

Binghamton, N. Y., RSA Members Exchange Credit Info

The Binghamton, N. Y., Section of the Radio Servicemen of America, at a recent meeting started a "bad-accounts" card-index system (every member having a card index and box). Each card has the customer's name; type of set and model and serial numbers, amount of charge, and excuse or excuses for non-payment. Time during each meeting will be devoted to bringing each other's index files up to date. In this way, with each RSA man having all the other members' bad-accounts records, a member may save himself from getting stung by a customer or perhaps may help the original bill to be paid, either directly or indirectly.

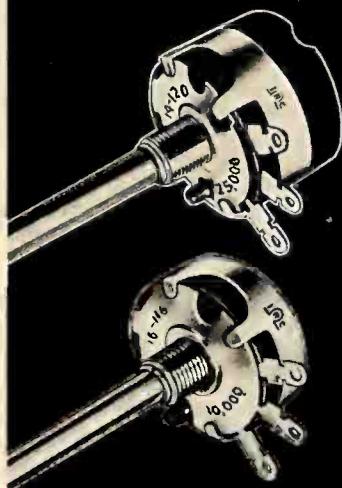
Illinois Condenser Co., Chicago, announces the appointment of the firm of Simmons and Southern Sales Co., Fort Wayne, Indiana as their representatives for the states of Indiana, Ohio, Michigan, and Kentucky.

NOW! an



VOLUME CONTROL for Every Need!

Whatever the job to be done, there is an IRC Control for it—controls that serve as accurate replacements in every electrical and mechanical characteristic—controls backed with the quietness and dependability that only the exclusive IRC design and construction can give them. Ask your jobber for the new IRC Volume Control Replacement Guide, Edition 2. It's free! Use IRC's on every job from now on. It pays real dividends to use the best.



CS STANDARD

45 standard values give you dependable units easily adapted for countless jobs at minimum prices!



MIDGETS

These midgets include every feature heretofore available only in standard CS types. Smaller size—full IRC quality.



BRINGS YOU THESE

EXCLUSIVE DESIGN FEATURES



SILENT SPIRAL CONNECTOR

Positive contact between rotor arm and center terminal. Noise cannot originate.



FIVE-FINGER, KNEE-ACTION CONTACT

Five separate spring-like contacts give a cushioned "knee-action" effect. You can actually feel the greater smoothness.



METALLIZED TYPE ELEMENT

The ideal surface for noiseless contact is provided by the Metallized type resistance element permanently bonded to a moisture-proof phenolic base.



COIL SPRING

... Used as thrust washer on shaft. Assures smooth rotation, prevents end play in shaft.

SPECIAL STANDARD

Similar to Standard "CS" Controls, but made to accommodate IRC Plug-in Shafts.



SPECIAL PLUG-IN SHAFTS

For easy installation even in midget receivers. Position of flat on shaft can be fixed as desired.



AUTO RADIO

Midget controls with friction clutch drive-arm and universal slotted or tongue type shaft.

WIRE WOUNDS

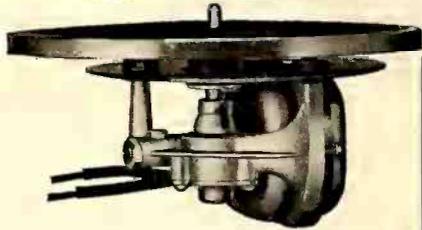
The only wire wound with clock spring connector and coil spring thrust washer on shaft. Resistance wire spot welded to terminals. Same size as CS controls. Rated at 2 watts.



INTERNATIONAL RESISTANCE CO.
401 N. BROAD STREET, PHILADELPHIA, PENNA.

PICK THE LIGHT CX MOTOR FOR SELLING PERFORMANCE

In Your Portables
And Table Models



HERE is the new fully enclosed ventilated, fan-cooled, constant-speed Flyer CX Phonograph Motor that puts new selling push behind popular portable and table model phonographs. Millions of Flyer Motors in use throughout the world indicate its quality. Self-starting. Quickly reaches running speed. Has ample oil reserve in sealed chamber. Noiseless helical-cut bakelite gears, with large bearings. Patented-drive turntable gives positive insulation from motor.

Order a Test CX Motor Today

Specify frequency and voltage of current and size of turntable. Write now for Flyer CX catalog sheet and prices.



The GENERAL INDUSTRIES CO.

3938 TAYLOR STREET ELYRIA, OHIO

OHMITE

RESISTORS AND RHEOSTATS

HUNDREDS of THOUSANDS
of wire wound units in
stock for quick shipment!

• Remember—if it's in the Ohmite Stock Catalog 17, Ohmite has it in stock—ready to ship the same day orders are received. This is a service only Ohmite can render so completely. Here you have on call the largest, most complete stock of wire-wound Resistors and Rheostats in the country—hundreds of thousands of units in a range of types and sizes unmatched anywhere—readily available at all times. See Your Jobber Today or Write for Catalog 17.

Booth 825, National Radio Parts Trade Show

OHMITE MANUFACTURING COMPANY
4876 Flournoy Street ★ Chicago, Illinois, U. S. A.

Be Right with OHMITE

RHEOSTATS • RESISTORS • TAP SWITCHES

RSA is YOUR Host...

SECOND ANNUAL RSA CONVENTION

June 16 and 17 • Stevens Hotel • Chicago

You can't afford to miss:

★ **TELEVISION** Lectures for servicemen by outstanding television authorities. Actual demonstration of television transmission and reception.

★ **FACSIMILE** ★ **TEST EQUIPMENT**

★ **TUBES** ★ **NOISE ELIMINATION**

Mail this coupon for your advance copy of RSA Convention Program

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

Sure I'll be at the RSA Convention.

Name

Address

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Please send advance copy of Convention Program.....

I am interested in RSA Membership. Tell me about it.....

I am enclosing \$4.00 for National dues and initiation.....

(Does not include Local Chapter Dues where Local Chapters are organized.) RT-539

Because we are the only NATIONAL organization of servicemen, we are able to arrange an outstanding program for RSA members. RSA invites YOU, Mr. Serviceman, to attend our Convention and see what RSA is doing for you.

The RSA Convention is only one of the benefits RSA is providing. You can get ALL the benefits by joining your fellow servicemen in RSA.

Let's Grow Together
in 1939!



RADIO SERVICEMEN OF AMERICA, Inc.

304 S. DEARBORN STREET, CHICAGO, ILL.



**We
want
JOBBERS!**



We are specializing in the manufacture of **GOOD CONDENSERS**—to be worthy of your orders

ATLAS CONDENSERS

- Consistent quality. Low prices.
- Dependable source of supply.
- Engineered to RMA standards.
- Faithfully manufactured.
- Rigorous test of every unit.

Conservative W.V. rating (or peak V) on all popular sizes of

- Paper tubular.
- High voltage tubular.
- Dry electrolytic tubular.
- Dry electrolytic box types.
- Dry el. blocks for AC-DC sets.
- Hang up types.
- Auto generator condensers.

Write for latest jobber list.

ATLAS CONDENSER PRODUCTS CO.
548 Westchester Ave. New York
Manufacturers of Condensers for 16 Years



Key men at Clarion are left to right: R. Neusch, G. J. Sandberg, N. F. Manicardi, F. Dostal, and W. Whiteside. Each assumes new duties.

Move Up At Clarion

Hubert L. Shortt, president Transformer Corp. of America, has announced several recent personnel changes at Clarion. Roy Neusch, who has been in charge of general sales, now assumes complete charge of the Clarion Institute of Sound Engineers. N. Manicardi, becomes general sales manager, advancing from his former position as general manager. W. Whiteside, formerly in the purchasing department, assumed complete charge of production last month. Frank Dostal, associated with the company since its inception in the capacity of design engineer, becomes chief engineer and supervisor of all

design and research activities. George J. Sandberg, has been appointed engineer in charge of the mechanical design division.

Benjamin Franklin Miessner, electronics pioneer, who is chiefly responsible for the existence of Tom Adrian Cracraft's all-electronic orchestra, was guest speaker when that unique musical organization made its debut over NBC recently.

B. E. Palmgreen has been appointed northwest-central district sales manager for the *Stewart Warner* radio division, announces *L. L. Kelsey*, radio sales manager. Mr Palmgreen replaces *Dean Lewis*, resigned.

ATR

**THE CHOICE OF
THE INDUSTRY**

See the Complete ATR Line of Vibrators, Vibrator-Operated and Rectifier Power Supplies at the Radio Parts Show, BOOTH No. 831

QUALITY PRODUCTS

- Auto Radio Vibrators
- Farm Radio Vibrators
- Inverter Vibrators
- Sbaverpacks
- Low Power Inverters
- Radio Inverters
- Industrial Inverters
- Vibrator Packs
- Polarity Changers
- "A" Battery Eliminators
- Battery Changers
- Rectifier Packs
- Special Supplies
- "A-B" Power Units

American Television & Radio Co. has consistently devoted its efforts and energies to the perfection and production of vibrators and associated equipment and today, after nine years of painstaking, persistent, and diligent work resulting in steady development and progress, is considered the World's Leader in its field.

ATR Vibrators, the heart of vibrator-operated power supplies, are proven units of the highest quality, engineered to perfection. They are backed by more than nine years of vibrator design and research, development and manufacturing—ATR pioneered in the vibrator field.

All ATR products incorporate only the best materials and workmanship and are carefully manufactured under rigid engineering inspections and tests, making them the finest that can be built.

ATR Products are FULLY GUARANTEED

Be Sure to Specify and Insist on ATR—There Is No Substitute!
Your ATR Distributor Will Be Happy to Serve You
Write for Complete Literature.

AMERICAN TELEVISION & RADIO CO.
St. Paul, Minnesota, U.S.A. Cable Address: "Likex," New York

DAVID BOGEN CO. inc.

Presents
**A
Complete Line of
RECORDING
EQUIPMENT**



**EMBODYING NEW and
EXCLUSIVE DEVELOPMENTS**

Don't fail to visit our display of these New Recorders at the Chicago Trade Show, 313 Edison St., Exhibition Hall, or Rooms 512 and 513, Stevens Hotel.

LOOK AT THESE FEATURES:

- Recessed turntable with dual speed feature enabling one to record at either 33 1/3 or 78 r.p.m.
- High Fidelity type symphonic induction play-back.
- Professional overhead lead screw assembly.
- "Floating power" internal rim drive completely insulated.
- Positive automatic idler engagement and release.
- Indicator for depth of cut.
- The Model 212 RC Recorder, illustrated \$275
- The Model 16 RC for 16" Recording \$445

Write for literature describing these and other lower priced Models.

Phonoflex RECORDING BLANKS

More durable than acetate, flexible and non-inflammable, the sensational new Phonoflex recording blanks are filling a long-felt need. They're uniform... unaffected by temperature... will not dry or develop hard spots. Priced, also, to stretch dollar bills!

DAVID BOGEN CO., Inc. 663 BROADWAY
NEW YORK, N.Y.

PIONEERS IN SOUND EQUIPMENT ENGINEERING

Catalog giving descriptions and illustrations of Clarion complete sound systems for public address requirements. Extra equipment also shown. Transformer Corp. of America, 69 Wooster St., New York, N. Y.

Literature on new series of compensated inductor Microdynes with reduction of needle impedance. Audak Co., 500 5th Ave., New York, N. Y.

Price list of hang-up, auto-filter, paper tubular, electrolytic tubular and electrolytic box condensers. Atlas Condenser Products Co., 548 Westchester Ave., New York, N. Y.

Illustrations and descriptions of new and standard clips. Mueller Electric Co., 1583 E. 31st St., Cleveland, Ohio.

Catalog No. 139 covering line of vibrator-operated and rectifier power supplies. American Television & Radio Co., 300 E. 4th St., St. Paul, Minn. & C Sts., Philadelphia, Pa.

Bulletin No. 29 describing in detail portable sound systems and equipment with illustrations. Bell Sound Systems, Inc., 1183 Essex Ave., Columbus, Ohio.

Sound catalog listing complete line of sound equipment including recording and record-playing systems. List prices with separate discount sheet. Amplitone Products Co., 135 Liberty St., New York, N. Y.

INDEX TO ADS

For index to advertisers,
please refer to pages
12 and 13.

Folder illustrating Dumont television sets with space for dealer's invitation to prospect for demonstration in the store. Allen B. DuMont Labs., Inc., 12 Main Ave., Passaic, N. J.

Sound Equipment catalog with photos and descriptions of new sound systems. Webster Electric Co., Racine, Wis.

Cross-indexed vibrator catalog containing wiring diagrams, exact dimension data, comparison chart, vibrator tester hookup and diagrams and data on oscillograph readings. Utah Radio Products Co., 820 Orleans St., Chicago.

Catalog illustrated in color, suitable for display, listing and illustrating complete line of batteries. Bond Electric Corp., 146 Munson St., New Haven, Conn.

Bulletin PM-25 describing Atlas P.M. type trumpet units with aluminum diaphragms. Bulletin SP-101 describes Atlas marine type exponential horn and unit. Atlas Sound Corp., 1447-51 39th St., Brooklyn, N. Y.

Look for the Tubing in Tubes

—in Television, Radio and
Other Types Needing
Cathode Sleeves.



You may need a magnifying glass to see it — but the tubing is there! Most likely it's SUPERIOR TUBING, for we supply the leading manufacturers with Seamless and Lockseam cathode sleeves of pure nickel.

In various metals and alloys, we meet every requirement in fine small tubing. Some only .016" in diameter but every one a jewel of ultra-precision workmanship.

From experience, our customers know that they can depend on us to meet specifications and give them every advantage in delivery and price.

SUPERIOR

TUBE CO.

NORRISTOWN PENNSYLVANIA

Yours FOR the ASKING



Here is a handsome, practical utility small-parts cabinet that every serviceman needs. Sturdily constructed of metal and containing 6 drawers, each with 3 compartments, it's a mighty fine asset to any serviceman — yet it's yours — FREE of all cost.

EASY TO GET

Just go to your nearest jobber and place your order for only 100 type 700 electrolytics of any size at a big discount to you. You don't even have to buy them all at one time—just so you qualify for it at once. Best of all, you can get additional cabinets on the same terms so as to assemble 4 to 10 of them to form one large master unit.

● Remember Dumont Condensers are fully **GUARANTEED** for one year. See your jobber at once or write us direct for complete details!

DUMONT ELECTRIC CO.

514 BROADWAY

NEW YORK, N. Y.



MISS JONES

is married now . . .

She'll tell her husband how good your service has always been and he too will have you do their radio repairs. That's the way business grows. Use dependable Ward Leonard Replacements. They stand up, thus help make satisfied customers.

Ask your supplier about the new low prices
of Ward Leonard Relays

WARD LEONARD ELECTRIC CO.
40 SOUTH STREET, MOUNT VERNON, N. Y.
Please send me Price List 507.

Name.....
Firm.....
Address.....
City..... State.....

Now... **5 VITAL FEATURES COMBINED IN AMPERITE VELOCITY WITH ACOUSTIC COMPENSATOR**



- it's a **VELOCITY**
- it's a **DYNAMIC**
- UNI-DIRECTIONAL**
- NON-DIRECTIONAL**
- HIGH OR LOW PITCH**

UNI-DIRECTIONAL PICK-UP FIELD COMPENSATOR UP



PICK-UP FIELD COMPENSATOR DOWN

By moving up the Acoustic Compensator, you change the Amperite Velocity Microphone to dynamic operation — without peaks. At the same time you reduce the back pickup, making the microphone practically **UNI-DIRECTIONAL**.

With the Acoustic Compensator down, the microphone is **BI-DIRECTIONAL** . . . 120 degrees front and back without frequency discrimination. Rotating the microphone until it parallels the ceiling makes the microphone **NON-DIRECTIONAL**.

THE ACOUSTIC COMPENSATOR is a regular feature of these models: RBHk (hi-imp); RBMk (200 ohms) LIST \$42.00. RSHk (hi-imp); RBSk (200 ohms) LIST \$32.00



Sell "Contact Mikes" to Professional and Amateur Musicians

New high output model can be used in the home.

Professional musicians are buying Amperite "Contact Mikes" because "it makes an ordinary violin sound like a Strad". Now amateurs, too, can benefit by the "Contact Mikes". The new **HIGH OUTPUT MODEL SKH** can be used in the home. It operates on most radio sets made since 1935. It is connected to the phono-input, or to grid ground of detector tube, or across the volume control. Note new clamp, making the mike easy to attach to guitars, ukes, etc.

MODEL SKH (hi-imp); **SKL** (200 ohms) \$12.00 LIST. Any number up to 5 SKH's can be put in parallel and fed into one input. **NEW FOOT PEDAL** \$12.00 LIST. **CLAMP** for Contact Mike, \$1.00 LIST.



FOR TOP-NOTCH QUALITY AND AMAZING RUGGEDNESS, AT LOW COST SPECIFY MODEL RAH (OR RAL)

Here's why this popular Amperite Velocity Microphone leads the low-price field: (1) it is excellent for both speech and music; (2) has flat response without undesirable peaks; (3) reduces feedback; (4) stands up under rain, wind, heat, and rough handling . . . Frequency range 60 to 7500 CPS. Output, -68 db. **MODEL RAH** (hi-imp.), with 12' of cable; **MODEL RAL** (200 ohms) with 8' of cable. \$22.00 LIST

Write for Complete Illustrated Bulletins and Valuable Sales Helps

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

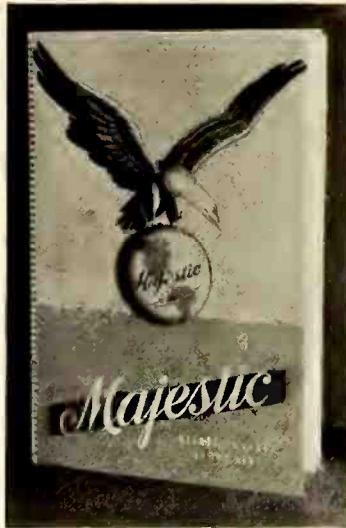
AMPERITE Velocity MICROPHONES

New Booklets

Data sheets giving new prices, specifications, applications and other info on line of microphones. Shure Bros., 225 W. Huron St., Chicago.

Directions for soldering and assembling coaxial cables, charts of typical attenuation characteristics of various transmission lines, and uses of flexible coaxial cables. Transducer Corp., 30 Rockefeller Plaza, New York, N. Y.

Bulletin showing essential characteristics of all metal and glass radio tubes, Ken-Rad Tube and Lamp Corp., Owensboro, Ky.



Brochure for distributors measuring 14 x 20 inches with detailed description of new Majestic organization. Contains illustrations of personnel, factory views, dealer finance plan and sales policy, and new merchandise. Majestic Radio & Television Corp., 2600 W. 50th St., Chicago.

Record merchandising equipment including booths, tables and display units, listed on new catalog sheet for dealers. Also for insertion in distributors' catalog titled "Record Equipment for Planned Merchandising." A Bitter Construction Co., 27-01 Bridge Plaza N., Long Island City, N. Y.



40 page catalog of still and movie cameras, photo-equipment and accessories. Lafayette Camera Corp., 100 6th Ave., New York, N. Y.

CLEAN UP YOUR NEGLECTED ANTENNA

When you're cleaning up and getting rid of refuse, go to the roof. Plenty of homes, apartment houses, hotels and institutions have horrible antennas that should be replaced with

AAK "Multicoupler"

Trade-Mark

Antenna Systems

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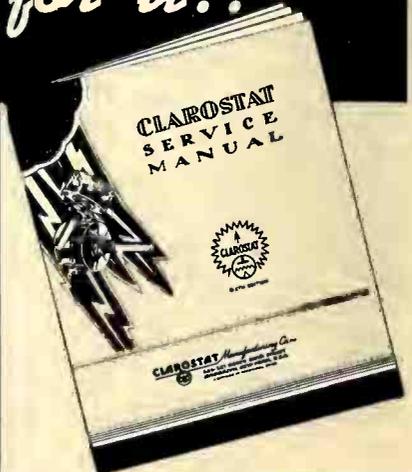
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