

RADIO *and Television* TODAY



A WINNING HAND — If You Play It Right — This Summer!

Complete details in this issue.

MAY

ROLL CALL *of famous names*

The selection of Mallory Vibrators, as original equipment, by the set manufacturers who are the very tops in the industry is the best possible evidence of their fine performance. Mallory Replacement Vibrators offer the same outstanding performance that has won the manufacturer's acclaim. The millions in use testify to their trouble-free, long life.

FREE! *New Mallory 20-Page Vibrator Guide*



Just off the press this new, up-to-the-minute Replacement Vibrator Guide gives all the answers on auto radio installation and service.

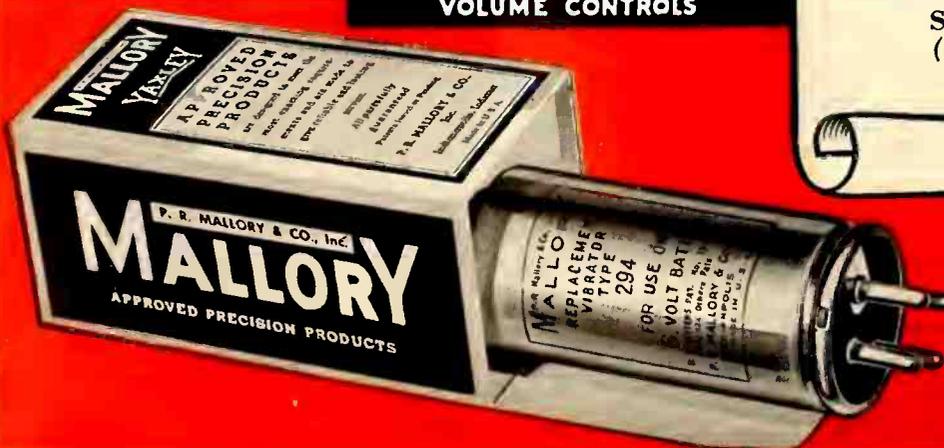
It includes complete replacement chart for all makes of auto radio and battery operated household receivers... practical vibrator servicing and testing information with scope pictures... installation and interference elimination in 1939 cars... vibrator connection charts and complete cross reference of Mallory Vibrators by receiver make and model.

See your distributor for a FREE copy today.

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



P. R. MALLORY & CO. Inc.
MALLORY
VIBRATORS

are Original Equipment
 in Auto Radio Receivers
 built for:

BUICK... CHEVROLET... FORD
 HUDSON... NASH... OLDSMOBILE
 PONTIAC... SEARS-ROEBUCK
 WESTERN AUTO... FIRESTONE

and in Receivers made by:

- Canadian Marconi
- Colonial
- Crosley
- Detrola
- Delco (*Kokomo*)
- Fairbanks-Morse
- Galvin (*Motorola*)
- Gilfillian
- Mission Bell
- Noblitt Sparks (*Arvin*)
- Northern Electric (*Canada*)
- Packard Bell
- Pilot
- RCA
- RCA-Victor, Ltd. (*Canada*)
- Radio Products
- Rogers-Majestic, Ltd.
- Sparton (*Canada*)
- Stewart-Warner
- Stewart-Warner-Alemite (*Canada*)
- Stromberg-Carlson
 (U. S. and *Canada*)
- Zenith

NEW *VIBRAPACKS!

Three new Vibrapack units have been added to the Mallory line of Vibrator Power supplies, designed to supply B voltage to operate portable and mobile radio transmitters and receivers, public address systems, and scientific apparatus.

Send for Vibrapack Booklet Form E-555-B

*TRADE MARK REG. U. S. PAT. OFF.

Reaching New "Highs" Every Day!

Emerson

SELF-POWERED PORTABLES



MODEL CE-263

\$24⁹⁵

COMPLETE



5-Tube Superheterodyne. With the famous Emerson "Miracle Tone Chamber." Attractive aeroplane cloth luggage type case.



ELLIOTT ROOSEVELT

On the Air for EMERSON

Twice a week in his popular program—over twenty-three stations—Elliott Roosevelt is featuring EMERSON Self-Powered Portables. Emerson's broadcast advertising is gradually covering the country.

Cash in on the Growing National Trend with EMERSON—Leader of Them All!

• First an IDEA—then a FAD—now a NATIONAL TREND! This is the history and the merchandising opportunity for YOU with the EMERSON Self-Powered Portables. Three great models—\$19.95—\$24.95—\$29.95—smallest—lightest—lowest cost—cheapest operation—and each a "demand" item, with substantial discounts, with dramatic advertising and sales promotion to swing the trend YOUR way.

ASK your Emerson Distributor for details. Feature the EMERSON models in your windows, your store, your newspaper advertising. Ask your Emerson salesman for merchandising ideas.

MODEL CT-275

5-Tube Superheterodyne. Engineered with advance radio features. The ideal traveling accessory—fits in with modern luggage. Weighs only 13½ lbs.

\$19⁹⁵

COMPLETE



There's an EMERSON for every purpose and every purse—from \$6.95 to \$219.95

EMERSON RADIO AND PHONOGRAPH CORPORATION • 111 Eighth Avenue, NEW YORK, N. Y.
World's Largest Maker of Small Radios

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The Most Important



J. B. McCARGER
Chairman of the Board



E. A. NICHOLAS
President



P. T. FARNSWORTH
Vice President and
Director of Research



E. H. VOGEL
Vice President



J. P. ROGERS
Vice Pres. and
Treasurer



B. RAY CUMMINGS
Vice Pres. in Charge
of Engineering



F. B. OSTMAN
Service Manager



J. H. PRESSLEY
Chief Engineer on
Receiver Design

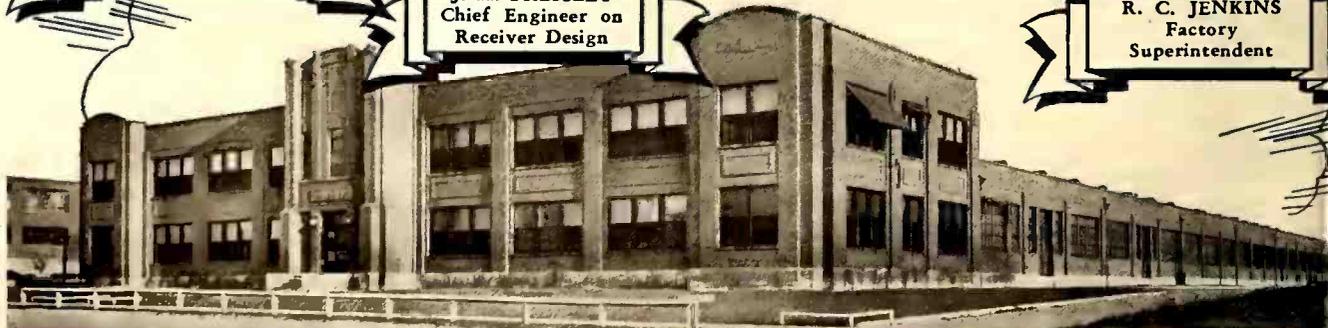


MADISON CAWEIN
Television Receiver
Design



R. C. JENKINS
Factory
Superintendent

*The factory at
Fort Wayne, Ind.*



FARNSWORTH

New Franchise since 1930!

Men, money, merchandise, plants and distributors fall in line under the Farnsworth banner. E. A. Nicholas assembles an executive staff of veterans . . . E. H. Vogel maps general policies, plans and products . . . J. P. Rogers whips the Marion plant into an orderly, smooth, efficient production unit . . . Philo T. Farnsworth guides his staff to perfect present developments that assure modern, advanced television products.

Engineers move in. B. Ray Cummings assigns design specialists to a dozen development programs . . . J. H. Pressley's fast-moving staff goes on a 24-hour day schedule creating Farnsworth radios and combinations. . . . Madison Cawein heads a select group into action on television receivers. R. C. Jenkins assembles his production lines and a skilled factory organization . . . F. B. Ostman lines-up service policies and plans.

A sales force swings into action with E. H. McCarthy, R. E. Kane, Dean Lewis and E. J. Dykstra in the field discussing Farnsworth franchises with alert distributors. Already forward-looking distributors from over 50 leading territories have requested an opportunity to discuss this *most important new franchise available since 1930!*

The program . . . Farnsworth radios, combinations and television sets for early Fall selling . . . backed with complete advertising and sales promotion plans.

FARNSWORTH TELEVISION & RADIO CORPORATION

Plants at Fort Wayne and Marion, Indiana

Headquarters: 3700 East Pontiac Street, Fort Wayne

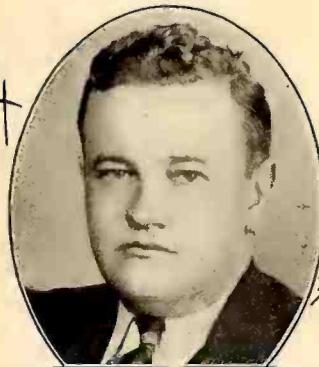
The History of Television is the History of Farnsworth



R. E. KANE
District Sales
Manager



D. A. LEWIS
District Sales
Manager



E. H. McCARTHY
District Sales
Manager



E. J. DYKSTRA
District Sales
Manager

*The Marion,
Indiana, plant*



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District Sales
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The Marion,
Indiana, plant



TELEVISION



**WE'LL SEE YOU
AT THE
SHOW SPACE
1018-20
STEINMETZ AVE.,
OR ROOM
NOS. 556-557
STEVENS
HOTEL
CHICAGO**

**WRITE FOR FREE
NEW CATALOG.** In addition to complete information about Utah vibrators, the new Utah catalog contains full details about Utah Transformers, Speakers and Utah-Carter parts. Write for your copy today.

WHY THE PREFERENCE FOR UTAH VIBRATORS HAS GROWN WITH THE INDUSTRY!

Utah Vibrators—the first to be used by automobile manufacturers in their auto radios—have maintained their leadership because of the outstanding design and advanced engineering which keep pace with modern radio development.

The most important vibrator developments have originated in the Utah laboratory. Some of them, which contributed largely to the 4-year, 900% increase in auto radio volume were the original introduction, by Utah, of:

- the FULL WAVE Auto Radio Vibrator.
- the Vibrator with armature swinging ACROSS the pole-piece.
- the double parallel side member frame.
- the SHUNT starting vibrator.
- the vibrator reed with REDUCED CROSS-SECTION for graduated flexibility.

These and many other improvements *plus* Utah uniformity and dependability have won the continued preference for Utah Vibrators as original equipment and for replacement requirements.

SPEAKERS • TRANSFORMERS • UTAH-CARTER PARTS

UTAH RADIO PRODUCTS CO.

CHICAGO, ILLINOIS

CABLE ADDRESS: UTARADIO—CHICAGO

Even in far-off Iraq *they know* **RAYTHEON DEPENDABILITY!**

When the modern miracle of radio was added to the royal palace at Bagdad, of Arabian Nights fame, the genie of Aladdin's Lamp was of no help. But the genius of Raytheon engineers provided Raytheon Tubes, sturdily built for dependable service in any far-off corner of the world.

Dependability is a necessary requirement for this royal equipment—radio servicemen are few and far between in this kingdom of Arabia. So naturally, it is Raytheon-equipped—Raytheon offers the utmost in long life and dependability.

Even a king could find no better radio tubes than you can give your customers—yet they cost no more than the second best tubes. They are your safest and most profitable tube investment.



RAYTHEON

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

"WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS"



SYLVANIA GIVES YOU

Perfect Balance



Company dependability and product dependability—you want them both, in the tube line you sell. But even *more* important is **PROFIT DEPENDABILITY**—for profit is the reason why you're in business.

Sylvania brings you "perfect balance"—a happy combination of the three things so vitally important to the success of your

tube business . . . not only company and product dependability, but *profit dependability*, too!

That is why thousands of enthusiastic retailers are pushing Sylvania. And that's why Sylvania is *the* tube line for you. Stock—sell—feature Sylvania tubes—and watch your prestige and profit jump UP!

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

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 •

HERE COMES THE GREATEST LINE OF *Portables* IN THE BUSINESS



STYLED UP! PRICED WAY DOWN!

*You need them!
You can sell them!
You can profit by them!*



PORTABLE sets are sweeping the country. They are in for a long sales ride. Why? Because they provide a new service that every customer wants. When it comes to portables the public will buy the line which leads in smartness, compactness, light-weight, outstanding performance, most value for the money. This is what it takes. And the new complete G-E CARRYABOUT line has it—more than any other.



You need all four of the new G-E CARRYABOUT models. All are smartly styled in the Country Club manner. All are priced down where the sales are thickest.

Phone, Wire, or Write your order—NOW!

G-E LEADS THE PORTABLE PARADE

GENERAL  ELECTRIC

1. MODEL HB 402—In weatherproof airplane luggage cloth, with leather carrying handle. Handbag size—8 1/4 in. high—13 1/4 in. wide—4 1/4 in. deep. Weighs only 9 1/2 lbs. with batteries.
2. MODEL HB 403—In pigskin Fabrikoid. Custom-styled and ultrasmart. 9 1/4 in. high—13 1/4 in. wide—4 1/4 in. deep. Weighs only 10 lbs. with batteries.
3. MODEL GB 400—In weatherproof airplane luggage cloth with leather handle. 9 1/4 in. high—13 in. wide—7 1/2 in. deep. Weighs 16 lbs. with batteries.
4. MODEL HB 408—Portable Radio-Phonograph Combination. Plays 10- or 12-inch records electrically through radio's loud-speaker—anywhere, anytime. In washable Fabrikoid case with leather carrying handle. 9 1/2 in. high—14 1/2 in. wide—13 1/2 in. deep. Weighs 19 1/2 lbs.

ALL 4 MODELS HAVE

- Self-contained Long-life Battery Power Supply.
- Permanent-Magnet Dynamic Speaker.
- Standard Broadcast Reception.
- Automatic Volume Control.
- Superheterodyne Circuit.

**Dominate the Low Price
Market with this NEW**

PHILCO AUTO RADIO

*... the finest ever
built to sell at*

\$19⁹⁵

Model 931

**Fits
ALL
Cars**

- Compact Single-Unit Superheterodyne
- Six New Super-Efficient Loktal Tubes
- Full Sensitivity, Tuned Antenna Circuit
- Built-in Interference Filtering
- Automatic Volume Control
- Electro-Dynamic Speaker
- Illuminated Dial

Other New Auto Radios—\$29.95, \$39.95, \$49.95 and \$69.95

PHILCO ALL YEAR 'ROUND

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

RADIO *and Television* TODAY

Radio Business As Usual?

Today radio offers more to the public, better programs, better reproduction, greater program variety, greater radio receiver values, than ever before.

Today, the radio dealer has a wider assortment of products, and a wider price range, to appeal to a broader market, than ever before.

Radio sales will go on as usual in spite of television, hell or high water. Television is coming, but radio is here to stay.

* * *

So the radio industry, manufacturer, broadcaster, and dealer—must sell radio as it has never been sold before.

Sell programs, continuity of broadcast service, value and entertainment of listening in, spot news, broadcasts, shortwave contacts with foreign lands. *Sell* these things which the public takes for granted. Tell the *limitations of television*, how it will

add to, but *never replace radio*.

Sell radio every minute, of every hour, of every day—by word, by action, by displays, by advertising—and the radio business will be better than ever.

Television is coming, but it cannot take the place of radio broadcasting. *When* it comes, it will be *just one more thing* for the radio dealer to sell. The threat of television is far more fancied than real. Imaginations have run rampant and given birth to fears which will not be realized.

If *you* stop selling radio, *your* business may go to the dogs, but radio is here to stay.

* * *

Sell radio, and all that goes to make radio the glorious, glamorous business it is, the greatest benefactor of mankind in all history!

Sell radio in this way, and the radio business will be better than ever!



L. L. Kelsey, radio manager for Stewart-Warner, and his trusty little Air-Pal radio which goes with him on his flights around the country.

Radio Meetings at Chicago in June

Following is a schedule of various group meetings being held in conjunction with the Radio Parts Industry Show at the Stevens Hotel, in Chicago:

Radio Manufacturers Association, June 13-14. Banquet, June 14.

National Association of Radio Parts Distributors, Tuesday, June 13, 2:30 p.m.

The "Representatives," Friday, June 16, 10:30 a.m.

Sales Managers Club, Joint Session, Friday, June 16, 10:30 a.m.

Radio Parts Manufacturers National Trade Show, Membership Meeting, Friday, June 16, Noon.

Radio Servicemen of America, Friday and Saturday, June 16 and 17, Annual Convention, and engineering lectures jointly with the Chicago Section, Institute of Radio Engineers.

Television sales in N.Y. start slowly

As we go to press, RADIO TODAY's staff has just completed a survey of retail television sales by dealers in New York, Brooklyn, Queens, the Bronx, Westchester and northern New Jersey—the area covered in the experimental television broadcasts beginning April 30.

RCA, Dumont, Andrea, American, and Westinghouse sets are shown in about one-quarter of the stores in the region, and through these sets television programs have been demonstrated to an estimated 100,000 people.

As was to be expected, the largest number of people, predominantly women, witnessed the demonstrations in the great department stores. But most sales were made to men, by small radio dealers.

200 TELEVISORS SOLD

From all sources, it is estimated that 200 of the 7,500,000 residents of metropolitan New York became new owners of television receivers during these first two weeks of May. Only $\frac{1}{10}$ of 1 per cent of those who witnessed store demonstrations actually bought, with another $\frac{1}{10}$ of 1 per cent reported as "good prospects."

At an average price of \$400 these 200 sales mean \$80,000, or about 1 per cent of total radio sales for the same period. Some dealers complained that



Ross A. Lasley, new president of Majestic Radio & Television Corp., has been a management consultant for leading American corporations.

sets were not actually available as fast as customers appeared.

Dealers are finding that most of the television buyers want to trade-in their old radios, and raise objection to the minimum "\$50 installation charge" of one manufacturer. Dealers themselves are feeling none too kindly about the 25 per cent discount to dealers which one manufacturer allows, as compared with the 40 per cent of other manufacturers.

LET PROSPECT "SEE WHAT HE WILL SEE"

Few dealers in the New York area are yet really pushing television. For the demonstration periods during the day film subjects are repeated time and time again, thus quickly raising the whole program question, and making the dealer realize that good judgment will let the customer make his own buying decision, after he "sees what he will see," without pressure.

No dealer reported any customer dissatisfaction and no report was made of any unusual installation difficulty encountered.

Vogel to address wholesalers on television

A talk on television by Ernest H. Vogel, vice-president of Farnsworth Television & Radio Corporation, will feature the afternoon session of Tuesday, May 23, at the convention of the National Electrical Wholesalers Association at Hot Springs, Va.

A recognized authority on the design and merchandising of television receivers, Mr. Vogel's experience in the development of radio and television goes back many years. His talk will cover many points of merchandising which will be of particular interest to wholesalers.



Two vice-presidents of Farnsworth Television & Radio. J. P. Rogers, treasurer, who came from Crosley, and B. Ray Cummings, in charge of engineering, previously with Farnsworth laboratories at Philadelphia and with RCA-Victor.

**H. L. M. Capron,
merchandising editor**

H. L. M. Capron, for many years assistant controller of R. H. Macy, New York, manager of the radio departments of Macy's and Bamberger's, and previously an executive with John Wanamaker, has been appointed merchandising editor of RADIO & TELEVISION TODAY, published by Caldwell-Clements, Inc., who also issue ELECTRICAL



WEEK AND RADIO YEAR BOOK.

In contact with radio since 1909, "Cap," as he is familiarly known, has made many contributions to radio design and performance, pioneered better cabinet styling, and introduced many innovations in merchandising, servicing, accounting and stock-control methods. Before joining RADIO & TELEVISION TODAY he was engaged as business consultant to dealer groups.

**Philco at French Lick, Ind.,
June 5-8**

Philco will announce its new 1940 radio line, and its first television receivers for the public, at a national convention to be held at French Lick, Ind., from June 5 through 8, it was announced by Larry E. Gubb, president, adding:

"In addition to the introduction of sensational new advances and inno-



Powel Crosley, Jr., and his \$325 4.5 ft. car which has attracted wide attention at N. Y. World's Fair. Mr. Crosley's company has also developed a novel press camera which has just been put on the market at \$7.95.

vations in radio, Philco will announce and show for the first time a line of television receivers which will embody startling and previously undisclosed developments in the television field."

Approximately 900 Philco distributors, members of their staffs, and Philco field representatives from every section of the country will attend, as well as executives from Philco headquarters in Philadelphia. Augmented plans for Philco's recently announced air-conditioning and refrigeration lines will also be disclosed.

"Television will supplement and not supplant radio," Mr. Gubb concluded. "At least 90 per cent of this year's market will still be radio receivers, and will remain on an ever-expanding basis with continual new developments creating a constant tremendous demand."

**Chicago Trade Show to
Feature Television**

Radio men will see television pictures at the Trade Show!

Beginning on Tuesday, June 13, continuing through the entire period of the Chicago Trade Show, the latest RCA television apparatus, cameras, studio equipment, and receivers, will be set up and operating. NBC artists and local personalities will be televised as they walk around within the range of the camera in the studio.

Four receivers will be in operation simultaneously in the "Viewing Room." There will be two units with 12-inch tubes; one with a 9-inch tube; and one with a 5-inch tube.

Only the radio trade will be invited to attend the demonstration, the public will not be admitted.

**"Radio Special" to
Chicago**

The Radio Industries de luxe special train to the National Radio Parts Trade Show at Chicago, will be operated via N.Y.C. RR. under auspices of "The Representatives." Perry Sattler, chairman, 53 Park Place, New York City, will be in charge of arrangements.

The Radio Special is scheduled to leave New York at 3:10 p.m. EST, Sunday June 11, and reach Chicago at 7:20 a.m. Monday June 12. Stops will be made at principal cities.



Arthur A. Brandt, new manager of merchandising for GE Radio, was formerly advertising manager at Bridgeport radio headquarters.



Frank E. Mullen, appointed vice-president of RCA in charge of public relations.

Roll Up Your Sleeves - Sell Radio!

"Radio business as usual." How to keep radio-set sales rolling. Radio dealer has more good bets and "hot numbers," than ever. Ideas to move portables and combinations, now!

Radio dealers all over the country are wondering what the effect of television—now that it is operating on an experimental basis in New York—will be on their own *radio* businesses.

Well, the general consensus of opinion of smart merchandising men, is that television *has already done its greatest damage to radio-set sales*. Over the last few years, there is no question of the fact that public anticipation of television has been largely responsible for the steady decline in the demand for expensive consoles. But that damage has been done.

From now on, it seems quite likely

that the spread of television service will fall so far short of the public's expectation, that radio sales will be less influenced by television in the next year than they were in the past year.

All over the country, in areas which have television, as well as those which do not, the radio business must go on as usual.

TELL THE TRUTH ABOUT "TELE"!

To carry on in this way, therefore, dealers everywhere must learn as much as they can about the new "tele" art, and then must tell the truth about it—sincerely.

Of first concern to you, probably, in your own local situation, is the fact that it may be many months and even years before television broadcasts will be available to your particular area. You will know from local news and trade talk, whether any television experimental service is being even planned for your territory.

And the most important fact to realize about television is that, even when it comes to your area, it will not take the place of our present audio broadcasting system. *Remember that; believe that; talk that; it is a fact!*

First—because programs are limited to a very few hours weekly, and the potential program material now in sight is hopelessly inadequate to provide the quantity of program service maintained by present audio stations.

Second—because the cost of producing a video program is so much greater, television service will long be on a limited basis.

Third—because the transmission range is so limited that the cost of providing program service for the entire country through repeater stations or co-axial lines would be so staggering that expansion of facilities will be very slow.

Fourth—because, unlike audio programs, television programs will always require the undivided attention of the viewer and this involves changing the habits of a nation.

And so, even when television does come to your area, radio business will go on as usual.

But make no mistake about it, television is coming someday, and nothing we can do will stop it. So don't try to stop television. Instead *sell radio* more enthusiastically, with more emphasis on the *programs*, on the *entertainment value*, on the *variety* and *continuity* of program service—rather than talking a particular set at a particular price.

During the next few months there are many opportunities for dealers and distributors to do a better radio business than for many years.

The customers are there, with the money to buy. True, they are not flocking to dealers' stores, demanding merchandise. But there are plenty of alert dealers who are taking their products to potential customers, and are making sales. Actually, the radio dealers have more things to sell than ever before, with all these summer lines.

BEST RADIO BUSINESS IN YEARS

Aggressive sales promotion will "take these summer radios to town" but remember, they can't go it alone. Here is the summer-selling list:

1. The battery portable, introduced 15 years ago, and now revived by public demand, because it can be used in so many places where socket powered radio cannot be. This is hot.

2. Portable phono-radio combinations, which bring the increasingly popular recorded music to the porch, garden and summer cottage, with radio. This is hot, too.

3. The wireless record player, and microphone, which can be sold to those who have a radio for summer use, and want recorded music too, with the infinite possibilities for fun, with the microphone. This is warm.

4. Small AC/DC radio sets, for the porch, garden or summer cottage, and for the children.

5. Remote control for the console, to bring tuning control of the living room radio to the porch or garden. Warm and coming.

6. Remote speaker, to bring the speaker of the living room radio to the porch or garden. Warm.

7. Automobile radio, to bring news and your favorite programs to you while you're on the road, enjoying daylight-saving evenings, and sum-





A portable for the porch, makes a happy summer companion for these Philco girls.

mer week-ends in the country, mountains or at the beach.

8. Phonograph records, build store traffic and give you plus business. This is always good.

9. Intercommunicating systems for the small business and for telling the family on the porch, or in the garden, what is going on in the nursery. This is very warm.

10. Sound systems for amusement parks, churches, auditoriums, garages, stores, and countless other places, are being sold constantly. This is very warm.

DON'T YOU BE "WAITING" EITHER

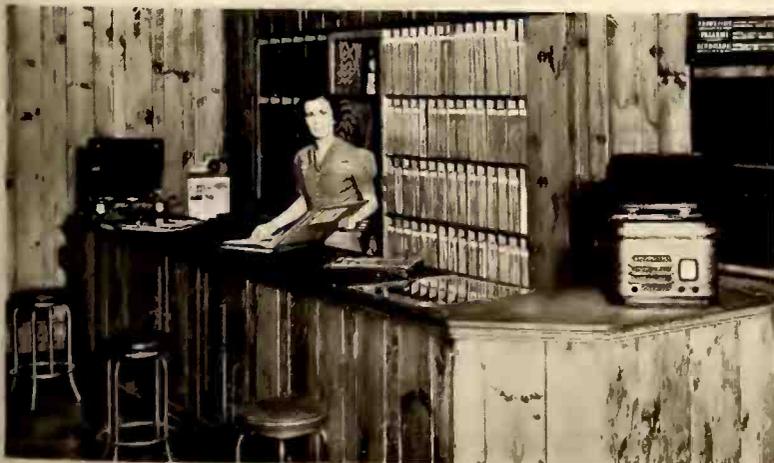
In selling radio, this summer, remember that the effect of television is more fancied than real, that in your own community you are looked

to for practical, sensible advice about radios. Be in a position to give honest opinions and give them! Don't let your own attitude convey to the customer that you are waiting for television.

Your own viewpoint is a factor in determining your action, and your action is a very important influence on your prospects.

Reconcile yourself to the passing of the large console radio only. But recognize the importance of the radio-phono combination and the "radio in every room" idea and go out and tell your prospects about all the fine radio products you have, and show them

A record department builds store traffic for radio set sales, too.



why they should buy them. Sell *radio*, and *radio programs!*

You can't really expect people to rush to your store to buy these radio articles, but alert dealers will continue to sell radio, just about in proportion to the effort and energy they put into telling people what they should buy, and why.

THINGS TO DO RIGHT AWAY

Here are a few things to be done to keep the radio business going better than usual.

1. Phonograph records appeal to young people, bring them back to your store time and time again, and expose them to your selling displays. Put in records; announce that fact every way you can.

2. Have a window display and interior store selling displays, which dramatize or suggest the use of a summer radio product. Change these displays each week.

3. Run a direct mail campaign to your own customer list and any other you think appropriate with the same suggestion you make in your window. A photo of your window would be great, a line drawing will do the job; use a minimum of words.

4. Get your service department to help, by leaving a small set with the customer, while you repair the customer's own set.

5. Encourage home trial among your own customers of the wireless record players.

6. Have a clown or a fairy-story character carry a battery-operated radio *playing* around the streets, with appropriate signs. Thousands of people don't yet know there is such a radio.

7. Have a man with a battery-operated portable meet all the trains. The idea will catch on.

8. Lend some of your summer radios to prominent people of your

(Continued on page 45)



Provide special radio equipment for vacationers and all who want to get outdoors.



On the water



In the car

For Happy Take Along A



*With record-
player, too*



Family picnic de luxe



Companion for train rides

*Radio Today,
May, 1939*

Summer Days Portable Radio!



At the beach



In the canoe



On the ranch vacation



On the water



In the car



Companion for train rides



At the beach

Radio Today,
May, 1939

For Happy Summer Days Take Along A Portable Radio!



With record-
player, too



Family picnic de luxe



In the canoe



On the ranch vacation

Auto Radio Selling Tips

Prospects for car sets are legion, but radio man must round up his future customers. Direct - mail advertising can be useful.

In the spring a young man's fancy is a good thing for auto-radio men to cater to. Especially this year when two unusual attractions, the Golden Gate Exposition and the New York World's Fair, are coaxing millions of cars out of winter quarters to hit the highways early. Every one is a potential prospect for an auto radio or the necessary parts, service or accessories.

Alert radio men realize, however, that the buying public doesn't flock to radio stores like a milling crowd at a free burlesque. The business is available, but it has to be found and rounded up.

Spring tune-ups for auto-radios are fully as important as for other radio lines—and equally profitable. Dealers are planning to promote new auto-radio sets more than ever this year and direct mail will be used to make prospects realize the need for new antennas, tubes and vibrators. Lists which produce good response are available from a number of sources. (1) Regular lists of radio and appliance customers. (2) Contacts from auto associations, drivers clubs, etc. (3) Registration lists of automobile owners. (4) Reports from auto shows. (5) Names of prospects listed from dealers' special demonstrations.

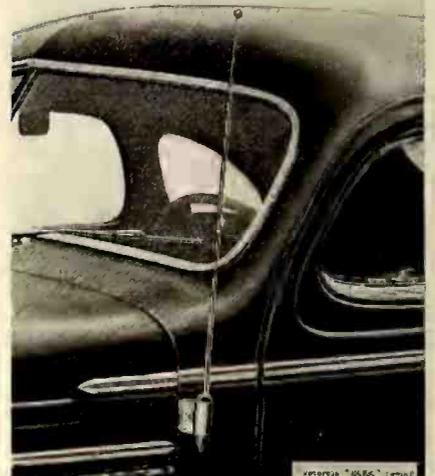
YOU KNOW IT, THEY DON'T

With snappy copy and illustrations, people contacted from such lists will be told the improvement in performance in new auto-radios, the convenience and added safety features of push-button tuning and the new mountings, the low prices and expert installation which a qualified dealer can give.

Edmund Moore, N. Y. City, who does much of the direct mail advertising for radio dealers in his locality is a former auto radio man and tells us that, "The auto-radio dealer today has the greatest selling story he could want. No news of television auto-radio receivers is hurting the sales of his standard sets. Manufacturers are putting out products which eliminate the kick-back troubles of a few years back. The line is low-priced and yet it is a good-profit line. With proper presentation a dealer can up his car-set business 20 to 30 per cent.

SELL 'EM ON YOUR BUSINESS

"Hit them with pictures of new sets. Sell them on *your* store with short, well-worded copy that stresses periodical check-ups, service guarantees, and elimination of interference



Motorola's new "Rocket" aerial which requires no drilling of holes, being mounted inside the hood of the car.

through correct installation, (which, don't forget, only you are prepared to give). Get your name in the papers through a unique demonstration or display. Don't be afraid to spend a little money to promote your lines, advertising bread cast upon the market brings back angel-food sales cake."

These modern farmers

Farmer Burt Washburn, of Susquehanna, Pa., preparing for his spring work, ordered a new plow with radio attached.

The radio, he explained, would keep him immediately informed of the expected weather that would affect his work, the varying market prices of his commodities, and in between times go far to relieve the monotony of a usually tiresome task.

This is directly in line with the latest policy of equipping many new tractors with radio sets.

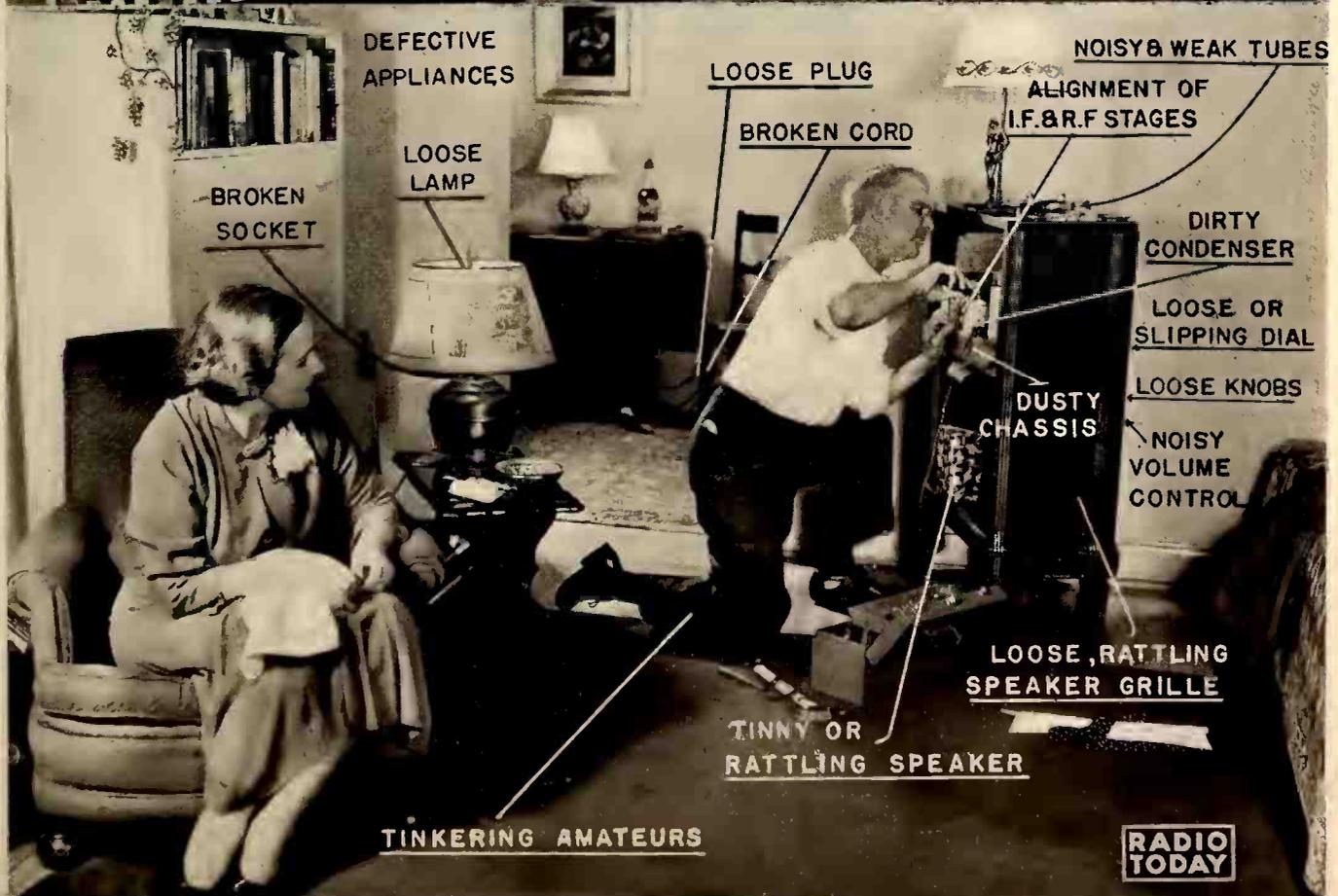
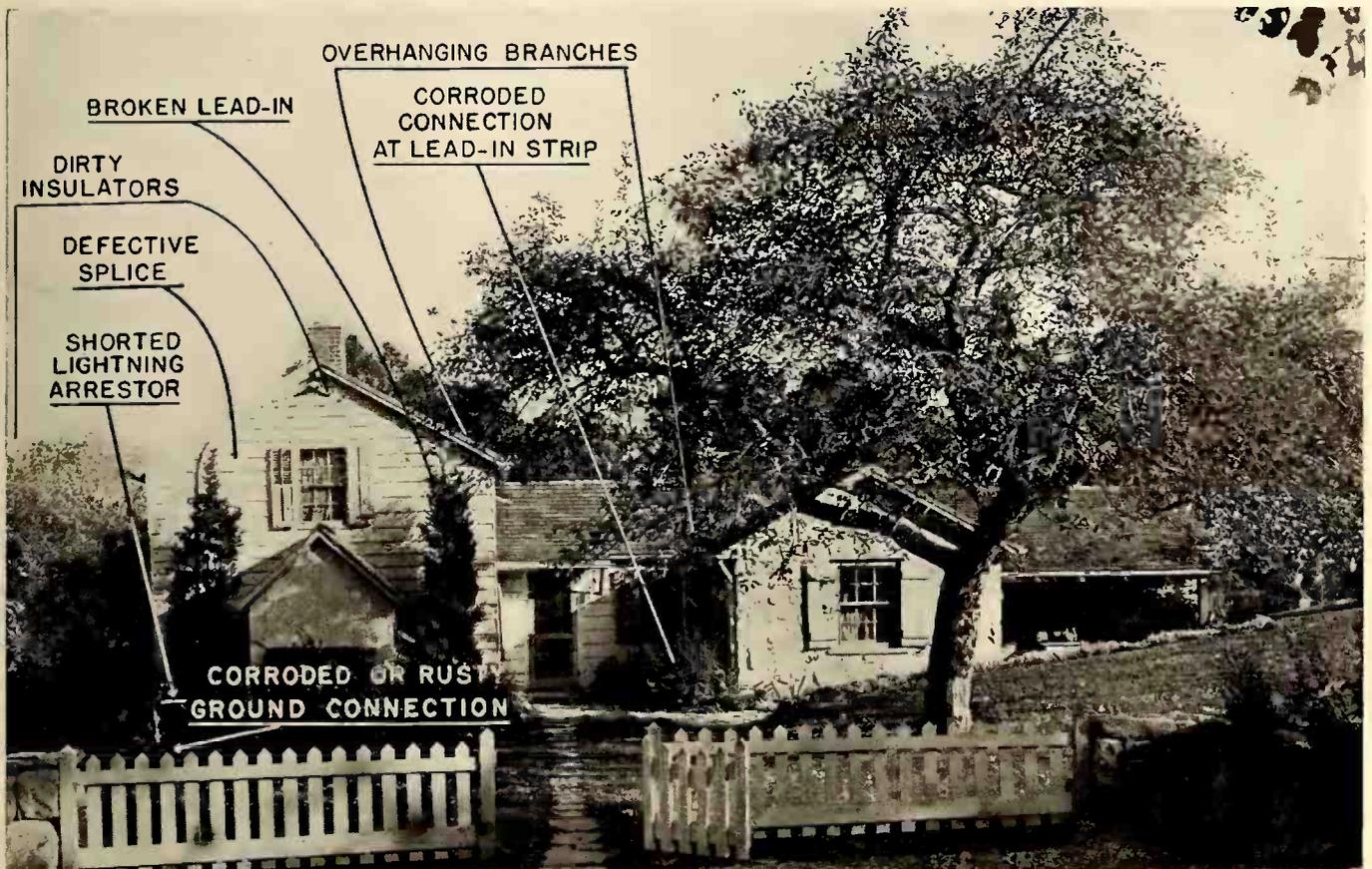
Washburn further stated, "If we farmers must sow, cultivate and reap as Washington directs, then we must know where we are at every hour of the day, and a radio is the only thing to count on.

Demonstrations in front of the store attract prospects, create word of mouth advertising. Shown here is radio in 1939 Chevrolet.

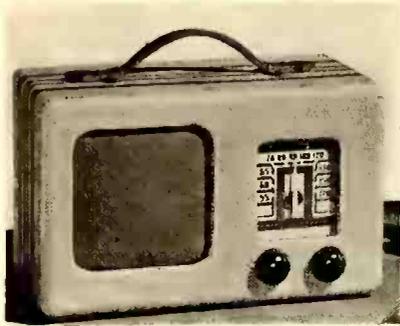


Spring Tune-Up!

Now is the time to rejuvenate customers' installations—repair the damages of winter storms and long hours of listening. Check the trouble spots below:

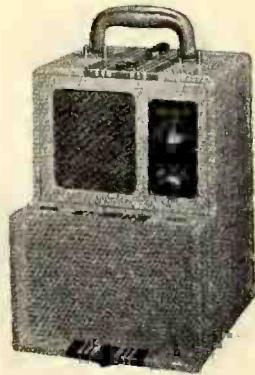


New Portable Receivers



Philco "Little Pal"

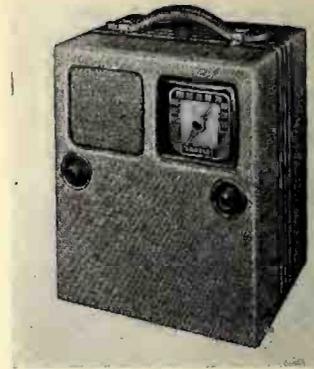
★ Self-contained portable weighing 9 lbs. Uses single combination A & B battery and booster antenna circuit. Battery local tube for low drain. Fabricoid waterproof luggage leather case. Philco Radio & Television Corp., Tioga & C Sts., Philadelphia, Pa.—RADIO & TELEVISION TODAY.



Enclosed portable

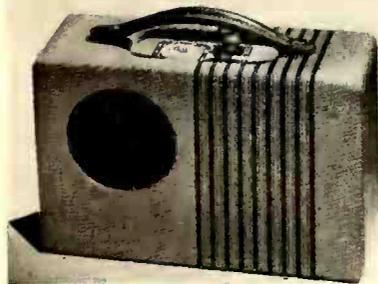
★ Four tube super-het tunes 1750 to 560 kc. Uses P.M. dynamic speaker, built-in loop. Model A215. \$29.50 list, less batteries. Sky-Chief Radio Corp., 345 E. 27th St., New York, N. Y.—RADIO & TELEVISION TODAY.

sion dial. Model 408. Pierce Airo, Inc., 436-440 Lafayette St., New York, N. Y.—RADIO & TELEVISION TODAY.



Balanced portable

★ Four-tube super with built-in loop uses low-drain 1.4 tubes. Battery-life 250 hours. 5½ inch PM dynamic speaker. Connections for conventional aerial and ground. Knobs are recessed in weather-proof case. On-off indicator. Model B 429A. Crosley Radio Corp., 1329 Arlington St., Cincinnati, Ohio.—RADIO & TELEVISION TODAY.



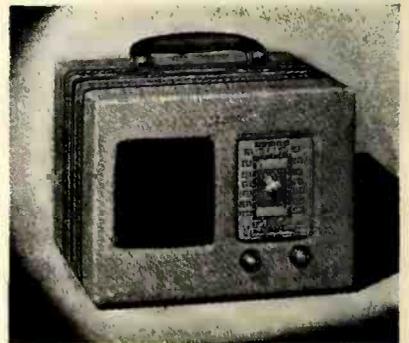
Belmont portable

★ Four-tube super-het has concealed dials. Weighs about 10 lbs. Battery life of approximately 200 hours. Built in antenna. 1.4 low-drain tubes. Model 407. Belmont Radio Corp., 1257 Fullerton Ave., Chicago.—RADIO & TELEVISION TODAY.



Sentinel "Pla-More"

★ Portable super-het plays 8 or 10 inch records. Tunes 540 to 1730 kc. Spring wound motor has no battery drain. Battery life 300 hours. Weighs 27½ lbs. Airplane fabric covering. Sentinel Radio Corp., 2222 Diversey Pkwy., Chicago.—RADIO & TELEVISION TODAY.



Emerson portable

★ 5 tube super-het tunes standard American broadcast, has AVC, low-drain tubes, beam-power output, PM dynamic speaker, two stages I.F. amplification. Self-contained loop, on-off indicator. Model CT-275. List \$19.95 complete. Emerson Radio & Phono. Corp., 111 Eighth Ave., New York, N. Y.—RADIO & TELEVISION TODAY.



"Automatic" portable

★ Three-in-one portable, operating on batteries, AC or DC, 5 tubes, superheterodyne with PM speaker; built in loop, carrying case of alligator or pigskin material, Automatic Radio & Mfg. Co., Inc., 122 Brookline Ave., Boston, Mass.—RADIO & TELEVISION TODAY.



Pierce-Airo

★ Self-powered portable weighs 12 lbs. Selective super-het, low battery drain, P.M. dynamic speaker, aeroplane luggage case, full vi-

Troy portables

★ Two 4 tube supers each with battery life of approx. 400 hours. Models can be furnished in tan, grey, brown, blue and airplane finishes. 5 inch dynamic speaker. Model 940 lists at \$29.95. 949 is portable radio and phonograph combination with hand winding spring, \$39.50 list. Troy Radio & Television Co., 1142-44 S. Olive St., Los Angeles, Cal.—RADIO & TELEVISION TODAY.

Radio's Service to the United States



TYPICAL ACTIVITIES OF NBC STATIONS



Busy staffs with aid of ticker services see to it that NBC listeners get the vital local and national news quickly.

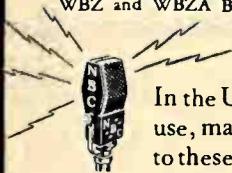


FOOD FACTS HOT OFF THE GRIDDLE—NBC insists on facts. Case in point is information about cooking and other women's interests. Photo shows announcer giving "play-by-play" account of recipe which the home economics expert is preparing in the kitchen studio.



"THERE HE GOES"—The interests of baseball fans are widely served by NBC stations, both in the broadcasting of local games and in reports of the World Series. Virtually every other sport is also ably reported by the skilled announcers of various NBC stations.

NATIONAL BROADCASTING COMPANY, INC., NETWORK FACILITIES AS OF APRIL 17, 1939 ——— Red Network ——— Blue Network ——— Supplementary Groups WEAF and WJZ New York—WRC and WMAL Washington—Westinghouse stations WBZ and WBZA Boston and Springfield, KYW Philadelphia, KDKA Pittsburgh—General Electric station WGY Schenectady—WTAM Cleveland—WENR and WMAQ Chicago—KOA Denver—KPO and KGO San Francisco



In the United States there are about forty-one million radio sets in use, many of them products of RCA Victor. All who have access to these are able to enjoy entertainment of higher quality, more variety and greater quantity than are radio listeners in any other country.

The nation-wide excellence of NBC programs owes much to the manpower and equipment of its two groups of stations. These are the 15 that are the basis of the NBC Networks (shown in large letters on the map), and the 156 affiliated stations of the Red and Blue Networks.

Other members of the family of the Radio Corporation of America also have made great contributions to radio. High fidelity RCA Broadcast and Test Equipment—superb RCA Victor Radios* and RCA Victrolas* for the home help millions to enjoy radio more. The world-wide facilities of R. C. A. Communications, Inc., bring programs from the far corners of the earth, keeping Americans abreast of the latest developments everywhere. And these are but a few of the ways RCA works in every field of radio towards an even greater radio service for all.

In doing these things, RCA always plans with an eye to increasing opportunities for dealers. By helping make radio greater, RCA helps make dealers prosper. The road to profits is marked "RCA All the Way."

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



Radio Corporation of America

National Broadcasting Company Radio City, New York RCA Mfg. Co., Inc.
RCA Institutes, Inc. • R.C.A. Communications, Inc. • Radiomarine Corp. of America

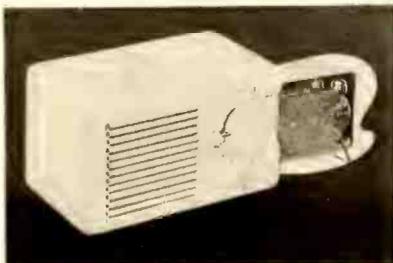
More New Things

Latest news of radio products from manufacturers



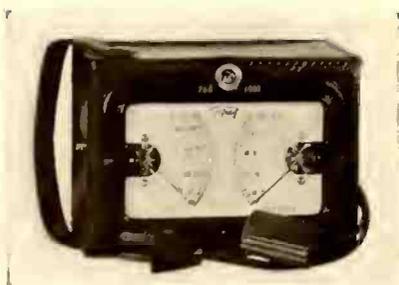
Vibrator packs

★ Three new vibrator power supplies include: a dual pack with rating of 300 volts at 200 ma. load, 6.3 volts input, list \$37.50; a 6.3 volt dual pack having output of 400 volts 150 ma., \$37.50; 32 volt tube rectifier type with 300 volt 100 ma. nominal output, \$20.00. P. R. Mallory & Co., Inc., 3029 E. Washington St., Indianapolis, Ind.—RADIO & TELEVISION TODAY.



"Teeny-Weeny" radio

★ Small AC-DC set has 2 watts output, P.M. dynamic speaker, AVC, beam-power output tube and louvre type grille. Measures 8 x 4 $\frac{3}{4}$ x 4 $\frac{3}{4}$ inches. "Cosmo" TSA-105. Sonora Radio & Television Corp., 2626 W. Washington Blvd., Chicago.—RADIO & TELEVISION TODAY.



Portable appliance tester

★ Instrument to test appliances under actual running conditions. Uses wattmeter and voltmeter—

twin instrument style. Direct wattmeter readings 1500 watts at 220 volts, 750 watts at 110 volts. Dual voltmeter scale reads 150-300. Push-button for protection during starting. Heavy leather case. Model 2000. Net \$19.33. Triplett Elect. Instrument Co., Bluffton, Ohio.—RADIO & TELEVISION TODAY.



Portable telephone system

★ Two breast plate transmitters, two headset receivers, 200 feet of rubber covered cord are included in the portable television system designed as an aid in installing television receivers and other uses. Power furnished by two dry cells. Weight is 8 lbs. Stromberg-Carlson Telephone Mfg. Co., 100 Carlson Rd., Rochester, N. Y.—RADIO & TELEVISION TODAY.

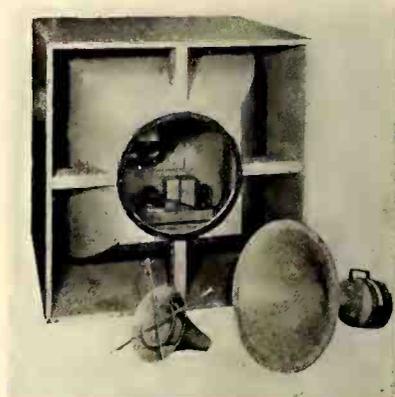


Cone projector

★ Air column trumpet for 8 inch speakers has bell diameter of 24 inches, total length of 36 inches. Battleship gray, weather-proof lacquer finish. Bell section is heavy gauge aluminum. Speaker housing is heavy steel pressed pot. Atlas Sound Corp., 1447-51 39th St., Brooklyn, N. Y.—RADIO & TELEVISION TODAY.

Vibrators for portables

★ 1 $\frac{1}{2}$ volt and 3 volt synchronous and non-synchronous vibrators for battery sets. Efficiencies of 50 to 60 per cent. American Television & Radio Co., 300 E. Fourth St., St. Paul, Minn.—RADIO & TELEVISION TODAY.

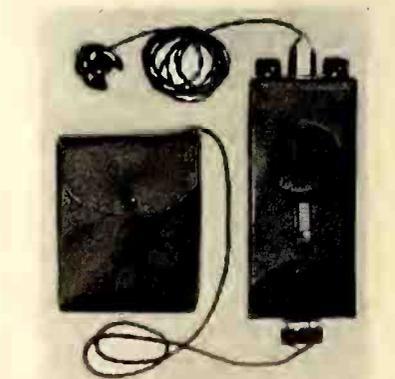


"Twin power" speaker

★ High fidelity loudspeaker has two permanent magnet type dynamic sound reproducers; one each for sounds above and below 650 cycles. Crossover network connects the two speakers. Power handling capacity of 40 watts. No external field excitation required. Cabinet is 3 x 3 x 3 feet, weighs 224 lbs. complete with speaker units. RCA Mfg. Co., Front & Cooper Sts., Camden, N. J.—RADIO & TELEVISION TODAY.

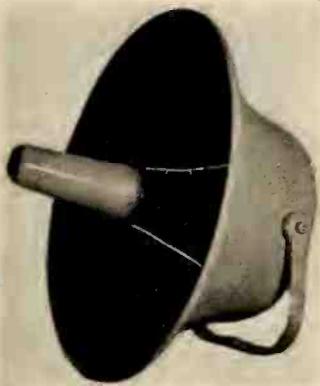
Movie camera

★ 8 mm. "Turret" movie camera, with a 3-lens turret mount, has provision for two additional lenses. Lenses may be changed quickly by a twist of the wrist. Total weight less than 3 lbs. List \$25.00 with F.4.5 lens, \$29.95 with an F.3.5. Universal Camera Corp., 28-30 W. 23rd St., New York, N. Y.—RADIO & TELEVISION TODAY.



Hearing aid

★ Vest-pocket vacuum tube type hearing aid uses three Bantam Jr. tubes, crystal microphone and crystal air receiver. Operates in any position and is multi-directional. No individual fitting required. Laurehk Radio Manufacturing Co., Box 186, Adrian, Mich.—RADIO TODAY.



Reflexed air column trumpet

★ Exponential type trumpet with equivalent acoustic length of 6 feet. Overall physical length is 25 inches, bell opening 30 inches. Extended front chamber gives uniform coverage over a wide angle. Balanced mounting fork in trumpet permits quick adjustments. Freq. response and efficiency equal to that of 6 foot trumpet. University Labs., 195 Chrystie St., New York, N. Y.—**RADIO & TELEVISION TODAY.**



Condenser protective caps

★ "Lifeguard" insulating hard-rubber caps to fit snugly over condenser terminals. Supplied free with all Sprague high-voltage transmitting condensers. Separately 25 cents per pair, list. Sprague Products Co., North Adams, Mass.—**RADIO & TELEVISION TODAY.**



Vibrator line

★ Seventy-four units comprise new Meissner line. Sponge rubber liners cushion against shock and absorb vibrator noise. Alloy Swedish spring-steel center reeds eliminate reed breakage. Meissner Mfg. Co., Mt. Carmel, Ill.—**RADIO TODAY.**

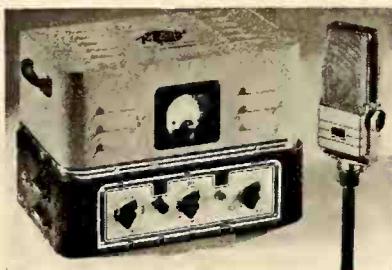
Polyphase voltage control

★ Continuously - variable poly-phase reactor which develops a drop of 300 volts at 50 amperes per coil. Designed for the control of voltage in polyphase circuits. Mechanical noise reduced to a minimum. Other units available in a number of ratings. Raytheon Mfg. Co., 140 Willow St., Waltham, Mass.—**RADIO TODAY.**



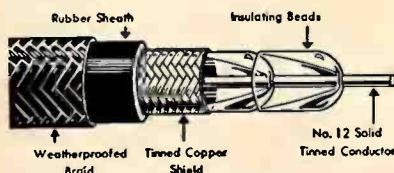
Portable P.A. unit

★ Compact, light-weight 6 watt portable P.A. unit uses 10 inch electro dynamic speaker. Has tone control. Includes a Model 8720 crystal microphone assembly with 15 foot cable and plug. Leatherette carrying case. Operadio Mfg. Co., St. Charles, Ill.—**RADIO TODAY.**



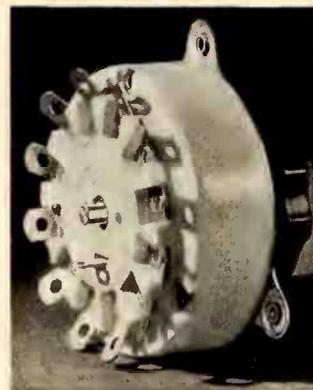
All-purpose sound system

★ "Knight" 18-watt system incorporates inverse feedback, triple input channel; individual mike, phono, and bass-treble controls; V. I. meter; monitor speaker. Offered with wide choice of microphones and 2-12" P.M. 12C dynamic speakers. Also available in portable form. Allied Radio Corp., 833 W. Jackson Blvd., Chicago.—**RADIO & TELEVISION TODAY.**



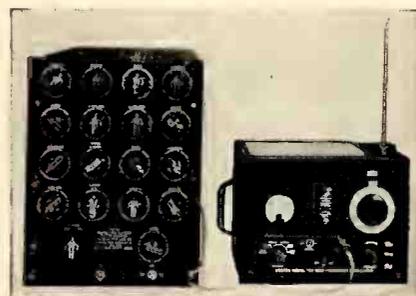
Coaxial cable

★ Transmission and television circuit cable uses air as principle dielectric. Surge impedance of 76.4 ohms at 100 KC. to 79.1 ohms at 10,000 KC. Capacity of 17.6 to 16.5 mmf. Loss of 2.75 db per 1000 feet at 10,000 KC. No. 8215. Also available No. 8216 using low-loss rubber compound for dielectric. Belden Mfg. Co., 4689 W. Van Buren St., Chicago.—**RADIO & TELEVISION TODAY.**



Tap switch

★ 40 ampere tap switch is rated for 240 volt AC non-inductive circuit. 4 inches in diameter it is equipped with maximum of 12 contacts. Contacts and other current-carrying parts silver plated. All-porcelain high voltage insulation between contacts and shaft and mounting plate. Single or tandem mounting. Ohmite Mfg. Co., 4835 Flournoy St., Chicago.—**RADIO & TELEVISION TODAY.**



Television signal generator

★ "Phasmejector" television signal generator giving following outputs: A—a composite video signal of positive phase; B—composite video signal of negative phase; C—same as B but with video signal superimposed on DC component of approx. 30 volts. Composite video signal in all cases has max. potential of approx. 10 peak-to-peak volts. Response flat from 20 to 3,600,000 cycles. Type 6L6 output stage operates as impedance transformer. Model 202 is self-contained. Allen B. DuMont Labs., Inc., Passaic, N. J.—**RADIO & TELEVISION TODAY.**



Phono-wireless player

★ Self-contained portable electrical phonograph and remote operating wireless record player. Model A-63. \$24.95 list. Wilcox-Gay Corp., Charlotte, Mich.—**RADIO & TELEVISION TODAY.**

HOME REFRIGERATION REVOLUTIONIZED!

Crosley now presents a Refrigerator
for the replacement market that gives women a
good excuse to discard their old models

Crosley provides two-temperature and air conditions in two compartments of the newly developed FREEZORCOLD Shelvador. In one compartment a uniform below-freezing temperature is maintained—a dry sharp cold that keeps fresh meats or game as long as family needs demand—enables women to buy frozen foods at “Special” sales and store until wanted—keeps ice cream firm and solid—permits them to make and store ice cubes against the biggest kind of a party—makes possible a full larder AT ALL TIMES for unexpected guests.

This is not a Refrigerator with a Partition in it

Fast-frozen foods are rapidly becoming a definite part of the American diet—primarily because of convenience, for they are now in nearly every grocery store. There is no waste in their use.

Game and fish are two foods hard to keep in the home because of limitations of available refrigeration—but NOW in the sub-freezing compartment of FREEZORCOLD a temperature is provided that's low enough to retard physical change in these delicacies for many days.

Pie dough is a delicate material—prepared best when

FLAME-FREEZE SHELVADOR

Modern Refrigeration for Homes without Electricity

Farm and country homes beyond the power lines can now enjoy economical food protection with the matchless convenience and beauty of Crosley Flame-Freeze Shelvadors. Produces refrigeration from inexpensive kerosene heat at a cost of only a few cents a day.

No Flame when owner's away appeals to remote homes

There is plenty of room for food. Enjoy ice cubes and desserts even on hottest days. There are absolutely no moving parts—nothing to get out of order, and you can depend upon its unflinching service for many years to come.



CROSLEY TWO TEMPERATURE FREEZORCOLD SHELVADOR

utensils and ingredients are very cold. The FREEZORCOLD SHELVADOR enables the delighted cook to prepare materials at temperatures heretofore unavailable in the kitchen. Once made, her shortened dough can be kept over a long period of time—in any quantity in the FREEZORCOLD freeze compartment. Ice cream is not only easily made in this freeze compartment, but can be kept indefinitely. No more running down to the store just before meal time to get the ice cream home in right condition. Also, you can make and store many pounds of ice cubes.

THE CROSLEY SHELVADORS

are a perfect “step up” line of refrigerators. Beginning with the 3 ft. “SPECIAL” at \$99.50 you can lead the prospect through the lowest priced quality refrigerators on the market to the “REGULAR” fully equipped line which matches competition’s “Stripped” models in price on up through the “DELUXE” Shelvadors of which there is nothing finer at any price, and into the NEW and UNMATCHABLE FREEZORCOLD S in 4 models.

New Low Temperature with high humidity provides improved food preservation heretofore unknown in the home

The second compartment is moist, air conditioned cold storage to hold cooked foods, vegetables, fruits, etc., at the peak of their perfection. “So you retard the drying out of food in electric refrigerators?” exclaim excited housewives. Yes, because the drying out of the natural juices in the food is retarded. Thus vegetables remain prime for days, chilled delightfully crisp in the cold humid air, retain-



2 temperatures in 1 refrigerator



ing their original vitamins—keeping moist and garden fresh with no discoloration for days longer than ever before. Leafy vegetables are preserved without wilting or shrinkage in the drawer-type super-moist crisper.

Cooked foods are held at their appetizing peak for incredibly long time. The moist cold is the secret. The air in the humid cold chamber circulates constantly over the WET coils, providing the kind of air conditioning food preservation must have to produce maximum results.

This high humidity is accomplished by the use of a special radiator-like chilling unit which does not frost like the conventional type evaporator.

This new development accomplished without adding one moving part

This outstanding advancement has been accomplished without adding one single moving part to the Shelvador refrigerator. These new refrigerators are efficiently and carefully manufactured in the new Crosley factory—probably the finest plant of its kind in the world. A

FREEZORCOLD FEATURE

ONLY \$15

... TO \$20.00 MORE THAN COMPARABLE REGULAR AND DELUXE SHELVDORS

background of long experience, unsurpassable engineering talent and skilled craftsmanship produce quality in every part that goes to make each guaranteed Crosley refrigerator.

This new FREEZORCOLD PLUS the SHELVDOR is refrigeration's greatest sales possibility today

You may think the Shelvador an old story—but if you stand in the Crosley exhibit at the New York World's Fair and see the thousands of women examine, study and enthuse over the Shelvador which to them is *new*, your enthusiasm will be revitalized and you will realize that the Shelvador still has a great and fertile market.

FREEZORCOLD SHELVDORS	
4 Models	
6 ft. Regular	7 1/2 ft. Regular
6 ft. Deluxe	7 1/2 ft. Deluxe

THE CROSLY CORPORATION

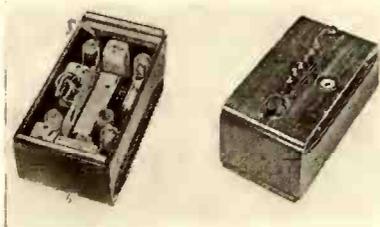
POWEL CROSLY, Jr., President Home of WLW—"the Nation's Station"—70 on your dial CINCINNATI
See the Crosley Building at the New York World's Fair

New Things



Compact tele receiver

★ Console cabinet only 38 inches high contains chassis similar to table model previously introduced. Six controls are placed just below screen mounting. 14-inch diameter cathode-ray tube is placed at an angle to tilt screen backwards for better vision. 21 tubes in all. Screen image measures 8 x 10 inches. Allen B. DuMont Labs., Inc., 12 Main Ave., Passaic, N. J.—RADIO & TELEVISION TODAY.



Remote radio control

★ "Phantom Tunette" plugs in to AC line and tunes by changing stations to pre-determined position not used by any station. Uses five multi-purpose tubes. Operation requires no change in receiver. Operates one or more radios from any room. Provides push-button and dial tuning. Beverly Electric Manufacturing Co., Beverly Hills, Cal.—RADIO & TELEVISION TODAY.



Four-in-one player unit

★ New instrument just offered to jobbers and dealers by Regal combines a record player for wireless reproduction through a remote radio set, a high fidelity amplifier and speaker for self-playing and playback purposes, a dynamic microphone and input circuit for low-powered public address or home entertainment and a two-station intercommunicating system. List \$39.50. Regal Amplifier Mfg. Corp., 14 W. 17th St., New York.—RADIO & TELEVISION TODAY.

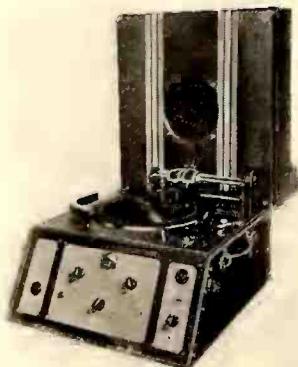


Television receiver

★ De luxe television receiver features picture size of 7½ x 10 inches and offers choice of 5 television channels with automatic push-button control. Has 30 tubes and 12 inch picture tube. Includes all-wave radio receiver with automatic tuning. Period cabinet in two-tone walnut. Belmont Radio Corp., 1257 Fullerton Ave., Chicago.—RADIO & TELEVISION TODAY.

Multirange meter

★ Selective speed-button operated meter has 32 ranges, instrument sensitivity of 400 microamps. 7500 volt insulation for 3000 volt ranges. Pre-aged calibrated rectifier. Automatic overload protection on resistance ranges. DC isolating condenser on output ranges. Battery included. Weight 4 lbs. \$19.95 list. Model 330. Triumph Mfg. Co., 4017 W. Lake St., Chicago.—RADIO & TELEVISION TODAY.



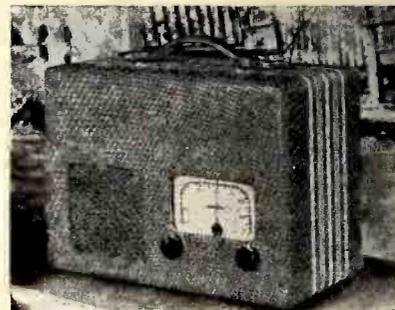
Radiotone recorders

★ Line of four new portable recorders. Two models feature built-in radio and two models feature instantaneous speed change from 78 r.p.m. to 33¼ r.p.m. Model HR-11 illustrated. Descriptive literature available. Radiotone, Inc., 7356 Melrose Ave., Hollywood, Cal.—RADIO & TELEVISION TODAY.



Majestic super

★ Five tube super-het with 5½ inch electro dynamic speaker and built-in loop. 6 tuned circuits, 2 watt output. AVC and tone control. Has static bi-pass. Model 651L. Majestic Radio & Television Co., 2600 W. 50th St., Chicago.—RADIO & TELEVISION TODAY.



Howard portable

★ 4-tube portable in airplane luggage case tunes standard broadcast. Available with heavy-duty batteries with 250 hour battery life or A-B pack. Uses 1.4 volt tubes, 5 inch PM speaker. Iron-core i.f. transformers. Model 10-B. Howard Radio Co., 1735 Belmont Ave., Chicago.—RADIO & TELEVISION TODAY.



Farm radios

★ Battery sets in both table and console models for farm and suburban homes. Features are: low-drain - type tubes, dust - proof dynamic speaker, AVC, large tuning dial, signal-type on-off dial indicator. Cabinet finished in matched walnut. Console lists at \$39.95 (Model 02-427, illus.); table (Model 02-421) \$19.95, less batteries. Stewart-Warner Corp., 1826 Diversey Pkwy., Chicago, Ill.—RADIO & TELEVISION TODAY.



Wire wound resistors

★ New line of wire wound resistors includes four sizes of adjustable resistors 10, 25, 50, and 75 watt. Also four sizes of wire wound fixed resistors 5, 10, 20, and 50 watt. Consolidated Wire & Assoc. Corps., 516 So. Peoria St., Chicago.—RADIO & TELEVISION TODAY.

Ham "R" meter

★ Portable vacuum tube voltmeter type "R" meter uses moving coil type meter. Built-in carrier level amplifier using 6F5 tube. Manually adjusted zero reset. Matches models 430 and 438. Model 600. Howard Radio Co., 1735 Belmont Ave., Chicago.—RADIO & TELEVISION TODAY.

Television capacitors

★ Dykanol impregnated capacitors available in tubular, cylindrical and rectangular shapes and sizes. Ratings from 1,000 to 10,000 volts DC. Units supplied with inverse mounting features and heavily insulated terminal structure. Described in Catalog 167-A. Cornell-Dubilier Elec. Corp., South Plainfield, N. J.—RADIO & TELEVISION TODAY.

Speed nut for selector bracket

★ Spring tension speed nut eliminates a single coil spring, washer, drilled hole and cotter pin wherever used. Spring-steel and round in shape it is made to "zip" on over stud and give necessary tension to radio selector bracket assemblies. Speed-Nut Div., Tinnerman Stove & Range Co., 2508 Fulton Rd., Cleveland, Ohio.—RADIO & TELEVISION TODAY.

Remote antenna ammeter

★ Antenna current meter using a current transformer with electrostatic shield, tube rectifier, and DC indicating instruments. One instrument located near antenna, other located at remote point in transmitter room. Instrument calibrated in R.F. amperes. Types 708 and 818. Victor J. Andrew, 6429 S. Lavergne Ave., Chicago, Ill.—RADIO TODAY.

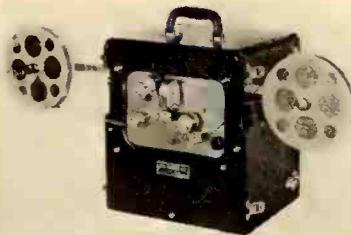
Candid flash-lamps

★ Wire filled photoflash lamps, for use with cameras having focal plane shutters. No. 30 has total output of 40,000 to 45,000 lumen seconds, peak intensity of 1,100,000

lumens. Price 28 cents. No. 31 total output is 70,000 to 80,000 lumen seconds with peak intensity of 1,300,000 lumens. 30 cents. Westinghouse Elec. Supply Co., 150 Varick St., New York, N. Y.—RADIO & TELEVISION TODAY.

Laboratory tester

★ Model 077 signal generator and model 027 vacuum tube voltmeter in steel case. Compartment below each instrument for additional equipment. Concealed panel lights. One switch controls all lights and power. Model 0277. Philco Radio and Television Corp., Tioga and C Sts., Philadelphia, Pa.—RADIO TODAY.



Film sound-recorder

★ Electro-mechanical device records sound permanently on film. Self-starting AC motor. Records at 16 or 24 frames per second; other speeds to specifications. Recording head has 500 ohm impedance, may be matched to any radio receiver, comes with sapphire stylus. 28 sound tracks may be indented on 16mm. film. Instantaneous playback. Model BB. \$225. list. Double unit BB available for continuous automatic recording. \$467.50 list. Miles Reproducer Co., Inc., 812 Broadway, New York, N. Y.—RADIO & TELEVISION TODAY.

Window air conditioner

★ "Packaged" room unit uses a 1/3 h.p. radial compressor with low-friction parts. Measures 12 inches high, 24 inches long. Mounts on window-sill. Only connection is plug-in to electric outlet. Chrysler Corp., Airtemp Division, Dayton, Ohio.

Capacitor line

★ New additions to Cornell-Dubilier capacitor line include: exact duplicate capacitors for motor starting for refrigerators, etc.; electrolytic capacitors for new and replacement applications. Standard shapes and sizes in complete capacity range, at voltages up to 220 v. A.C. Cornell-Dubilier Electric Corp., South Plainfield, N. J.—RADIO & TELEVISION TODAY.

Tester case

★ Black fabricoid carrying case for Model 033 Philco tube tester. Will also accommodate other test

equipment including models 077, 044, and 027. Philco Radio & Television Corp., Tioga & C Sts., Philadelphia, Pa.—RADIO & TELEVISION TODAY.



DeWald phonoscope

★ Dual purpose wireless record player and phonograph. Plays through set 50 feet away or through own speaker. Plays up to 12 inch records. Self-starting. P.M. dynamic speaker. Model 411 (AC only). Pierce Airo, Inc., 436-440 Lafayette St., New York, N. Y.—RADIO & TELEVISION TODAY.

Recording disc

★ Low-priced instantaneous recording disc has quality of reproduction and surface noise characteristics equal to Presto Green Seal discs. List prices range from the 6 inch size at 25c to 75c for the 12-inch size. Presto Recording Corp., 242 W. 55th St., New York, N. Y.—RADIO & TELEVISION TODAY.

Photrix calculators

★ Two calculators, one designed for determining exposure time for enlarging and the other for picture taking. Enlargement calculator designed for use after measuring light from enlarger lens with a light meter. The calculators are etched aluminum and are similar to a circular slide rule. Intercontinental Marketing Corp., 8 West 40th St., New York, N. Y.—RADIO TODAY.

Airplane receiver

★ Radio for all types of flying. Radio frequency units housed on instrument panel within pilot's reach. Audio elements in rear of ship, permitting shift easily between different incoming frequencies. Eliminates remote control gear. Weighs 16 lbs. Non-technical installation. Western Electric Co., 195 Broadway, N. Y. City.—RADIO TODAY.

New 5-10 meter receiver

★ Radio receiver designed exclusively for ultra-high frequency range of 27-68 megacycles. 8-tube superhet circuit with 1,852 u.h.f. tube in tuned r.f. stage. High image selectivity, automatic noise limiter, volume control, beat frequency oscillator, variable band width. Hallcrafters, Inc., 2611 S. Indiana Ave., Chicago.—RADIO TODAY.



**New York-Newark Dealers
Acclaim RCA Victor**

TELEVISION

Remember This Important Selling Point About RCA Victor Television Receivers: THEY ARE THE TELEVISION SETS BACKED BY A SEVEN-YEAR \$2,000,000 FIELD TEST!

The warm reception accorded the new RCA Victor television receivers has proved that once again RCA Victor leads—demonstrating conclusively that RCA's years of research and development in television—\$2,000,000 spent during the last seven years for extensive field tests—have all been well worth while. For RCA Victor has, as usual, produced the finest... Read the statements of the press and New York and Newark dealers. Plan now to look ahead and grow with RCA Victor!

RCA Victor Helps Dealers

NEW YORK HERALD TRIBUNE said: "Thousands see... television... even doubters of the invention debut a success. Many to whom television had been only a name, admitted afterward that the demonstration exceeded anything they had thought possible."

NEW YORK DAILY MIRROR said: "... When Mr. and Mrs. America get an eye-ful of the television exhibits and demonstrations at the World's Fair anything may happen."

Mr. John B. Duff, W. Wilderotter Sons, Inc., 491 Springfield Ave., Newark, N. J., said: "Six of these \$600.00 RCA Victor Television Receivers were sold in Newark less than one week after the demonstration to dealers at Radio City, New York. I sold one of them myself. The fact that all were sold sight unseen is an indication of the confidence the public has in RCA Victor merchandise."



RCA Victor Model TT-5 Television Attachment, a sensational instrument that provides television *sight*—while the *sound* is heard through radio loud-speaker. It is attached to radio by simply plugging it into television jack, an important part of RCA Victor models for the past two years. (Same jack as used for Victrola Attachment.) May also be easily attached to other modern AC sets. This television attachment reproduces a picture 3 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " in size. Other important features include direct viewing of picture, 16 tubes plus kinescope, and 5 television channels. Backed by \$2,000,000 field test.

For finer radio performance—RCA Victor Radio Tubes

Trademarks "RCA Victor," "Victrola," "Magic Eye," "Victor," "Bluebird," Reg. U.S. Pat. Off. by RCA Mfg. Co., Inc. *Prices f.o.b. Camden, N. J., subject to change without notice.



RCA Victor Television Model TRK-12. Largest RCA Victor console, this instrument reproduces a picture 7 $\frac{3}{8}$ " by 9 $\frac{3}{8}$ " in size. It features indirect viewing through mirror, has 36 tubes plus kinescope, offers a choice of 5 television channels, and has many other important points that will help make this instrument profitable for you.

RCA Victor Model TRK-9 (not illustrated) is similar to Model TRK-12, except that it is direct viewing and uses a 9" kinescope.

RCA Victor Television Receivers are backed by a \$2,000,000 field test.

Turns the Wheels of Profit . . . Everywhere Cash In on Television Now!

Designed for use with

TELEVISION ATTACHMENT

A Sure-Fire Sales Feature of the
New RCA Victor Radios and Victrolas!

RCA Victor "look ahead" planning has made television a sales feature of the new RCA Victor radios.

This is accomplished by using the Victrola plug-in jack—an important part of all RCA Victor sets for the past two years—in conjunction with the television attachment illustrated on the page at left. This attachment may be plugged into Victrola jack and like magic your customers have a television set. The television attachment produces the sight—the radio brings in the sound. As a result, your customers have a modern, inexpensive radio today—a modern, inexpensive television receiver when programs are available in your city. That's why it will pay them to buy now. Feature this idea—and profit!



RCA Victor Little Nipper Model 9TX-31 is designed for use with television attachment. In addition to the Victrola-Television jack, it has many other excellent sales features—plus a price that means business for you! **\$9.95***

This great eight-tube, three-band radio has Victrola-Television jack, RCA Victor Electric Tuning for 6 stations, Magic Eye, RCA Victor Metal Tubes, Victrola Push-Button Switch, 12" Electro-Dynamic Speaker and many other brilliant features housed in a glorious Modern style Cabinet Model 98K2 **\$89.95***



All Dealers can make Profitable use of this RCA Victor 3-way Display!

It doesn't make any difference whether your city has television or not! This display in your window will attract new business to your store for it graphically tells the RCA Victor "look ahead" story—enables you to *cash in now* on the public's tremendous interest in television! By all means get this display from your RCA Victor distributor.



Mr. Charles Johner, Willis Radio, 362 Willis Avenue, Bronx, New York, said: "I think 'Designed for use with Television Attachment' is probably one of the strongest sales stories a radio dealer has had to tell in years. And believe me, with the new RCA Victor radios so packed with value this 'extra' selling punch is going to mean rejuvenated set business for me."

Mr. Mark M. Marks, Pres. Radio Sales Corp., 357 Millburn Ave., Millburn, N. J., said: "It is a fine thing to be associated with a company like RCA Victor. Their engineers are always looking ahead—and that one virtue is going to mean volume sales for me. Thanks a million for the swell new radios and your slogan 'Designed for use with Television Attachment'."



RCA Victor

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



New York-Newark Dealers
Acclaim RCA Victor

TELEVISION

Remember This Important Selling Point About RCA Victor Television Receivers: **THEY ARE THE TELEVISION SETS BACKED BY A SEVEN-YEAR \$2,000,000 FIELD TEST!**

The warm reception accorded the new RCA Victor television receivers has proved that once again RCA Victor leads—demonstrating conclusively that RCA's years of research and development in television—\$2,000,000 spent during the last seven years for extensive field tests—have all been well worth while. For RCA Victor has, as usual, produced the finest... Read the statements of the press and New York and Newark dealers. Plan now to look ahead and grow with RCA Victor!



RCA Victor Model TT-3 Television Attachment, a sensational instrument that provides television *table-top*—while the sound is heard through radio loudspeaker. It is attached to radio by simply plugging into television jack, an important part of RCA Victor model for the past two years (Same Jack as used for Victrola Attachment). May also be easily attached to other modern AC sets. This tele-4½" in size. Other important features include direct viewing of picture, 16 tubes plus kinescope, and 9 television channels. Backed by \$2,000,000 field test.

For finer radio performance—RCA Victor Radio Tubes. Trademarks "RCA Victor," "Victrola," "Magic Eye," "Victrola," "Bluebird." Reg. U. S. Pat. Off. by RCA Mfg. Co., Inc., "Phono" in Camden, N. J. Subject to change without notice.



RCA Victor Television Model TRK-12. Largest RCA Victor console, lets you see through mirror, has 36 tubes plus kinescope, offers a choice of 9 sets this instrument profitable for you.

RCA Victor Model TRK-9 (not illustrated) is similar to Model TRK-12, except that it is direct viewing and uses a 9" kinescope.

RCA Victor Television Receivers are backed by a \$2,000,000 field test.

RCA Victor Turns the Wheels of Profit Helps Dealers Everywhere Cash In on Television Now!

Designed for use with

TELEVISION ATTACHMENT

A Sure-Fire Sales Feature of the New RCA Victor Radios and Victrolas!

RCA Victor "look ahead" planning has made television a *sales feature* of the new RCA Victor radios.

This is accomplished by using the Victrola plug-in jack—an important part of all RCA Victor sets for the past two years—in conjunction with the television attachment kit illustrated on the page at left. This attachment may be plugged into Victrola jack and like magic your customers have a television set. The television attachment produces the sight—the radio brings in the sound. As a result, your customers have a modern, inexpensive radio today—a modern, inexpensive television receiver when programs are available in your city. That's why it will pay them to buy now. Feature this idea—and profit!



RCA Victor Little Nipper Model 9TK-31 is designed for use with television attachment. In addition to the Victrola-Television jack, it has many other excellent sales features—plus a price that opens business for you! **\$9.95***

This great eight-tube, three-band radio has Victrola-Television jack, RCA Victor Electric Tuning for Stations, Magic Eye, RCA Victor Metal Tubes, Victrola Push-Button Switch, 12" Electrodynamic Speaker and many other brilliant features featured in a glorious Modern style Cabinet. Model 9BK2 **\$89.95***

TELEVISION ATTACHMENT



LOOK

AHEAD!

RCA Victor Radios for August 1948 with Television-Radio-Records

...TO PLAY THE MUSIC YOU WANT WHEN YOU WANT IT!



Victrola RECORDS

FOR FINEST RECEPTION OF FINEST BROADCASTS



All Dealers can make Profitable use of this RCA Victor 3-way Display!

It doesn't make any difference whether your city has television or not! This display in your window will attract new business to your store for it graphically tells the RCA Victor "look ahead" story—enables you to cash in now on the public's tremendous interest in television! By all means get this display from your RCA Victor distributor.



Mr. Charles Johner, Willis Radio, 362 Willard Avenue, Bronx, New York, said: "I think 'Decisions' for me with 'Television Attachment' is probably one of the strongest sales stories a radio dealer has had to tell in years. And believe me, with the new RCA Victor radios to backed with value this year's selling punch is none to be sneezed at in business circles."

Mr. Mark M. Mack, Price Radio Sales Corp., 357 Millburn Ave., Millburn, N. J., said: "It is a fine thing to be associated with a company like RCA. Their engineers are always going to mean volume sales for me. I think a million for the small new radios and your slogan 'Decisions' for use with 'Television Attachment.'"



RCA Victor

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

More RCA Victor Profit Wheel



This couple is inspecting glass-enclosed interior of RCA Victor Television receiver. You can capitalize on the tremendous publicity that is being given RCA Victor Television if you feature RCA Victor Radio Tubes.

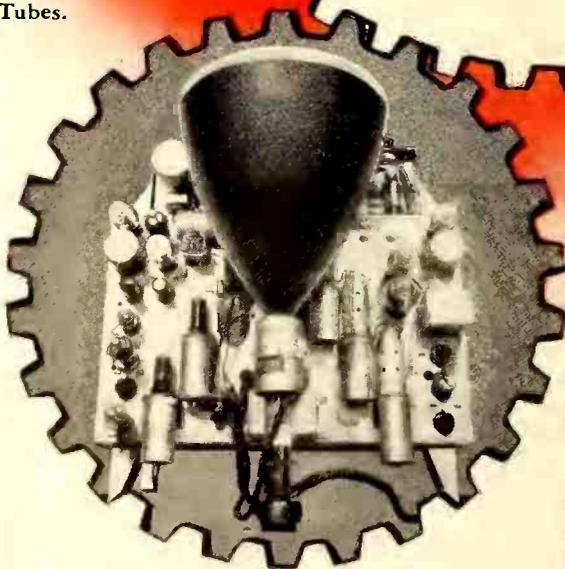
RCA Victor Radio Tubes have the Advantage of RCA's **TELEVISION** Experience

Let the radio owners in your neighborhood know you use and recommend RCA Victor Radio Tubes—the tubes built by the company that brought television to America... the tubes that are backed by the same careful research and built with the same skill that made the television dream an actual fact. The public will be impressed with this story—will come to you for RCA Victor Radio Tubes!

RCA invites you to visit
its display at the National
Radio Parts Trade Show
Hotel Stevens, Chicago
June 14-17

Over 335 million RCA radio tubes have been purchased by radio users... in tubes, as in parts and test equipment, it pays to go RCA All the Way.

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



Typical RCA Victor Television chassis shows large number of tubes used. This is going to help you boost your RCA Victor Radio Tube business because eventually all of these tubes will have to be replaced.



RCA Victor RADIO TUBE

RCA MANUFACTURING COMPANY, INC., CAMDEN, N. J. • A SERVICE OF THE RADIO CORPORATION OF AMERICA

What Spell Busy Days for You...

Become an *RCA Victor* Music Merchant

Increasing
RCA Victrola Sales Mean
Increasing Business in
**VICTOR AND BLUEBIRD
RECORDS**

THINK WHAT THE RECORD BUSINESS OFFERS:

1. Low capital investment—quick turnover.
2. Cash sales—no installment risks.
3. Increased store traffic.
4. Repeat sales.
5. No trade-ins.
6. Stimulation to your instrument sales in all price brackets.

You be the one to reap the rich fruits of your own endeavors! Every sale you make of an RCA Victrola or RCA Victor Record Player inevitably means many repeat sales in Victor and Bluebird Records. Make these sales yours! Take the easy step that makes you a complete RCA Victor music merchant. Put in Victor and Bluebird Records!

Your RCA Victor distributor will gladly furnish information about basic stock and plans for quick, inexpensive installation of a Victor and Bluebird Record department. He will also tell you the complete advertising story

—radio, magazines, and newspapers; and show you the many sales-making plans that are yours as an RCA Victor music merchant.

More than 100,000 joined the Victor Record Society last year!

One of the great factors in the tremendous increase in Victor and Bluebird Record sales is the Victor Record Society. Most of the 100,000 members who joined last year continue to buy Victor and Bluebird Records... and thousands graduated to higher-priced RCA Victrolas.

For finer radio performance—RCA Victor Radio Tubes



**Victor Record Society offer...
\$22.95 value in Victor or Bluebird
Records and RCA Victor Record
Player... for \$14.95**

Special offer provides \$14.95 (list price) RCA Victor Record Player... \$7.50 in any Victor or Bluebird Records... 3 months' subscription to Victor Record Review... Victor Record Society membership... for \$14.95. RCA Victor Record Player can be attached to any modern AC radio at little or no expense, plays records with tone comparable to that of set.

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

MAIL COUPON FOR COMPLETE INFORMATION

RCA Manufacturing Co., Inc.
Camden, N. J.

Please send me complete details about the merchandising of Victor and Bluebird Records

Name _____

Address _____

VICTOR RECORDS

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





New York-Newark Dealers
Acclaim RCA Victor

TELEVISION

Remember This Important Selling Point About RCA Victor Television Receivers: THEY ARE THE TELEVISION SETS BACKED BY A SEVEN-YEAR \$2,000,000 FIELD TEST!

The warm reception accorded the new RCA Victor television receivers has proved that once again RCA Victor leads—demonstrating conclusively that RCA's years of research and development in television—\$2,000,000 spent during the last seven years for extensive field tests—have all been well worth while. For RCA Victor has, as usual, produced the finest... Read the statements of the press and New York and Newark dealers. Plan now to look ahead and grow with RCA Victor!



RCA Victor Model TT-5 Television Attachment, a sensational instrument that provides television sight—while the sound is heard through radio loud-speaker. It is attached to radio by simply plugging it into television jack, an important part of RCA Victor models for the past two years. (Same jack so used for Victrola Attachment) May also be easily attached to other modern AC sets. This television attachment reproduces a picture 3 1/4" x 4 1/4" in size. Other important features include direct viewing of picture, 16 tubes plus kineoscope, and 8 television channels. Backed by \$2,000,000 field test.

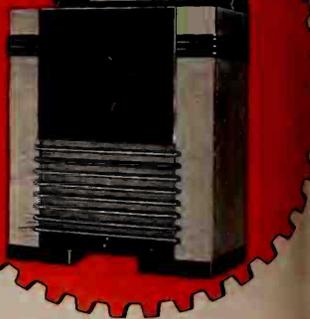
For finer radio performance—RCA Victor Radio Tubes. Trademarks "RCA Victor," "Victrola," "Magic Eye," "Victrola," "Blackbird," Reg. U.S. Pat. Off. by RCA Mfg. Co., Inc. "Prices f.o.b. Camden, N. J., subject to change without notice.

RCA Victor Turns the Wheels of Profit... Helps Dealers Everywhere Cash In on Television Now!

NEW YORK HERALD TRIBUNE said: "Thousands see...television...every downtown...investor debate a success. Many to whom television had been only a name, admitted afterward, when demonstration exceed ed anything they had ever seen possible."

NEW YORK DAILY MIRROR said: "... When Mr. and Mrs. America get an excellent...entire of the television exhibits and demonstrate...at the World's Fair anytime may happen."

Mr. John B. Duff, W. Wilderone Sons, Inc., 491 Spruance Ave., Newark, N. J., said: "Six of these \$600.00 RCA Victor Television Receivers were sold in Newark less than one week after the demonstration to dealers at Radio City, New York. I sold one of them myself. The fact that all were sold is an indication of the confidence the public has in RCA Victor merchandise."



RCA Victor Television Model TRK-12. Largest RCA Victor console, this instrument reproduces a picture 7 3/4" by 9 1/4" in size. It features indirect viewing through mirror, has 56 tubes plus kineoscope, offers a choice of 5 television channels, and has many other important points that will help make this instrument profitable for you.

RCA Victor Model TRK-9 (not illustrated) is similar to Model TRK-12, except that it is direct viewing and uses a 9" kineoscope.

RCA Victor Television Receivers are backed by a \$2,000,000 field test.

Designed for use with

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A Sure-Fire Sales Feature of the New RCA Victor Radios and Victrolas!

RCA Victor "look ahead" planning has made television a sales feature of the new RCA Victor radios.

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TELEVISION ATTACHMENT



LOOK

AHEAD!

RCA Victor Radios... Television-Radio-Records

TO PLAY THE MUSIC YOU WANT!



Victrola RECORDS

FOR FINEST DESCRIPTION OF FINEST BROADCASTS



All Dealers can make Profitable use of this RCA Victor 3-way Display!

It doesn't make any difference whether your city has television or not! This display in your window will attract new business to your store for it graphically tells the Victor "look ahead" story—enables you to cash in now on the public's tremendous interest in television! By all means get this display from your RCA Victor distributor.



Mr. Charles Johnner, Willis Radio, 364 Wilbur Avenue, Newark, New York, said: "I think 'Look Ahead' for use with the Television Attachment' is probably one of the strongest sales stories a radio dealer has had to tell in years. And believe me, with the new RCA 'look ahead' selling machine, it is now an unrecruited set business force."

Mr. Mark M. Mark, Pres. Radio Sales Corp., 357 Millburn Ave., Millburn, N. J., said: "It is a fact that in the Victor, their customers are always going to mean volume sales for me. Thanks a million for the new RCA radio and your Sloan 'Look Ahead' for use with Television Attachment!"



RCA Victor Little Nipper, Model 9TX-51 is designed for use with television attachment. In addition to the Victrola-Television jack, it has many other excellent sales features—plus a price that means business for you! \$9.95*

This great eight-tube, three-band radio has Victrola-Television jack, RCA Victor Electric Tuning for 6 stations, Magic Eye, RCA Victor Metal Tubes, Victrola Push-Button 8-wick, 12" Electro-Dynamic Speaker and many other brilliant features! Issued in a splendid Model 58K2. . . . \$89.95*

RCA Victor

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

AUTOMATIC VOLUME CONTROLS

Characteristics of AVC systems and how they work

A.V.C. action is basically simple. When the carrier level of the R.F. (or I.F.) input signal is excessively high, A.V.C. lowers the gain of the R.F. (and/or I.F.) amplifier by increasing the negative C bias voltage on one or more R.F. (and/or I.F.) amplifier tubes. This is accomplished automatically by rectifying the R.F. (I.F. in a super het) carrier signal, then filtering out all but the resultant D.C. voltage, whose value is always proportional to the carrier level. This D.C. voltage is so applied to the grids of the R.F. amplifier tubes that increases in carrier level make the grids more negative. The R.F. amplifier gain is thus reduced enough to keep the R.F. amplifier output level essentially constant and prevent overloading of any tubes. Likewise, reductions in input carrier level result in less negative C bias voltages and greater amplification.

Use output meter

It is clearly impossible for A.V.C. to maintain the R.F. carrier level perfectly constant at the output of the R.F. amplifier, for it is the change in this level which produces the change in negative C bias voltage required for automatic volume control. With proper design, however, A.V.C. can keep the carrier level constant enough for all practical purposes. Exact control of carrier level is not required for the output voltage of a receiver can be increased or decreased about 40 per cent before the change can even be detected by the human ear. When working with A.V.C.-controlled circuits, then, never depend upon your ears as a judge of

performance; always use an output meter or some other type of indicator.

The action of a receiver having A.V.C. is best represented by overload curves like those in Fig. 1, which are obtained by plotting the R.F. input voltage of the receiver against the A.F. output voltage of the demodulator or second detector. You are already familiar with curve 1 in Fig. 1, which represents the overload characteristics of a receiver not having A.V.C. Notice that overloading takes place at an R.F. input voltage of about 100 microvolts in this particular example. When this receiver is equipped with A.V.C., its overload characteristic is represented by curve 2. You can readily see that with A.V.C., the receiver will handle all carrier signal levels below 100,000 microvolts (.1 volt) without overloading. On the other hand, however, this A.V.C. curve shows that the sensitivity of the receiver will be considerably lower with A.V.C. than without it for medium-strength signals (R.F. input voltages in the region between about 10 and 100 microvolts). Let us see how this drawback of A.V.C. is overcome in some receivers.

Delayed A.V.C.

Since ordinary A.V.C. circuits prevent the maximum amplification of the receiver from being effective at low carrier levels, and since A.V.C. action is not particularly required at these low carrier levels since they cannot possibly cause overloading, the receiver designer simply arranges the A.V.C. system so it is inactive until the carrier level reaches a definite and fairly

high value. This arrangement, which utilizes the full sensitivity of the receiver at low carrier levels, is known as delayed A.V.C.; the R.F. input voltage level at which A.V.C. action begins is called the threshold point or the threshold voltage. The overload characteristic curve for a receiver having delayed A.V.C. is represented by curve 3 in Fig. 1. Notice that it follows curve 1, that for a receiver without A.V.C., up to the threshold voltage, after which it levels out and effectively prevents overloading.

The A.V.C. voltage may be produced as a part of the action of demodulation, or may be produced independently by an extra stage in the receiver.

Simple diode detector circuits

A simple diode demodulator or detector circuit like that shown in Fig. 2A is not only capable of separating the modulation signal from the R.F. carrier, but can also produce the negative C bias voltage required for A.V.C. purposes. The modulated R.F. carrier signal at points 1 and 2 in the final I.F. amplifier stage passes through the final resonant circuits, L_1-C_1 and L_2-C_2 , and is applied directly to the plate and cathode of diode detector tube VT_2 . Condenser C_d offers no opposition to this signal, for it has a low reactance at radio frequencies.

The modulated R.F. carrier is rectified by the diode tube, since this tube allows current to pass only in one direction; the wave form of the current passing through this tube is therefore like that shown in Fig. 2B. The charging and discharging action of condenser C_d on this pulsating current passing through R_d serves to filter out the R.F. variations, making the voltage across R_d have the wave form shown in Fig. 2C.

Observe that this wave is made up of a D.C. component which is proportional to the percentage of modulation and the carrier level; if the values of C_d and R_d are properly chosen, this A.C. component will be an exact reproduction of the audio or video intelligence signal. This intelligence signal is fed into a low frequency amplifier (not shown in circuit) for further amplification by coupling the grid of the first low frequency amplifier stage to point 3 on resistor R_d through blocking condenser C_8 which blocks out the D.C. voltage component. The other connection to the low frequency amplifier is through the common chassis or ground.

Let us trace D.C. electron flow in the diode detector circuit of Fig. 2A. We start with the diode tube, for we know that electrons flow from the cathode to the plate. These electrons flow through coil L_2 in the direction indicated by the arrows, then enter terminal 3 of resistor R_d , making this terminal negative with respect to the other resistor terminal (4); terminal 3 is therefore

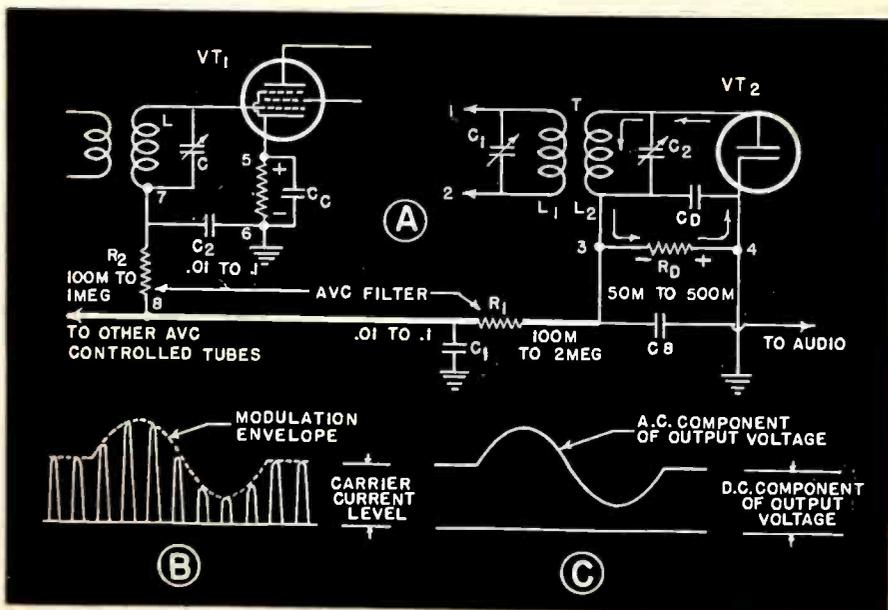


Fig. 2—Typical AVC circuit shown in A with polarity of voltages. B is the rectified carrier with superimposed audio signal. C is the audio signal before filtering.

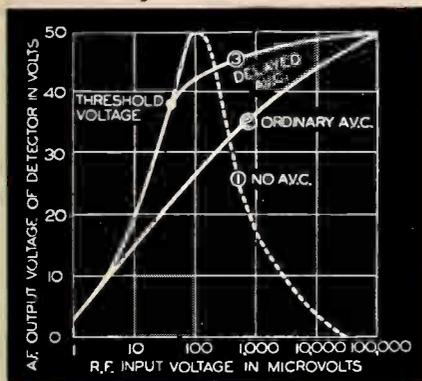


Fig. 1—Overload characteristics for 3 types of volume control. Note that set having no AVC quickly overloads if control setting is held constant.

negative with respect to chassis or ground. Furthermore, since the D.C. component of the voltage between terminals 3 and 4 is proportional to the level of the modulated R.F. carrier, these terminals may be used as a source for the desired A.V.C. voltage provided that the low frequency component is removed. Application of an A.F. signal to the grid of a controlled tube would place extra modulation on the carrier, a clearly undesirable condition; for this reason it is necessary to filter the A.V.C. voltage in a radio receiver in order to keep the A.F. signal voltage out of the A.V.C.-controlled stages.

Filtering the A.V.C. voltage

The fact that the control grids of R.F. amplifier tubes are negative, so that no D.C. grid current is drawn from the A.V.C. circuit, simplifies the problem of filtering the A.V.C. voltage. In Fig. 2A you will find two A.V.C. filters connected between point 3, at which both D.C. and A.F. components of voltage exist, and point 7 in the grid circuit of an A.V.C.-controlled stage, at which only the D.C. component of voltage is desired. These A.V.C. filters keep the A.F. signal voltage out of the A.V.C.-controlled stages of the R.F. amplifier.

Let us consider first the A.V.C. filter made up of C_1 and R_1 . Resistor R_1 is high in ohmic value and therefore offers considerable opposition to the flow of A.C. Whatever alternating current gets through R_1 finds a low-reactance path to ground through condenser C_1 . Resistor R_2 and condenser C_2 in the second A.V.C. filter provide additional filtering in the same way, making the voltage at point 7 a practically pure D.C. voltage. Condensers C_1 and C_2 naturally have no effect upon the D.C. voltage, and since no direct current flows through the filter circuit, resistors R_1 and R_2 likewise have no effect upon the value of D.C. voltage at point 7.

The flow of plate current through resistor R_c and condenser C_c in the A.V.C.-controlled stage containing tube VT, produces across R_c a D.C. voltage which makes point 6 negative with respect to the cathode; this is ordinarily automatic C bias action. The voltage drop across cathode resistor R_c is applied to the grid of tube VT₁ through the chassis path between grounded points 6 and 4, then through

R_d , R_1 , R_2 and coil L in turn, thus placing on the grid its normal C bias.

When an R.F. carrier signal is present in the receiver, the D.C. component of voltage produced across R_d acts in series with and aids the automatic C bias voltage. Thus the A.V.C. voltage and the automatic C bias voltage add together to make the grid of each controlled tube more negative than would be the case without A.V.C. An increase in carrier signal level boosts the D.C. component of voltage across R_d , driving the grid of each A.V.C. controlled tube more negative and thereby reducing the amplification of each tube sufficiently to keep the signal voltages in all stages of the receiver below the overload values. In an A.V.C. system a condition of equilibrium exists where the carrier level at the detector is kept just enough above the desired constant value to provide the required A.V.C. voltage.

R.F. return condenser

Condenser C_2 in the circuit of Fig. 2A has another important task, that of providing a path to point 6 for the R.F. voltage developed across Coil L. If this condenser were omitted, the R.F. current would have to flow through R_2 and C_1 to ground; R_2 would naturally offer considerable opposition to the flow of R.F. current, and there would also be the possibility that R.F. current would stray into circuits where it could cause interference and undesirable feed-back. Since the reactance of the C_2 is less than the reactance of the R_2 - C_1 path to ground, R.F. currents will take the C_2 path to ground.

The A.V.C. filter system made up of C_2 and R_2 can be and often is omitted, leaving C_1 and R_1 to do the A.F. filtering and R.F. isolating, particularly when only one tube is being controlled by A.V.C. When several R.F. amplifier tubes are being controlled, it is customary to use an A.V.C. filter similar to R_2 and C_2 in each controlled stage, making connections from each controlled stage to point 8. This serves to isolate the tube circuits from each other, preventing undesirable feed-back.

Time constant of the system

An A.V.C. System must prevent blasting when a receiver is tuned suddenly from a weak to a strong signal,

and must also compensate for more or less rapid fading effects. For this reason we are interested in knowing exactly how long it takes for the A.V.C. system to get into action when the R.F. carrier level is suddenly changed.

The D.C. component of voltage across R_d in Fig. 2A changes immediately after a change in carrier level, but it takes a certain amount of time for condenser C_1 in the first A.V.C. filter to charge or discharge to a new voltage value; this is because resistor R_1 offers considerable opposition to that flow of condenser current which produces a change in condenser voltage. It thus takes a certain amount of time for point 8 to assume new voltage values; technicians express this by saying that the A.V.C. action is time delayed.

Calculating time delay

The amount of time delay introduced by A.V.C. filter R_1 - C_1 depends upon the ohmic value of resistor R_1 and the capacity of condenser C_1 ; this time, when expressed in seconds, is known as the time constant of the A.V.C. filter system, and can be computed quite easily. In the case of Fig. 2A, this can be done by multiplying the ohmic value of R_1 in megohms by the capacity of C_1 in microfarads. The result will be the time constant of the circuit in seconds, or the time required for the A.V.C. voltage to reach approximately 63 per cent of its final new value after a change in carrier level. (It is standard practice among engineers to specify time constants for 63 per cent of the total change, this having proved more convenient than a time constant based upon a total change.)

The A.V.C. filter made up of R_2 and C_2 likewise introduces a time delay, which increases the time constant of the entire A.V.C. filter system. Remember—the time constant of an A.V.C. filter system is determined by the values of the resistors and condensers in the A.V.C. filter system.

A low time constant is naturally desirable in order to make the A.V.C. system respond as rapidly as possible to changes in carrier level; this can be secured by making the values of R_1 , R_2 and C_1 , and C_2 low, but doing this impairs the filtering action which is so essential to the operation of an A.V.C. system. Receiver design engi-

(Continued on page 41)

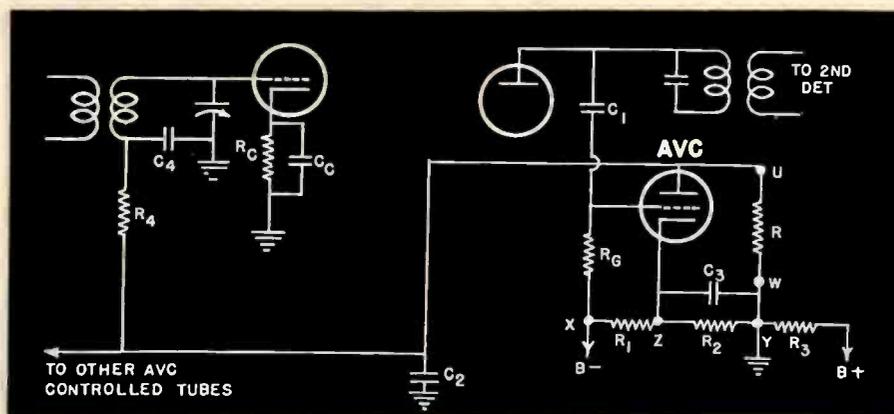


Fig. 3—Simplified circuit of an AVC system using a separate triode tube to vary the negative voltage drop across resistor R.

Service Notes

SELLING PARTS ON A NET-PRICE BASIS

By Yates M. Hoag, Utica, N. Y.

I wonder if it might not be worth while to explore the idea of marketing parts entirely on a net price basis and furnishing the service dealer with a suggested resale price, instead of setting up a list price, which means nothing to a lot of servicemen or the public and from which we figure a long string of discounts. Many servicemen contend they have to get more than the list price for the low-priced parts of today in order to overcome the trouble they have in charging their customers what their labor is worth. After all, a serviceman's profit is in his whole bill, regardless of what proportion of it is parts profit or labor. Anyway, why not take a realistic view of this situation and bring it out in the open?

Mail-order competition

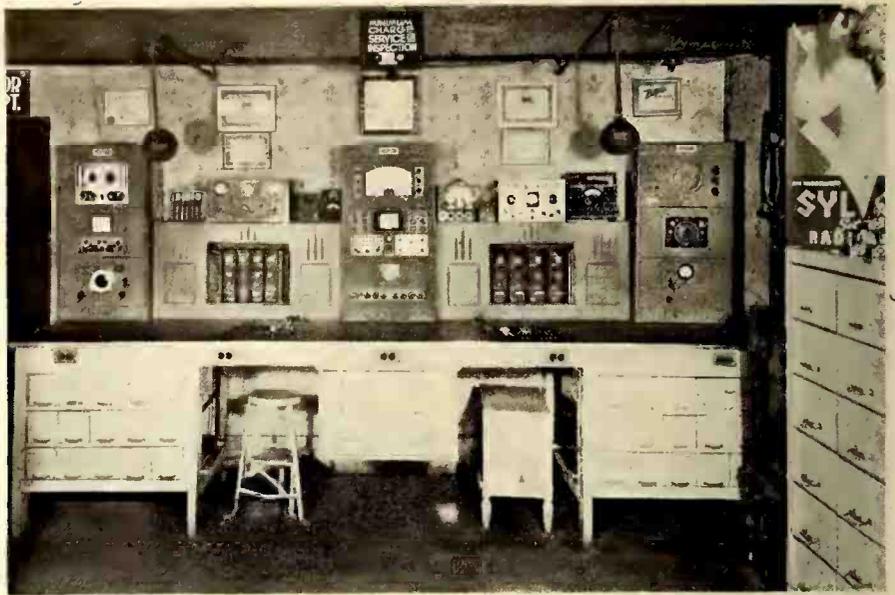
But if the public doesn't know the retail prices of parts, it certainly knows the wholesale prices. In spite of their protests to the contrary, mail-order houses seem to be doing their best to see that everyone has a catalog. No one need fear mail-order houses as a source of competition for service business, but as long as nothing is done about their ill-concealed efforts to quote prices to everybody in America, we are building our houses upon sand. I think the manufacturers have it in their power to put the pressure on these fellows. It is certainly time something was done about it.

The system of scaling net prices according to quantity purchased always seems to me the fairest way to insure larger jobbers the extra profit necessary for their greater overhead. As well, it assures the manufacturer an automatic guarantee of equitable profit on all sizes of orders.

As always, everybody right down the line must hammer home the advantages of Quality, Service and Reliable Manufacture.

Scratches on television tubes dangerous

While many servicemen may think that the only effect of scratches on television cathode-ray tubes is to mar the picture, such is not the case. The fine scratches greatly reduce the strength of the tube and make breakage more likely.



"Richmond's most complete Service Laboratory," is the slogan of Fox Radio Service, 435 S. 5th St., Richmond, Ind.

The scratches can be likened to those of glass cutters. An expert glass cutter needs only a small scratch to break thick window glass. If examined under a magnifying glass, the scratches will be seen to be V shaped, which means that excessively high strains are possible within the glass.

When placing the protective plate glass windows in front of the cathode-ray tubes, the serviceman should be extremely careful not to allow the surfaces to come in contact with each other. If the two surfaces touch while the plate glass is being slipped in, scratches are likely to be made. A thin piece of paper placed in front of the cathode-ray tube would protect it until the protective glass is properly inserted.

So for safety's sake as well as clear, sharp pictures, scratches must not be made. Handle with care at all times.

Antenna important

Arthur Van Dyck of RCA License Laboratory states, "The antenna is an extremely important factor in determining the quality of reception results, and it is highly unfortunate that during the first 15 years of broadcasting, the general public has been permitted to gain the impression that the antenna installation is relatively unimportant. Thousands of homes today have unsatisfactory reception, in ignorance of the fact that good results could be had merely by installation of a good antenna system.

"Distinction must be made between quiet and noisy neighborhoods. In an electrically quiet neighborhood, a single wire, one not too long or too short, with properly soldered connections, and with a leadin not too long, or rather not close to house wiring for much distance, will give results almost as good, if not as good, as any

complicated, scientific, all-wave antenna. If physical conditions require a leadin of considerable length, close to the house, a simple wire may be inferior to a good "noise-reducing" antenna, even in quiet neighborhoods.

"In noisy locations, and practically all urban homes are in noisy neighborhoods, particularly those in apartment houses, it is almost certain that a good noise-reducing antenna is needed for satisfactory reception. The vast majority of noise pickup occurs within 20 or 30 feet of the house wiring. The antenna can be kept away from house wiring, but the leadin can not. If the antenna wire itself can be kept away from all wiring, and the leadin has no pickup, good reception is likely in practically all cases."

Mike and Ike

Television is developing its own language. When an engineer reports he has seen a "ghost," for instance, he means a double image, not the conventional spook.

Then there are: "boom," a flare of light on the picture; "in the mud," not enough light; "blizzard head," a term for blonds because their hair reflects light. "Noise" means not sound distortion but streaks of light from unshielded electrical equipment. Sometimes they call it "snow."

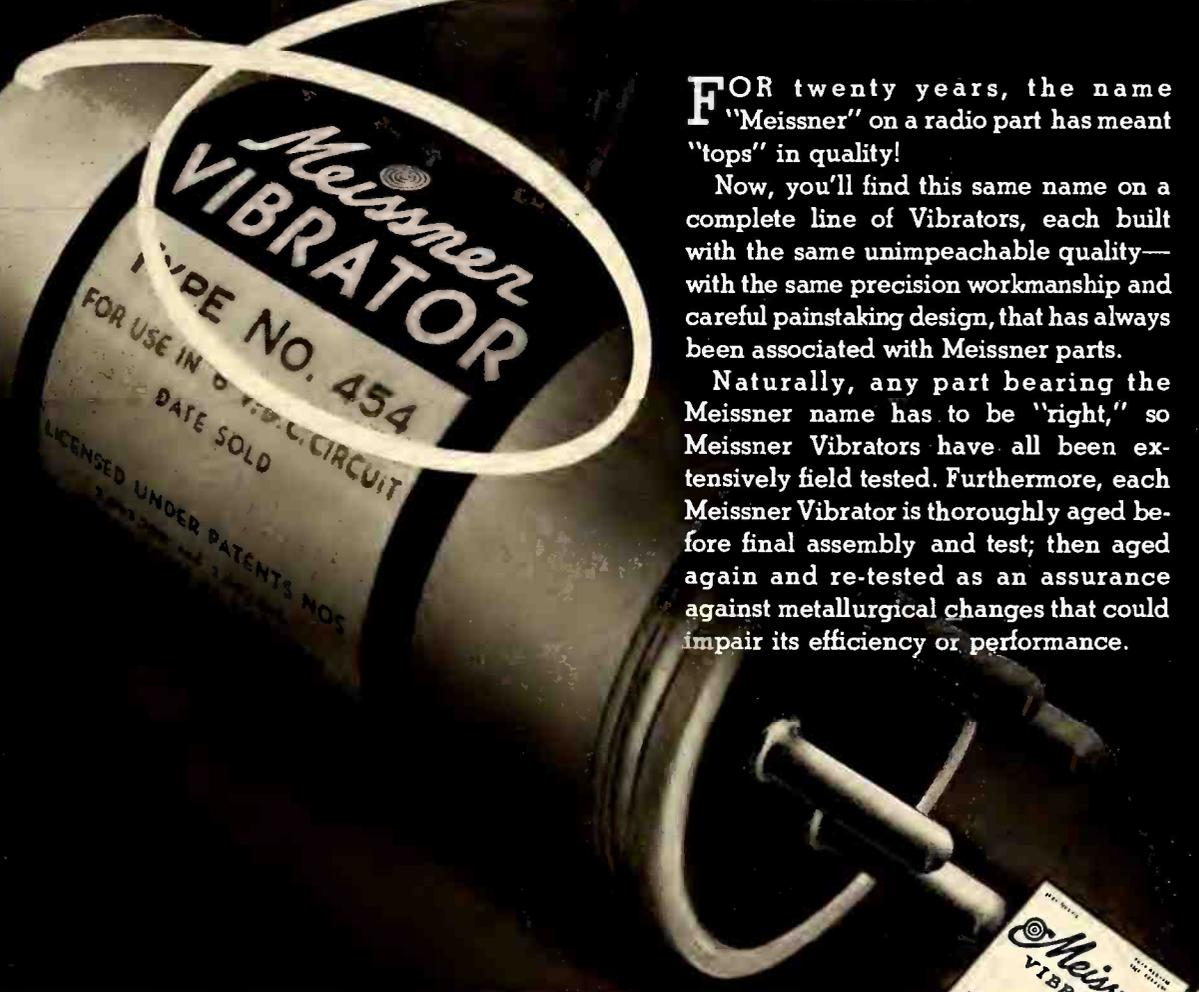
Television, too, has its equivalent of radio's familiar "mike." Its seeing eye, the iconoscope, is known as "ike." Of course, television broadcasts are to be known as telecasts. But whether the public will accept the word "video" as a name corresponding to audio, remains to be seen.

The Biggest Name in VIBRATORS

FOR twenty years, the name "Meissner" on a radio part has meant "tops" in quality!

Now, you'll find this same name on a complete line of Vibrators, each built with the same unimpeachable quality—with the same precision workmanship and careful painstaking design, that has always been associated with Meissner parts.

Naturally, any part bearing the Meissner name has to be "right," so Meissner Vibrators have all been extensively field tested. Furthermore, each Meissner Vibrator is thoroughly aged before final assembly and test; then aged again and re-tested as an assurance against metallurgical changes that could impair its efficiency or performance.



Mail the coupon today or ask your Parts Jobber for your FREE copy of the Vibrator Replacement Guide. With its aid you can tell in a minute exactly which vibrator to use in what set for top efficiency.



Meissner

MT. CARMEL, ILLINOIS

COMPLETE RECEIVER KITS • REPLACEMENT COILS • RECEIVER MODERNIZING PARTS, ETC.

MEISSNER MFG. CO.

Mt. Carmel, Illinois, Dept. T-5

FREE copy of the Vibrator Replacement Guide is to be mailed to the address given below.

Name

Address

City State

"A FAMOUS NAME FOR TWO DECADES"

Opportunities in Selling Sound

Summer gatherings, athletic events, dances, political meetings, country picnics within 75-mile radius, offer sales and rental opportunities for live sound organization.

There is an old saying that the early bird catches the worm, and this truth can be applied to the sound field.

Ernest Dolfen and Kenneth Clark, owners of the Madison Radio Shop, Madison, Wis., concentrating chiefly on service work, saw possibilities back in the twenties in sound system work and made investigations. They have the distinction of installing the first sound system in Madison, and have carried right on into a profitable volume of work in the years that followed.

Today Dolfen and Clark and their staff handle not only a lot of sound and radio work from the city of Madison, but they also get sound system jobs from a radius of approximately 75 miles. In the early days of sound system work, these boys got calls to go into Iowa and neighboring states to put up sound systems, but they have restricted their territory since then.

TACKLE TOUGH JOBS

Mr. Dolfen states that the firm's sound system work constitutes about 60 per cent of the total volume at the present time. The firm handles practically all tough sound-system work for dealers in this area. Many of such dealers, coming to Madison with sound-system problems, bring along

five to ten radio sets, too, with which they have had trouble. Thus the Madison Radio Shop gets a lot of repair work from distant dealers largely through contacts made via the sound system venture.

The firm has a sound car which is kept very busy in Madison with "bal-lyhoo" advertising on the streets for baseball and football games, political campaigns, dances, merchants' sales events and the like. A city ordinance in Madison permits street sound-car advertising seven days a week between the hours of 12-1 p.m. and 5 to 7 p.m. A charge of \$5 an hour is made for such advertising, with a number of clients all on the same program. This sound car carries the name of the radio shop and other announcements and the publicity gained in this manner brings in additional sound work from time to time.

COME IN BUNCHES

The shop recently had three separate jobs to handle in one day on sound system installations and operation, each of which was 75 miles distant. Mr. Dolfen reports that everything went okay, but it took a lot of planning to make things run smoothly. One of the hardest jobs the firm ever had to handle was at a country fair where wires had to be buried under-

ground because of the many horses and cattle tramping about.

One hookup in Madison which required intensive work was on the lake front where the communications line was over a mile long and poles a half city block apart had to be erected, after which there was the problem of cutting out the noise of motor boats.

On simple hookups at country picnics, political gatherings, and the like, the Madison firm charges \$25 and expenses. In instances when the hiring parties wish to operate a system themselves, an equitable charge is worked out on this basis.

\$5 TO \$10 RENTALS

Where people wish to have a small speaker and mobile unit a charge of \$5 a day is made. Installations in dance halls for use of orchestras are rented out at \$10 a night.

"The number of permanent installations in this area is increasing," states Mr. Dolfen. "Many large hotels and dance halls, etc., find that they can make good use of permanent systems instead of renting them for special occasions. This means additional sales for us. We find that in most cases we get first chance to bid in and sell a job, because we have been in the sound game for so long, have a reputation for good work at reasonable prices, and because we have made so many contacts through the years in this territory."

The Madison Radio Shop also handles the sound for the inaugurations and events at the state capitol in Madison, which thousands of people attend. Many folks come up to the man in charge with future leads.

Newspaper publishers see facsimile

Printed bulletins, photographs, and drawings transmitted from the RCA Building to RCA-Victor receivers in the Waldorf-Astoria in New York City attracted wide attention at the convention of American Newspaper Publishers Association April 24-27.

Pages of the radio edition of the *St. Louis Post Dispatch*, which uses the RCA-Victor scanning and receiving apparatus for its daily facsimile edition, were transmitted to show publishers the possibilities of facsimile in providing a supplementary news service for their readers.



Outdoor meetings, Fourth-of-July gatherings, picnics, athletic meets, are all first-class opportunities to sell or rent sound jobs.

New Things



Belmont super

★ Six tube AC-DC super-het using 150 milliamp tubes incorporates built in antenna and 5 station automatic tuning. Belmont Radio Corp., 1257 Fullerton Ave., Chicago.—RADIO & TELEVISION TODAY.

Recording blank

★ Flexible non-inflammable recording blank manufactured by lamination process. Will not develop dry or hard spots or dehydrate. Uniform in thickness, impervious to temperature. David Bogen Co., Inc., 663 Broadway, New York, N. Y.—RADIO & TELEVISION TODAY.

Combination power-plant

★ "Pincor" AC-DC power plant supplies 300 watts, 110 volts AC, also 200 watts, 6 volts DC, 250 watts 12 volts DC or 325 watts 32 volts DC. Available with filter and ignition shielding for radio operating. Gen-E-Motor Corp., 466 W. Superior St., Chicago.—RADIO & TELEVISION TODAY.

Furniture polish

★ Furniture polish made to the same formula as that used in RCA-Victor's cabinet factory. Excellent cleaning as well as polishing properties. Preserves the lustrous finish on radio and Victrola cabinets. 12 ounce bottle 49 cents. Half-gallon can \$1.50. RCA Mfg. Co., Front & Cooper Sts., Camden, N. J.—RADIO

Theatrical sound projector

★ 16 mm. arc lamp sound projector is designed for auditorium and theatrical use. Incorporates 35 mm. mechanical features including sprocket intermittent system. Forced draft ventilation prevents heat at picture aperture from high intensity arc-lamp. Delivers 20 x 24 ft. picture at distance of 125 feet from screen. 4000 ft. 16 mm. reel capacity. DeVry Corp., 1111 Armitage Ave., Chicago.—RADIO & TELEVISION TODAY.

Probe light

★ "Tiny Lite" operates from electric outlet AC or DC. 110-120 volt light comes with 6 feet of cord, lists \$1.50. 220 volt with 12 feet of cord is \$1.75. Eagle Electric Mfg. Co., Inc., 59-79 Hall St., Brooklyn, N. Y.—RADIO & TELEVISION TODAY.



THIS HIGH FIDELITY 4 WAY
Federal Recorder
IS THE NEW SENSATION IN
Sales AND Profits

● Schools, Dance Bands, Radio Talent, Clubs, Amateur Recording Studios, Home Movie Fans—There's an unlimited field for this easy to operate, moderate priced Equipment!



As a modern, scientific aid to learning, the Federal Recorder is in big demand in schools of music, language, public speaking, and in all departments of public school work. Wide use in recording studios for private recording.

● It's sweeping the country,—a new sensation,—a new thrill,—recording on the Federal, so superior, so complete, so easy to operate, so moderately priced. A perfect recorder; an electric phonograph; a licensed radio; a public address system, all in one super-efficient unit, priced within the easy reach of every school, professional outfit, and thousands of homes.

By the simplest process, the Federal records with amazing fidelity anything spoken, sung, or played into the microphone. The record is instantly playable, without lifting from the turntable.

No technical nor radio knowledge is necessary in selling or operating Federal Recorders. Ten minutes with the simple directions, and you can make a perfect demonstration. Sound-proof room or recording laboratory not required. An exclusive Federal feature of self-equalization gives perfect recordings anywhere under any working conditions. Worm gear drive cutting arm; standard 78 RPM, universal speed. [For professional studio work, 2 speed machine supplied.] Records playable on any electric phonograph. Anyone can operate this remarkable machine. The simplified control desk makes it as easy as running a phonograph or tuning a radio.

BIG SUPPLY BUSINESS

Almost unlimited are the sources of Federal Recorder sales,—and profits. Remember, too, that every Federal Recorder installation means continued repeat business in disks and supplies.

Recorders are not new. The enormous recorder market is known and established. But the Federal Recorder is new, and its efficiency, high fidelity, simplicity, and moderate price release a new and greater market, the enormous wealth of which has scarcely been touched. Get in at the very beginning of this modern trend that is sweeping the country. Write today for your free book on Federal Recorders. Get the whole story first hand. Get yourself set now with Federal for a sweeping business with enormous profit. Write today, sure.

FEDERAL RECORDER CO., INC.

Dept. 5754 630 S. Wabash Ave., Chicago, Ill.



Dance and radio bands, singers, dramatists, use the simple to operate, faithful Federal Recorder "their severest critic". Above, Jack Teagarden at rehearsal.



This unique Federal cabinet converts the portable model into a handsome console, of modern design, walnut finish, for home and studio use.



Big Profits in Perma Disk Business

Perma Disks have licked the greatest annoyance in amateur recording, chip fouling of cutting stylus. Little or no brushing required. Big demand in radio stations, advertising agencies, homes, schools, by professional and amateur musicians. Heavy exclusive-formula coating prevents warping, slipping. Unwavering uniformity. Makes perfect pressings. Non-deteriorating. Made in 6, 8, 10, 12 and 16-inch sizes, also special larger sizes, at prices substantially below the average level. A demonstration of this amazing new Perma Disk will convince any prospect. Write direct for full information and samples. One test will convince you of its extraordinary preference. Write today.

Service Notes

New RSA directors

Results of the annual election to the board of directors of RSA are announced by tellers Harold Cunningham, Winnetka, Ill.; Felix J. Grumann, Chicago; and Donald H. Stover, Freeport, Ill.

Elected to serve until June 1, 1942, were: George D. Wooley, Rock Island,

Ill.; Fred Olson, Green Bay, Wis.; Joseph A. Cole, Detroit, Mich.

To serve until June 1, 1941: Frank L. Clark, Nashville, Tenn.; Winston B. Jones, Washington, D. C.; Carl A. Rauber, Somerville, N. J.; George F. Duvall, Brooklyn, N. Y.; Norman W. Smith, Jamestown, N. Y.

To serve until June 1, 1940: Carl Williams, Phillipsburg, N. J.; Ingvar Paulsen, Roxbury, Mass.



Ostman heads Farnsworth Service

F. B. Ostman has been named manager of service activities for Farnsworth Television & Radio Corporation by E. H. Vogel, vice-president of that organization. Oddly enough, the first eight years of Mr. Ostman's business experience were in the banking field with J. P. Morgan & Company but, in 1923, "Ted," as he is generally known, decided to capitalize on his many years as an advanced amateur radio operator and organized the service department of A. H. Grebe & Company, one of the early leaders in the field.

In addition to management of service work his activities with Grebe for the next seven years also included that of assistant sales manager. He



1,200 New York servicemen attending the RSA-Weston television installation-service demonstration heard talks by Norman Hall, Dumont Laboratories; J. K. Whittaker, RCA Institutes; and O. J. Morelock, Weston Electrical Instrument Corporation, Newark, N. J.

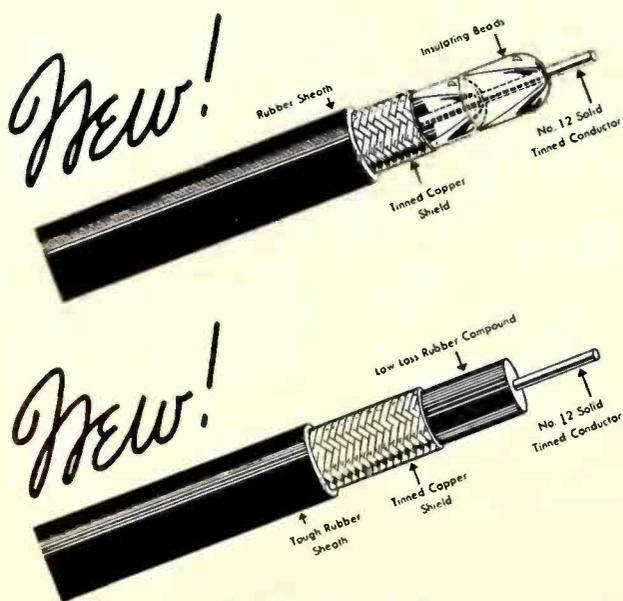
Radio or Television-

-and it pays you to sell . .

To Radio Servicemen and Dealers:

You know very well that "any old wire" won't do for satisfactory service work. You as radio specialists understand how important it is that the characteristics of the replacements meet the requirements of the particular job. Bad wire is never a good alibi when your job goes Haywire.

That's the reason Belden has maintained a strong engineering staff since the very inception of Radio—a staff that has worked hand in hand with the industry perfecting *specialized* wire for the most exacting radio requirements. That's the reason, too, that the important wire characteristics you need to know are



Co-Axial Cables by Belden

8217 (Above) With unique low loss insulating beads and weather-proof vulcanized rubber sheath.

8216 (Below) With Belden low loss rubber compound.

DON'T GO "HAYWIRE" -

joined the service personnel of RCA-Victor in 1930 and became service manager of the successor company, RCA Manufacturing Company, in 1935. This led to his organizing the service arrangements in connection with RCA's Television Field Testing Program in 1936, so that he is among the best-posted television experts in the important phases of service and installation.

Program for RSA convention

Following is the schedule of events at the second annual convention of Radio Servicemen of America, to be held at the Stevens Hotel, Chicago in June.

Wednesday & Thursday,
June 14 & 15, 1939

10:00 A.M. Annual meeting of the Board of Directors of RSA.

Friday, June 16

3:00 P.M. Facsimile lecture and demonstration. Station WGN.

4:00 P.M. "Test Equipment for Television." Weston.

7:00 P.M. Annual RSA Membership Meeting.

8:00 P.M. Television theoretical lecture. RCA Institutes

Saturday, June 17

2:00 P.M. Peak Limiting Amplifiers. Thordarson.

3:00 P.M. "Radio Noise," demonstration and lecture. Tobe-Deutschmann.

4:00 P.M. "Modern Service Instruments." Supreme Instruments.



Vinton K. Ulrich, right, shown here with his new boss, Lloyd Coffin of Hytron Corp., will continue his Dynamic Testing articles for Radio & Television Today.

7:00 P.M. "What Television Will Mean to the Serviceman."

8:00 P.M. "Tube Developments" Hygrade Sylvania.

New advertising and sales manager of the Hytronic Laboratories is Vinton K. Ulrich, announces G. S. Hallam, general sales manager of the Hytron Corp. Mr. Ulrich goes to his new position with actual experience in sales and service, a specialized technical training at Massachusetts Institute of

Technology and a background gained from designing and building radio transmitters and receivers.

For the last four years Vin has been associated with RADIO & TELEVISION TODAY in the capacities of service editor and recently managing editor. His articles on Dynamic Testing in RADIO & TELEVISION TODAY, have caused much interest in the trade and many servicemen are using the ideas to good advantage. Mr. Ulrich will make his office at the Hytron plant, 76 Lafayette St., Salem, Mass.

it's still done with WIRES

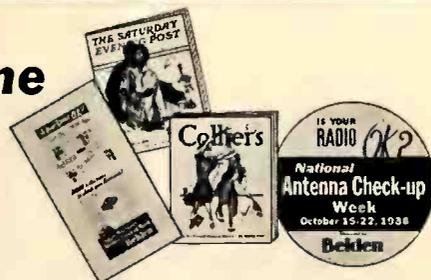
The Nationally Advertised Wiring Line

shown with each number in the Belden catalog. Their consistent quality helps you eliminate "Haywiring."

Belden is using national advertising to warn set owners against the Haywire repair work that only hurts your legitimate business—and gives a black eye to the radio industry.

Why not use Antenna Systems—Hook-up Wire—Transmission and Microphone Cable that's worthy of your effort—wire you know will do its part to give service and satisfaction. Don't go HAYWIRE—Specify Belden.

Belden Manufacturing Co., 4613 W. Van Buren St., Chicago, Ill.



Remember National Antenna Check-up Week?

Remember the posters, the buttons, and the big national advertising program to sell set owners on all kinds of radio service—by radio servicemen?

It was sponsored by Belden, of course. Belden's National Advertising continues with a regular schedule during 1939. It will help you sell better wiring and profitable antenna installations.



Go Belden THE RADIO WIRING LINE



Service Notes

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To serve until June 1, 1940: Carl Williams, Phillipsburg, N. J.; Ingvar Paulsen, Roxbury, Mass.



Ostman heads Farnsworth Service

F. B. Ostman has been named manager of service activities for Farnsworth Television & Radio Corporation by E. H. Vogel, vice-president of that organization. Oodly enough, the first eight years of Mr. Ostman's business experience were in the banking field with J. P. Morgan & Company but in 1923, "Ted," as he is generally known, decided to capitalize on his many years as an advanced amateur radio operator and organized the service department of A. H. Grebe & Company, one of the early leaders in the field.

In addition to management of service work his activities with Grebe for the next seven years also included that of assistant sales manager. He

joined the service personnel of RCA-Victor in 1930 and became service manager of the successor company, RCA Manufacturing Company, in 1935. This led to his organizing the service arrangements in connection with RCA's Television Field Testing Program in 1936, so that he is among the best-quoted television experts in the important phases of service and installation.

Program for RSA convention

Following is the schedule of events at the second annual convention of Radio Servicemen of America, to be held at the Stevens Hotel, Chicago in June.

Wednesday & Thursday, June 14 & 15, 1939

10:00 A.M. Annual meeting of the Board of Directors of RSA.

Friday, June 16

3:00 P.M. Facsimile lecture and demonstration, Station WGN.

4:00 P.M. "Test Equipment for Television," Weston.

7:00 P.M. Annual RSA Membership Meeting.

8:00 P.M. Television theoretical lecture, RCA Institutes.

Saturday, June 17

2:00 P.M. Peak Limiting Amplifiers, Thordarson.

3:00 P.M. "Radio Noise," demonstration and lecture, Tope-Deutschmann.

4:00 P.M. "Modern Service Instruments," Supreme Instruments.



Vinton K. Ulrich, right, shown here with his new boss, Lloyd Coffin of Hytron Corp., will continue his Dynamic Testing articles for Radio & Television Today.

7:00 P.M. "What Television Will Mean to the Serviceman"

8:00 P.M. "Tube Developments" Hygrade, Sylvania.

Technology and a background gained from designing and building radio transmitters and receivers.

For the last four years Vin has been associated with Radio & Television Today in the capacities of service editor and recently managing editor. His articles on Dynamic Testing in Radio & Television Today, have caused much interest in the trade and many servicemen are using the ideas to good advantage. Mr. Ulrich will make his office at the Hytron plant, 75 Lafayette St., Salem, Mass.

New advertising and sales manager of the Hytron Laboratories is Vinton K. Ulrich, announces G. S. Holman, general sales manager of the Hytron Corp. Mr. Ulrich goes to his new position with actual experience in sales and service, a specialized technical training at Massachusetts Institute of



1,200 New York servicemen attending the RSA-Weston television installation-service demonstration heard talks by Norman Hall, Dumont Laboratories; J. K. Whittaker, RCA Institutes; and O. J. Morlock, Weston Electrical Instrument Corporation, Newark, N. J.

Radio or Television - it's still done with WIRES

— and it pays you to sell —

To Radio Servicemen and Dealers:

You know very well that "any old wire" won't do for satisfactory service work. You as radio specialists understand how important it is that the characteristics of the replacements meet the requirements of the particular job. Bad wire is never a good alibi when your job goes Haywire.

That's the reason Belden has maintained a strong engineering staff since the very inception of Radio—a staff that has worked hand in hand with the industry perfecting specialized wire for the most exacting radio requirements. That's the reason, too, that the important wire characteristics you need to know are

the Nationally Advertised Wiring Line

shown with each number in the Belden catalog. Their consistent quality helps you eliminate "Haywiring."

Belden is using national advertising to warn set owners against the Haywire repair work that only hurts your legitimate business—and gives a black eye to the radio industry.

Why not use Antenna Systems—Hook-up Wire—Transmission and Microphone Cable that's worthy of your effort—wire you know will do its part to give service and satisfaction. Don't go HAYWIRE—Specify Belden.

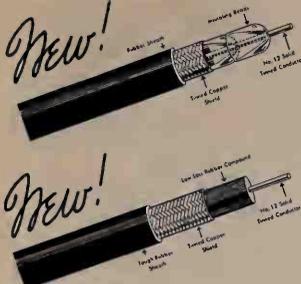
Belden Manufacturing Co., 4613 W. Van Buren St., Chicago, Ill.



Remember National Antenna Check-up Week?

Remember the powers, the buttons, and the big national advertising program to sell set owners on all kinds of radio service—by radio servicemen?

It was sponsored by Belden, of course. Belden's National Advertising continues with a regular schedule during 1939. It will help you sell better wiring and profitable antenna installations.



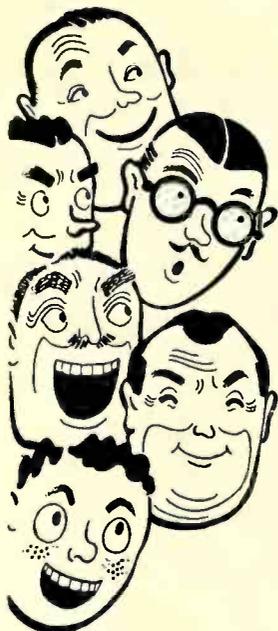
Co-Axial Cables by Belden

8217 (Above) With unique low loss insulating beads and weather-proof vulcanized rubber sheath.

8216 (Below) With Belden low loss rubber compound.

DON'T GO "HAYWIRE"—

GO Belden THE RADIO WIRING LINE



COME ON LET'S GO!

to the Mighty 1939

RADIO PARTS INDUSTRY SHOW

Grab that extra shirt—let's go—the show's the thing! It's the one and only big annual event of the year—everyone in Radio Parts will be there! You'll get a complete personal picture of your industry—you'll see with your own eyes what's what and what's new! You'll shake hands with Manufacturers, Jobbers, Engineers, Sound Specialists, Servicemen, Retailers, and Amateurs—from all parts of the world, in Radio Parts City. You'll get interesting "dope" that will tell you what's ahead for you. You'll really benefit!



1940's Product Parade

Up and down the streets of Radio Parts City—a deluge of new exhibits, new products, new ideas—latest developments and achievements in Service Apparatus, Ham Gear, P. A. Equipment, and other Radio Parts—all vitally important to your business. Be there! Don't Miss It!

Real Television Demonstration

Complete demonstration of RCA Television as now operating on regular schedule in New York. You will see not "what's new" in Television but actually *what's what* in Television—during the entire Show period from Wednesday through Saturday. Television is definitely here—Get real first hand information about it. It means a lot to you. ★ Facsimile (another form of Television) on demonstration Saturday, June 17.

Convention of Radio Servicemen of America opens Friday, June 16, with Special Lectures, Meetings and Exhibits.



Special Days For Everyone

It's all streamlined for you—Two days will be devoted to Jobbers—and two days to Servicemen, Retailers, Amateurs and others in the trade—that means fullest attention and maximum benefit for everyone at the show! (Look at the Calendar.) All Booths manned by technical men on Servicemen and Amateur Days.

1939		JUNE		1939	
WED	THU	FRI	SAT		
14	15	16	17		
<p>OPEN these two days to Jobbers, Manufacturers, Agents, and Manufacturers' Engineers only.</p>			<p>OPEN on these two days to Servicemen, Amateurs, Retailers, Students and others in the trade.</p>		

Stevens Hotel-Chicago

National Radio Parts Trade Show

Sponsored by Radio Manufacturers Association and Sales Managers Club
★ Executive Office—53 West Jackson Boulevard, Chicago, Illinois



Low-down on "battery-portable" batteries

"Battery portables" have proven a real ray of sunshine to radio dealers, but "battery-portable" batteries look like storm clouds!

Pressure is being put on battery manufacturers for all sorts of special size and shaped batteries, for no constructive reason, and without regard for the stock-keeping complications, or the investment, or the slow turnover of the dealer who has to stock the resulting crazy assortment.

At least one manufacturer has built a portable around a battery now difficult, and soon impossible, to obtain. Customers will bless the dealer who sold them that set, and perhaps the manufacturer, too.

Heat, too, from the radio tubes, and rectifier, within the cabinet, may cause the battery to swell, and to leak, and greatly shorten its expected life. A temperature rise of 30 degrees within the cabinet, during summer use is almost certain to cause trouble.

Every dealer, if he is interested in his customer's good-will and every manufacturer and wholesaler, too, should give serious thought to these battery problems. Here are three rules:

WATCH THESE POINTS

1. Use standard batteries, to keep dealer's stock as small and as fast turning as possible, and provide the customer with widest possible replacement accessibility.
2. Be sure the temperature rise inside the cabinet is low enough not to damage the battery.
3. Be sure the customer will be able to get a replacement battery without difficulty, most anywhere. And don't give the customer a battery guarantee of hours of use.

SELLING "FAMILY" RADIO

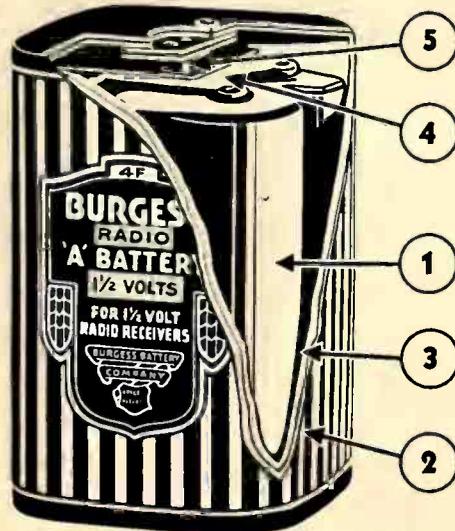
Manufacturers are now helping dealers to merchandise radios for several rooms in the home, in a single transaction. Four receivers and a phonograph attachment have now been combined in a "package" for families who haven't too much money to spend. Nine dollars worth of records are also included in this "family radio" plan announced by RCA-Victor.

Part of the set is a console, for use in the main living room, and to use with the phonograph. One of the table models is chest-type, the other two are smaller sets in tiny plastic cabinets.

Besides the advantage of making a higher-unit sale, the plan introduces to the customer the pleasures of recorded music, and brings people regularly back into the store for more records. This trend will also mean bigger antenna jobs, and more tube replacement sales.



are YOUR GUARANTEE of Battery Satisfaction and Profit



—and here is the inside story

Burgess led with battery quality—years ago when all sets were battery operated. And, later too, when commercial equipment had to have dependable portable power. And NOW Burgess Batteries—actually manufactured in the Burgess factories—have profited by these years of experience. They more than meet modern service requirements.

Here are construction details of two important portable batteries in the complete Burgess line.

No. 4F

The Burgess 1½-v dry "A" battery. Rated 40 watt-hours.

1. Efficient cells of heavy drawn zinc.
2. Outer case sized to resist moisture. Heat welded.
3. Absorbent inner lining.
4. Welded plate, making rugged positive connection.
5. Socket prongs individually insulated with pure gum rubber.

No. B30

The Burgess 45-volt "B" battery. Weight 3 lbs.

1. Rugged outer container.
2. Duplex socket—fits both small 3 prong plug and large R.M.A. plug.
3. Moisture-proof insulated cell partitions.
4. Moisture-proof inner container.
5. One-piece drawn seamless zinc cans.
6. Inner sealing compound reinforces battery and connections.

Business in portables is great! You'll be selling more batteries this season. It will be profitable business if those batteries give satisfactory service.

Stock and sell dry batteries by Burgess. They're light in weight, small in size, LONG in service. What's more, they are your guarantee of satisfaction and profit. Send coupon for information.



BURGESS

Batteries for Portables

BURGESS BATTERY COMPANY, Freeport, Ill.

Please send complete information about Burgess Batteries for portable radios.

Name _____

Company _____

Address _____ Town _____ State _____

Further Proof The RIDER Chanalyst Saves Time

"I am so pleased with the Chanalyst I am enclosing a case record of a masterpiece of time saving with the signal tracing method,"



Says STANLEY S. STEVENS
of Bloomsburg, Pa.

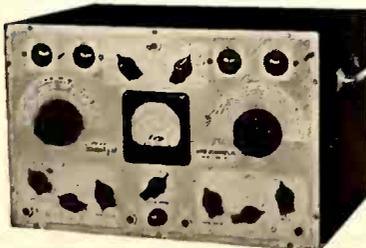
"The Set—A 1939 Buick Car Radio.

"The Complaint—Very Weak and Distorted Reception.

"A preliminary test showed all plate and screen voltages normal. The Chanalyst was applied at antenna circuit on a 700 KC signal and R.F.-I.F. test showed normal gain up to secondary circuit of 2nd I.F. transformer. With a normal signal at the plate of the I.F. tube the probe was moved to the diode plate lead of 6R7G second det. At this point the signal virtually disappeared, indicating trouble in the I.F. transformer. At first this indication was confusing because during the signal tracing check the presence of AVC on all tubes so controlled was noted, also an ohmmeter check showed continuity of the diode secondary winding. Upon close inspection of the wiring it was noted that signal voltage for AVC operation was taken off at primary winding of the I.F. coil through a condenser and rectified by separate diode plate of 6R7G. The transformer was replaced and set operated O.K. This case is positive proof that the Chanalyst can be relied on where all other tests fail. A complete check was made and defective coil spotted in less than 15 minutes. Other methods would probably have required hours with the confusing indications encountered."

The Signal Tracing System of Servicing as employed by The Chanalyst is applicable to both TELEVISION and Radio

NET PRICE
\$107⁵⁰



SERVICE INSTRUMENTS, INC.
404 Fourth Avenue, New York City
Foreign Division—147 W. 45th Street, N. Y.
Cables—"Servicin"

LET'S LOOK AT

The Record

A Builder of Store Traffic and Added Sales

Records continue to increase their popularity and many a radio dealer is missing a good bet by not merchandising records.

There is nothing that the radio store needs more than traffic. Records are good traffic builders, for no lover of good music ever has enough, and he constantly comes back to buy more and more.

Popular swing-music captures the fancy of the younger people, whom one sees tramping into record stores after high school, buying records, portable phonographs and record players.

In these young "swing addicts" of today you have the home-makers and radio buyers of tomorrow. Get their patronage and friendship now, and you have some customers for the future, too.

"RECORD OF WEEK"

With records, there are many dealers who have built up a fine, low-cost business on the basis of the "record of the week" and the "album of the month" patterned after the highly successful "Book of the Month Club" whereby records, albums of the customers' selection, are sent at stated periods to customers who join the club, and obtain a "record bonus" at Christmas, if their purchases exceed a stated amount.

Records carry large combinations, record players, and portable combinations right along with them, too. Many a record-loving youngster, coming to the dealer for records, and constantly exposed to the store's selling displays, will influence the family to make its next console radio, a radio-phonograph combination.

Particularly during the summer, these record-attracted youngsters will add to the sales of portable phonographs, record players and portable combinations for summer cottage or camp, garden, porch, or picnic use.

Yes, indeed, records are proving to be traffic-builders, sales-builders, and good-will builders, in more and more radio stores in all parts of the country.

Better look into records, and give their opportunities for helping your business serious consideration. They're coming back, stronger than ever, because they provide "the music you want when you want it" and people young and old, want just that.

Wax worth watching

FRANCES LANGFORD with Harry Sosnik and his orchestra singing It's All Yours and This Is It—Decca 2376.

OZZIE NELSON and his orchestra playing Strange Enchantment with VC by Rose Anne Stevens, and That Sentimental Sandwich, with VC by Mr. Nelson—Bluebird B10196.

HAL KEMP and his orchestra playing Three Little Fishes with VC by The Smoothies, and The Chestnut Tree with VC by "Saxie" Dowell—Victor 26204.

MARY MARTIN with Woody Herman and his orchestra singing Il Bacio and Our Love—Decca 2377.

TONY MARTIN singing Begin the Beguine and September Song—Decca 2375.

HORACE HEIDT and his Musical Knights playing Beer Barrel Polka and Pizzicati Polka—Brunswick 8354.

KAY KYSER and his orchestra playing Three Little Fishes with VC by Ginny Simms and Show Your Linen, Miss Richardson with VC by Sully Mason—Brunswick 8358.

EDDIE DELANGE and his orchestra playing Beer Barrel Polka with VR by Elisse Cooper and chorus, and Serenade to a Wildcat—Bluebird B10199.

BING CROSBY with John Scott Trotter and his orchestra singing Little Sir Echo and Poor Old Rover—Decca 2385.

GLENN MILLER and his orchestra playing And the Angels Sing with VR by Ray Eberle and The Chestnut Tree with VR by Marion Hutton and band—Bluebird B10201.

Times Appliance Co., Inc., 333 W. 52nd St., New York, N. Y., have been appointed distributors in the metropolitan area on Columbia, Brunswick, and Vocalion records and certain other American Record Corp. products. A special record department with demonstration booths and other customer conveniences, has been prepared on the fourth floor of their building.



The Schloss Hepplewhite album cabinet holds 250 records or 20-twelve pocket albums. Finished in walnut or mahogany.

(Continued from page 31)

neers therefore resort to a compromise which uses filter system parts large enough to provide satisfactory filtering and at the same time small enough to provide a sufficiently short time delay. A time constant of one-fifth to one-tenth of a second for the A.V.C. filter system is considered satisfactory by most engineers for the prevention of blasting and reduction of fading.

The value for condensers C_1 and C_2 in an A.V.C. filter system have become essentially standard among receiver designers. A capacity of .1 mfd. for C_1 and .05 mfd. for C_2 are generally used, for these condensers are inexpensive and at the same time have a reactance of less than 20 ohms for any I.F. or R.F. signal which may be attempting to flow from resonant circuit L-C into the diode load. A .1 mfd. condenser, when used with a 1 megohm resistor, gives a time constant of one-tenth second; the filter action of these parts is such that they will reduce the strength of the lowest audio frequency signal which tries to get into the R.F. and I.F. amplifiers about 100 times. Two of these filter combinations would reduce the time constant to one-fifth second and would increase the audio frequency filtering factor to 10,000 times. Ordinarily you will find that the values of resistors R_1 and R_2 range from .1 to 1 megohm, while condensers C_1 and C_2 range from .02 to .1 mfd. Do not be surprised, however, if you occasionally encounter quite different values than these; circuit conditions and the opinions of engineers vary widely. Changing the values of A.V.C. filter resistors or condensers affects the speed of A.V.C. action.

Separate A.V.C. tubes

Before the diode detector came into widespread use, a triode tube in a separate A.V.C. stage was commonly used to provide the required A.V.C. voltage. One basic circuit for this A.V.C. arrangement is shown in Fig. 3; since a great many of these older receivers are still in use, it will be of value to know how the circuit works.

Let us consider the circuit first for the condition where no R.F. signals are being fed to the grid of the A.V.C. tube. Resistors R_1 and R_2 and R_3 form a voltage divider network which is connected across the power pack output terminals, hence electron flow is from B- to B+ through these resistors. This makes point x Negative with respect to point z, and the grid of the A.V.C. tube (connected to x through grid resistor R_g) is therefore negative with respect to its cathode.

How does the A.V.C. tube secure its plate voltage? Trace from point z through the cathode-plate path of the A.V.C. tube to point u, through A.V.C. load resistor R to point w and the chassis, then through the chassis to grounded point y on the voltage divider; this shows that the tube and R are in series across voltage divider section R_2 , with each getting a portion of the voltage across R_2 . The values of R_1 and R_2 are so chosen by the designer that the A.V.C. tube is biased to cut-off when there is no R.F. signal; under this condition no current flows through R, making the plate of the

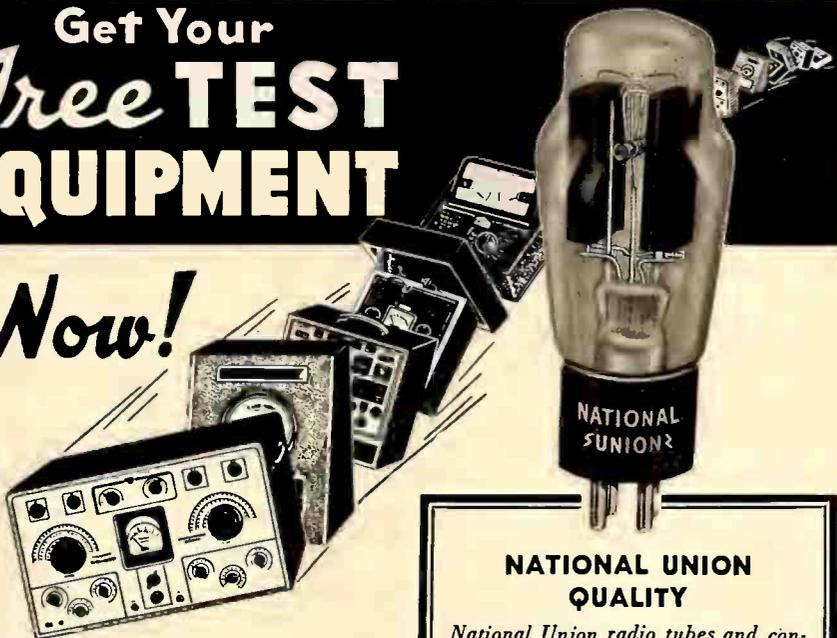
A.V.C. tube positive with respect to its cathode by an amount equal to the voltage across R_2 . Furthermore, under this condition points u and w are at the same potential, that of the chassis or ground, and no voltage is fed to the A.V.C.-controlled stages. A cathode resistor R_c is therefore required in each controlled stage to provide normal C bias voltage.

When an R.F. signal acts on the grid of the A.V.C. tube through C_1 , it swings the grid in a positive direction on alternate half-cycles; this allows a pulsating R.F. plate current to flow, with the peaks of the pulses varying according to the modulation signal. The R.F. component of this plate cur-

rent is filtered out by C_2 and C_3 while the D.C. and A.F. components appear across R. Electron flow is from u to w through R, hence point u is negative with respect to ground. A.V.C. filters in each controlled stage filter out the A.F. component, while the D.C. component, which varies with R.F. carrier level, is fed from point u to the grids of the controlled tubes. An increase in carrier level at the grid of the A.V.C. tube increases the D.C. component of voltage across A.V.C. load resistor R just enough to make the grids of the controlled tubes sufficiently more negative to hold the carrier level essentially constant, as in normal A.V.C. action.

Get Your
**Free TEST
EQUIPMENT**

Now!



**PURCHASE POINTS
GO UP JULY 1st!**

• What test equipment do you need? A new tube tester, another volt-ohm-milliammeter, or one of the latest Television Testers—you'll find all the leading makes in National Union's Equipment Catalog—and now is the time to get it. Before the Purchase Point requirements go up on July 1st, 1939.

Remember, the National Union way requires only a small deposit and this is refunded as a merchandise credit when the required number of Points, based on your purchases of N.U. Tubes and Condensers has been reached. Thousands of completed deals tell the story of complete satisfaction and National Union help.

The raise in purchase points becomes effective July 1. This advance notice will permit all dealers to take advantage of the present level, but there will be no extension after July 1, as the low nets recently established simply will not permit continuation on the present basis.

**SEE US AT BOOTHS 1012-1014 . . .
CHICAGO JUNE RADIO PARTS SHOW**

**"GET THE TEST EQUIP-
MENT YOU NEED NOW
...DON'T DELAY...ASK
YOUR N.U. JOBBER"**

NATIONAL UNION QUALITY

National Union radio tubes and condensers have the precision and performance that makes friends for you wherever they go. National Union is the logical choice of radio service engineers everywhere.

TEST EQUIPMENT AVAILABLE

LEADING MAKES OF

- NEW TELEVISION TESTERS
- TUBE TESTERS
- SET TESTERS
- OSCILLOSCOPES
- VOLT-OHM-MILLIAMMETERS
- POCKET TESTERS
- SIGNAL GENERATORS
- VIBRATORS

Mail Coupon for More Information

NATIONAL UNION RADIO CORPORATION,
57 State St., Newark, N. J.

Please send me information on how I can get free (Test or Shop Equipment).

Name

Address

City State.....

RT-539



**So you can
build with
Confidence**

● This tiny electrolytic 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 other costly components. That's why the AEROVOX guarantee really backing every AEROVOX condenser with which it is packed, 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 failures. What more could be said?

Are you getting this? . . .



● AEROVOX issues this monthly bulletin of practical radio information. Subscription rate is only 50c per year.



Methods That Clicked

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

DIAL "HURRY" AND YOU GET THIS SERVICE SHOP

You dealers who have dial telephone numbers, be sure to check over the numbers on it, for you may discover something valuable which may bring you business.

Anthony Berumen, owner of the Broadway Radio Shop, 1508 Broadway, San Antonio, Texas, checked his number one day—G 8779—and found that the dial readings also spelled "H-U-R-R-Y," so he had his card printed in such a manner that the word "hurry" appeared above the telephone number.

Now Tony's regular radio service customers never need look up his number in the phone book when they want to get in touch with him for they know that if they dial "Hurry" they will get his shop. And they also tell their friends that when they need expert radio service just dial "Hurry." It's easy to remember and it sticks in everyone's memory.

This little idea has brought in many a service call to the Broadway Radio Shop. So check over your own dial telephone number, Mr. Dealer and Serviceman, to see if there isn't some other dollar-tickling slogan you can work out naturally.

RADIO SALES FROM SERVICE CALLS

9 a.m. the telephone rings.

"Hello, George, our radio doesn't work right and we're having guests for dinner. Can't you come up this morning and fix it?"

"I'm sorry, but I have more work piled up now than I can take care of in three or four days. I'll bring a new radio up for you to use until I can fix the old one for you. I'll bring it down to the shop and work on it the first chance I get."

"Alright, I'd appreciate that. Good-bye."

9:15 the phone again.

"George, this is the Sigma Sigma house calling. We've a house party on tonight and our radio sounds as

though it was going to blow up every time we turn it on. Will you come up and look the thing over, quick?"

"I'm sorry, but I can't make it. I have so much work for the rest of this week I'll never be done by Sunday night. I'll tell you what I can do. I'll bring a new radio around and you can use it until I can get yours fixed. I'll bring it back to the shop and work on it as soon as I get a half hour free."

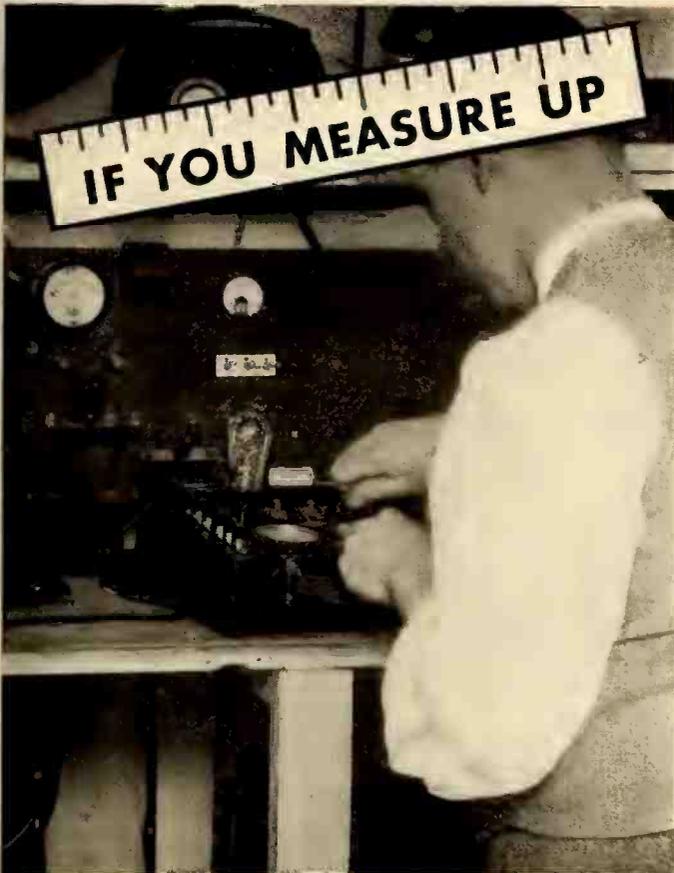
"O.K. Thanks."

"Both of the radios thus brought in were in rather bad shape and needed several new parts," comments George Ashley of Chatham, N. Y., "so I decided to go up and talk to the owners before putting so much money into them. During the conversation I happened to ask how they liked the new models. Both of them were enthusiastic and asked the price. I told them and before I left Mrs. Martin told me she thought she would rather buy a new radio than get the old one fixed. At the Sigma house Jim told me to 'let it ride' for a day or two because he was going to bring the matter of a new radio up at their next fraternity meeting, Wednesday. Thursday morning he drove in and told me they had voted to keep the new model they had been trying out.

"After a series of similar experiences I woke up to the fact that this was my best sales plan to date," continues Mr. Ashley. "Almost every call I receive now asking that I do some repair work immediately, I offer to send up a new radio to be used until I can get around to the case. A good line will sell itself in this way. If you are proud of the line you handle get new sets into the homes and give them a chance to sell themselves."

* * *

Madison Cawein, New York television consultant, has joined the Farnsworth organization in charge of television receiver design. Mr. Cawein's early background includes a B. S. in physics at Kentucky, graduate work at Cornell toward a Ph.D., and connections with the Westinghouse Lamp and Brooklyn Edison companies. From 1932 to 1938 he was senior engineer with Hazeltine on television development, then co-operated with F. A. D. Andrea as full-time consultant.



you qualify

Tung-Sol could not offer their jobbers and dealers the advantages of selective distribution were they to sell just anyone. Read these questions carefully and "If you qualify," write today.

Is yours a representative service business?

Is your location free from interference with already established Tung-Sol Agents?

Can you compete in technical knowledge and service set-up?

Can you move a reasonable tube stock every three or four months?

Are your premises adapted to use sales-producing advertising displays to advantage?

Will you maintain Tung-Sol established retail prices?

Tung-Sol Lamp Works Inc. Dept. C Radio Tube Division
 SALES OFFICES: Atlanta · Chicago · Dallas · Denver · Kansas City
 Los Angeles · New York · General Offices: Newark, New Jersey

TUNG-SOL RADIO TUBES

all the world's a stage
FOR
AMERICAN
Television
CORPORATION

VIDEOR sight-and-sound receivers for the home.
KINET . . . the only portable television extension.
 Send for free booklet, "Facts About Television."

AMERICAN TELEVISION CORP.
 130 W. 56th St. New York City

New! **New!**

RECOTON
 RECORD RENEWER
 INSURE RECORD ENTERTAINMENT
 cleanses lubricates protects

**NEW TRIAL 15c SIZE
 IN FLASHY BOX**

In every family where records are enjoyed, you'll find a demand for the sensational RECOTON liquid Record Renewer that cleanses, lubricates and protects . . . 2-oz. bottle 50c, or this handy 15c bottle, powerfully displayed as illustrated at top.

Ask for samples of SUPERIOR and ACOUSTIC hi-fidelity needles.

RECOTON
 CORPORATION
 178 PRINCE STREET NEW YORK CITY

Cameras for the Radio Dealer

**Turning a nation's hobby into a radio profit builder.
Store traffic and sales result from new added line.**

The introduction of the miniature camera a few years ago did some mighty interesting things to photography, and when American manufacturers brought this revolutionary camera within the reach of everyone, photography, as a hobby, grew by leaps and bounds.

Photography holds the interest of young and old, and is practiced by many for the recording of the pursuit of other hobbies.

Once the "bug" has bitten, no camera fan is ever completely satisfied with the equipment he owns, and is constantly in the market for more. This, together with the need for film, paper, and chemicals brings the camera purchaser back to your store repeatedly, exposes these customers to your radio and record selling displays time and time again.

Young folks are active and enthusiastic camera fans, and are a very important factor in the future of any

business, for we all know that the youngsters of today are the home-makers of tomorrow.

RADIO SEASON TIE-IN

The camera business is a good business for the radio dealer to go into, not only because it brings young people into contact with his business, or because it builds store traffic, which it certainly does, but also because its peak selling season almost exactly complements the radio sales seasonal peak.

Through high schools, and camera clubs, the opportunity is offered to build a very profitable business, to obtain contacts, and prospects for radio sales, to maintain a more uniform monthly sales curve, and through picture contests, to focus a very favorable public attention and interest to you and your store.

Cameras alone, or cameras and film

only, are not enough to do a real job with. But cameras, enlargers, paper, chemicals, exposure meters, tripods, tanks, accessories, trays, filters, film and processing, can be made to produce an annual income equal to your radio business or better.

HIGH SALES PER SQ. FT.

Sales per square foot are high, and the expense when combined with a going radio business is only for show case and back fixtures, with no added operating expense.

From every angle, radio dealers are finding a camera and photo supply department is a profit maker, a traffic builder, and a sales builder.

When you add to your sales without increasing expense, your expense to sales ratio goes down. Many radio dealers are finding that cameras, boosting sales in the slowest radio sales period, has turned a loss into a profit, or a small profit into a very satisfactory profit; and the camera business is growing—fast.

Cash in on cameras

Cameras, films and accessories are being used by scores of wide-awake dealers to increase store traffic, points out F. G. Klock of Universal Camera Corp.

In Boston, the Hub Cycle and Radio Co., a Univex distributor, reports 40 per cent of its camera accounts are radio dealers who handle cameras as a side line that provides greatly improved store traffic and profit.

Once in the store, camera enthusiasts are "easy meat" for new radio sales—and swell the demands on the radio service department. They have the money to spend, and should prove unusually susceptible to the purchase of an extra radio set to relieve dark-room monotony.

Hub finds radios and cameras tie in together readily, especially a low-priced camera such as Univex which is made for a quick turn-over and a big volume of trade. As the Univex uses a roll of film in 2½ minutes, there must be frequent calls for more.

Dealers find customers come back every week or so, if not for film, then just to gaze rapturously at, and buy new accessories.



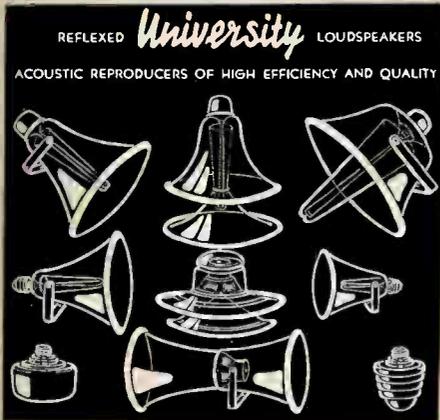
**For REPEAT SALES
OUTSTANDING VALUES
FAST TURNOVER
AND LONG PROFITS**

*Standardize on
Cinaudagraph*

**Permanent Magnet and Electro-Dynamic Speakers
for every "replacement" and "sound
amplification" application.**

Cinaudagraph Speakers are available from 5" to 27". Details on request. Also brochure on the New York World's Fair Cinaudagraph installation.

**CINAUDAGRAPH
CORPORATION
STAMFORD, CONNECTICUT**



NO MORE TOUGH* INSTALLATIONS with UNIVERSITY SPEAKERS on the Job
OUR COMPLETE MODERN SOUND LINE FEATURES FOR 1939

- 1—Radial 360° Reflexed Air Column Reproducers (with "flat" response feedback elimination)
 - 2—Radial 360° Outdoor Cone Speaker Projectors (rain proof—for sound trucks—indoors)
 - 3—Six Foot Reflexed Air Column Reproducer (for highest quality public address)
 - 4—Two Way Outdoor Cone Projectors (double the efficiency of your cone speaker)
 - 5—All Aluminum (Clad) Perm-Sealed Driver Units (Modern—streamlined—waterproof)
 - 6—Split-Range Wide-Band Reproducers (for highest quality symphonic reproduction)
 - 7—Ultra Compact—High Power—Speech Reproducers (for all announcing systems)
- *Problems of: Echo—Reverberation—Feedback—Difficult Coverage—Microphone Placement—High Background Noise—Weather.

University Speakers Solve Them All—Write and Ask How Sound Jobbers—Ask for demonstrations and catalog S-39 Sound Specialists—Indicate features you are interested in—write for sound coverage and power level charts.

UNIVERSITY LABORATORIES
195 CHRYSTIE STREET, NEW YORK

My dear Watson EVERYONE KNOWS THAT

Searching for an obsolete part, some special tool, the latest radio wrinkle? You'll find it at Wholesale Radio Service Co. And as if this kind of service (we've been at it nearly twenty years) were not enough, our prices are down to bedrock. Because we insist on complete stocks in each of our three warehouses we can offer whatever you need at important savings. Nothing has been overlooked in our stock of over 50,000 items. Send for FREE 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.

(Continued from page 13)

town, and get photos of their using these sets. Many will buy.

9. Make a few calls each warm evening when people are on their porches or in their gardens, and leave a set on demonstration until the next evening. Then sell it, or pick it up and leave it with someone else.

10. Use the magazine pages in frames of radio manufacturer's magazine advertising, in your window, and in your store.

11. Use the telephone, to suggest a record player, compact radio or battery portable to your console customers, of the past year.

Your radio business will be as good as your promotional effort and the man power behind it.

G.E. appointments announced

Perry F. Hadlock, G.E.'s newly appointed radio and television division manager (picture RADIO & TELEVISION TODAY April) has announced the appointments to five key positions in the headquarters operation at Bridgeport, Conn.

Arthur A. Brandt, formerly advertising manager for radio, is now manager of merchandising services, involving the direction of merchandising, advertising, and sales promotion of all products of the radio and television division.

Henry A. Crossland, who becomes G.E.'s first manager of television sales, has been in radio for the last 20 years. Since 1931 Mr. Crossland has been with G.E. in Bridgeport and was lately manager of the technical sales and service section there.

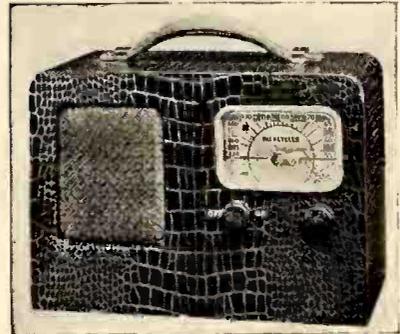
Charles R. Barhydt succeeds Perry Hadlock as commercial engineer for radio and television. With an excellent technical background Mr. Barhydt joined the radio receiver engineering department in 1934 and has been in charge of broadcast receiver design since January of this year.

Philip R. Butler succeeds Crossland as manager of technical sales and service for the company. He was formerly supervisor of field technical service and quality control.

Fred A. Ray, now manager of radio sales, was formerly G.E. district radio sales manager, operating from Cleveland in Ohio, Michigan, Indiana and Kentucky.

Electro Products Laboratories, manufacturers of battery substitutes, various type rectifying devices and special radio production test equipment, have moved to new and larger quarters at 549 W. Randolph Street, Chicago. The equipment is manufactured under the supervision of *Alfred Crossley*, well known Consulting Engineer.

The **MIRACLE RADIO** Arrives!



"AUTOMATIC'S" SENSATION

3 in 1 New 1940 **ELECTRIC and BATTERY PORTABLE RADIO** with built-in

AUTOMATIC BATTERY REJUVENATOR*

Adds extra hours to the batteries

- Operates on Batteries
- Operates on AC Current
- Operates on DC Current

Operates Anywhere Sells Everywhere

- 5 Tubes
- Superheterodyne
- P.M. Speaker
- Automatscope Aerial
- Fine Tonal Quality
- Powerful — Selective — Sensitive
- Alligator or Pigskin Leatherette Case

*The new and sensational AUTOMATIC BATTERY REJUVENATOR increases the life of the batteries and is an exclusive feature to be found ONLY in the AUTOMATIC Portable.

THE BIGGEST ADVANCEMENT IN RADIO— SINCE RADIO ITSELF

Priced Low for Quick Sales and Full Profits. Other battery models available. Also new 1940 auto and home radios.

AUTOMATIC RADIO MFG. CO., INC.
132 Brookline Ave., Boston, Mass.

[Mail this coupon for special bulletin giving full details of all AUTOMATICS]

AUTOMATIC RADIO MFG. CO., INC.
132 Brookline Ave. Boston, Mass.

Name
Street Address.....
City..... State.....

More New Things

(Continued from page 35)



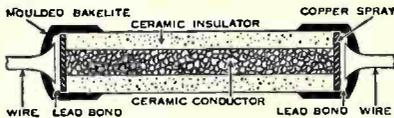
YOU WOULDN'T USE A TRAILER TRUCK TO TRANSPORT A TRUNK

• Just doesn't make sense . . . just as little as it makes sense to use a large resistor when a small Centralab Axial Lead Resistor will do the trick. It isn't size that counts . . . for most resistors in radio sets actually carry less than ¼ watt load. High chassis temperatures and humidity cause breakdown . . . not moderate overload. That is why inserting a LARGE resistor is NOT the answer to a replacement problem.

Centralab Ceramic Resistors ARE the answer. Type 710 is conveniently small, yet fully insulated. Moderately rated at ½ watt, it will carry normal overloads. Solid ceramic . . . humidity and temperature proof . . . priced so low you can well afford to keep a stock on hand.

TYPE 710, rating ½ watt, size ⅛ x ⅝ inch. List Price 60¢ for five.

TYPE 714, rating 1 watt, size ¼ x 1 inch. List price \$1.00 for five.



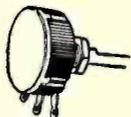
Center ceramic core, and ceramic jacket fired together to form a single shockproof unit. Pure copper covers resistor end for wire lead contact.



VISIT the 1939 National Radio Parts Trade Show, June 14 to 17, at Stevens Hotel, Chicago.

Old Man CENTRALAB

says: Smooth and Centralab are synonymous . . . hundreds of "ads" say so . . . and millions of Resistors, Volume Controls, Switches, etc., give evidence that the ads tell the truth.



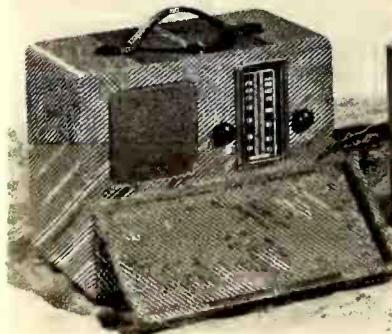
Centralab AXIAL LEAD RESISTORS

Division of Globe Union, Inc.
Milwaukee, Wis.



Low-price tube-checker

★ Tubemaster has provision for performance tests of all tubes including loctal, 35 and 50 volt, and tapped filament rectifier tubes. Translucent meter dial. Neon test included to show tube element shorts and leakage. \$24.50, net, with leatherette carrying case. John Meck Instruments, 164 N. May St., Chicago.—RADIO & TELEVISION TODAY.



Portable with lid

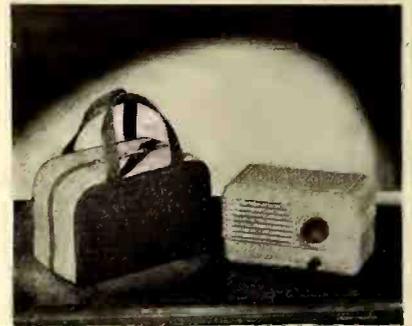
★ "Knight" 4-tube portable tunes standard broadcast and police calls. 1½ volt circuit with A battery drain of .25 amps and B drain of 10 milliamps. Battery life 150 hours. 5-inch PM dynamic speaker. "AB" pack. Luggage type case with lid to cover front face. Allied Radio Corp., 833 W. Jackson Blvd., Chicago.—RADIO & TELEVISION TODAY.

Electronic switch

★ Combination electronic switch and square wave generator has switching rate of 6 to 2,000 ohms. Switching impulses reduced. Balance control enables use of displaced patterns. Operates as square wave generator between 60 & 400 cycles. Aluminum front panel and leather carrying handle. Type 185. Allen B. DuMont Labs., Inc., 2 Main Ave., Passaic, N. J.—RADIO & TELEVISION TODAY.

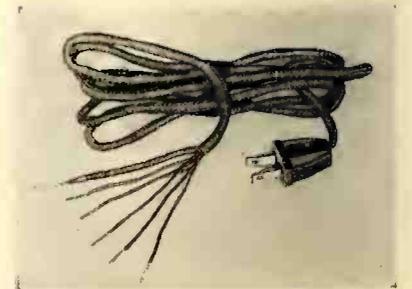
Code signaler

★ Radio buzzer, blinker, and telegraph unit for 2-way code signalling. Operates from self-contained flashlight cells. International Morse code is molded on top of case. Supplied with instruction book. Complete with key, but less batteries—list \$2.95 per pair. M. M. Fleron & Son, Inc., Trenton, N. J.—RADIO TODAY.



Radio carrying case

★ Waterproof corduroy suede case has two lockable rust-proof slide fasteners. Welted all around with 4 brass studs to protect bottom. Weight ¾ lb. Westinghouse Electric Supply Co., 150 Varick St., New York, N. Y.—RADIO & TELEVISION TODAY.



Universal resistor cord

★ "Unicord" replacement resistor cord uses three extra colored lead terminals as taps from resistor. Various combinations give resistance values from 22 to 330 ohms. Instruction sheet with each unit. Micamold Radio Corp., 1087 Flushing Ave., Brooklyn, N. Y.—RADIO & TELEVISION TODAY.

Television powders

★ Line of fluorescent materials for cathode ray tubes. Nine colors included with other colors made to specs. Particles not harmed by heat treatment. Pfaltz & Bauer, Inc., 350 5th Ave., New York, N. Y.—RADIO & TELEVISION TODAY.

**MADE BETTER TO
WORK BETTER**



• The combination of high tensile strength that assures a lasting bond, and faster, cleaner work made possible by quick acting flux of pure water white rosin, has given Gardiner Rosin-Core Solders an outstanding reputation for efficiency and economy on radio work by expert or amateur. Yet, due to modern production methods and big sales, Gardiner Solders cost less than even ordinary kinds. Made in various alloys and core sizes . . . and in gauges as small as 1/32 of an inch . . . in 1, 5 and 20-lb. spools.

Eastern Sales Office and Warehouse:
DAVID M. KASSON & CO.,
401 Broadway New York, N. Y.



4815 S. Campbell Ave., Chicago, Ill.

Television notes

E. H. (Ed) McCarthy is announced as a special factory representative for Farnsworth Television & Radio Corporation by E. H. Vogel, vice-president of that fast-growing organization. "Ed" brings to his sales work a full twenty years of experience in the talking machine and radio industries, as he joined the Columbia Graphophone Company in the capacity of advertising and sales promotion manager in 1919, then became a radio distributor in Boston in 1923. With Grigsby-Grunow in 1923 he became eastern sales manager, and was then put in charge of Majestic's Boston branch. Positions since then include sales manager of Hygrade Sylvania Corp., western sales manager for Gibson, and in charge of midwestern radio sales for General Electric Company.

E. J. Dykstra is appointed district sales manager for Farnsworth Television. A graduate of the University of Chicago, Mr. Dykstra entered the radio industry in 1926 as sales manager with the Sentinel company. This position he held for several years and then joined The Transformer Corporation, Chicago, as general sales manager. For the past three years he has represented Zenith as district sales manager.

J. H. Pressley to the position of chief engineer on receiver design for Farnsworth. Mr. Pressley has been actively connected with radio since 1920, at which time he started with the U. S. Army's radio laboratories and was, for five years, chief engineer. In 1929 he became chief engineer for U. S. Radio & Television Company, later becoming vice-president. In 1933 and 1934, Mr. Pressley was chief engineer at the Zenith Radio Corporation, and then joined Philco as engineer in charge of automobile radio and research, which post he now leaves to engage in his new duties.

TELEVISION'S FIRST FILM

RKO-Radio Pictures' "Gunga Din" is the first film being adapted especially for television. Featuring Cary Grant, Victor McLaglen and Doug Fairbanks, Jr., the picture is being condensed to 1,000 feet for use by NBC over its television transmitter on the Empire State building.

NBC and movie officials decided on "Gunga Din" because of its many outdoor scenes of high contrast sunlight. A special acid solution and optical printer is expected to give the print extreme clarity and fidelity. The film will run for nine or ten minutes and will be put through exhaustive tests before its telecasting. Close-ups and medium shots will be used.

EUROPEAN STATION POWER HIGH

In Europe approximately 25 per cent of all main stations on the medium-wave broadcasting band now use 100 KW, according to a report by the I. T. & T.

• Your best safeguard against obsolescence is a Triplett push-button tube tester . . . because it permits individual connections for each element

TRIPLETT



Dealer Net
\$39.00
in carrying case

Model
1610

Lifetime PUSH-BUTTON TUBE TESTER

- ★ Tests All Receiving Tubes Including the new 1.5 Volt and 50 Volt Series; the Small Localt Base Tubes; and the OZ4 and Other Gaseous Rectifiers.
- ★ Ballast Tube Continuity Test.
- ★ Separate Test for Diodes and Rectifiers.
- ★ Separate Gas Test and Conclusive Neon Shorts Test.
- ★ Illuminated Dial and GOOD-BAD Scale.
- ★ Chart Scroll . . . New Up-to-Date Scrolls Can Be Obtained at Any Time on Nominal Exchange Cost Basis. Easily Installed.
- ★ Uses Approved Emission Circuit Constructed to RMA Load Requirements.

Now is the time to study tube testers seriously—Triplett's Model 1610 contains sockets that will accommodate all type receiving tubes, including localt (no adapters). Individual connections for each tube element permits push-button control to be set correctly regardless of what filament arrangement is used or at what pin point other elements are terminated. Why take a chance when this additional safeguard costs so little?

MODEL 1610 uses approved emission circuit constructed to RMA requirements. Dealer Net Price . . . \$39.00

MODEL 1611 combines push-button Volt-Ohm-Milliammeter with Tube Tester of Model 1610, in same type case. Uses plug-in type copper oxide rectifier. Dealer Net Price . . . \$49.50

See the New TRIPLETT 1939-40 Line
at the June
National Radio Parts Trade Show
Booths 403-405

The Triplett Electrical Instrument Co.
195 Harmon Ave., Bluffton, Ohio

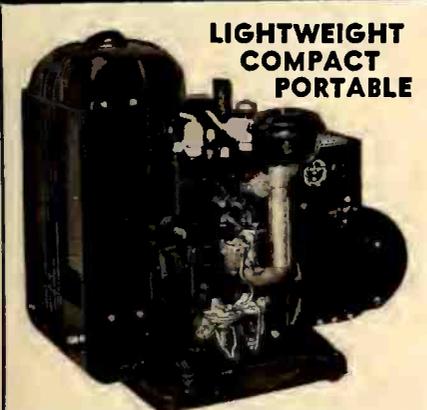
Please send me more information on
 Model 1610 Model 1611

Name

Address

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

NEW MODELS AC-DC DUAL VOLT 350 to 5000 WATT PRECISION WORKMANSHIP STURDY COMPACT LIGHTWEIGHT MORE THAN 40 TYPES IN STOCK



**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.

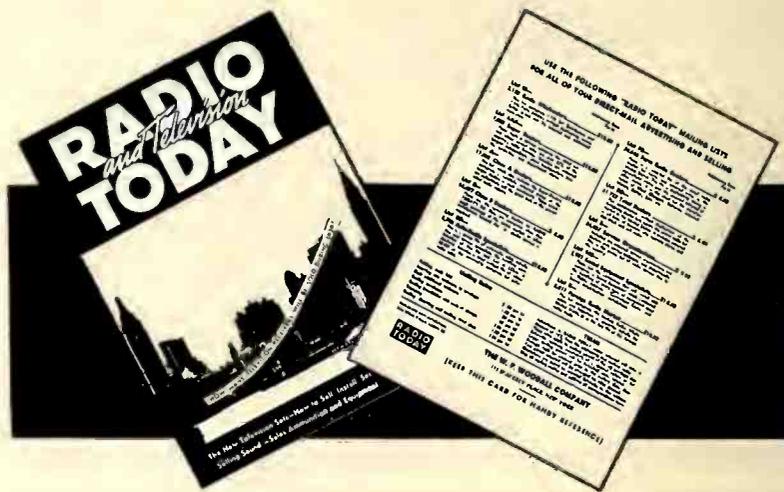
WRITE FOR DETAILS AND PRICES

D. W. ONAN & SONS

500 Royalston Ave. Minneapolis, Minn.

TO RADIO
ADVERTISERS:

*It Pays
To Know*



HOW TO GET *the* UTMOST BENEFIT

from your

SALES LETTERS & BROADSIDES to the RADIO TRADE!

Step-Up Your Returns—Eliminate Waste—Use RADIO TODAY'S Live Lists

Since the effectiveness of all direct mail advertising depends vitally on the *mailing list*—

Isn't it reasonable that when *you* send out a mailing it will pay you to use only the *most accurate* list you can get? The most productive list?

Radio Today's lists of radio dealers, servicemen and wholesalers are the most widely used lists in radio today. The reasons for this preference are easy to get at: Radio Today's lists are not only *more accurate* but *more complete* and are more comprehensively classified for radio advertisers' needs.

These lists are broken down to include the larger, front-line radio dealers, the smaller dealers representing radio's secondary retail market, servicemen, set and parts distributors, sound equipment specialists, auto radio dealers, farm radio dealers, etc., all available by territories, states, counties and cities, without duplication.

Radio Today's list quality is no accident. These names were compiled with the cooperation of many leading radio manufacturers, plus the help of 524 outstanding set and parts distributors. Furthermore, names are constantly checked against directories, Red Books and thousands of

retailers' advertisements appearing in newspapers countrywide. Also questionnaires are periodically mailed out for verification. All this in addition to regular day-to-day maintenance.

These are some of the reasons you will get greater results when you use Radio Today's lists. These are the reasons, too, that we guarantee our lists 100% against Post Office returns, refunding you 1½¢ for each such return made in 30 days.

In planning your next mailing don't rely on a mediocre list. Use Radio Today's proven lists—and let the W. P. Woodall Company (managing and operating Radio Today's lists and mailing services) take all the mailing details off your hands. We offer you complete, low-cost mailing service which includes rental of lists, addressing your envelopes or mailers, folding, enclosing, stamping, metering, sorting and mailing. Supplementary service also includes multigraphing, filling in, pen or plate signature, etc. Estimates furnished for the whole job.

To get full details write today for our circular showing list classifications, quantities, prices and other pertinent information.

RADIO TODAY'S MAILING LISTS

The most accurate, most complete and most comprehensively classified radio lists available today. Write for circular giving breakdown and prices.

The W. P. WOODALL COMPANY

153 WAVERLY PLACE, NEW YORK

Phone: CHelsea 3-0966

Managing and Operating RADIO TODAY'S Lists and Mailing Services

New Booklets

Catalogue of pilot light assemblies and signal indicator jewels. Dial Light Co. of America, Inc., 136 Liberty St., New York, N. Y.

Television questions and answers for RCA-Victor radio dealers. RCA Mfg. Co., Inc., Camden, N. J.

"Brush Strokes" published monthly and intended to convey technical data and other info. Brush Development Co., 3322 Perkins Ave., Cleveland, Ohio.

Triplett price sheets Nos. 51-T and 51-I contains new items and price changes. Triplett Elec. Instrument Co., Bluffton, Ohio.

40 page catalog of still and movie cameras, photographic equipment and accessories. Lafayette Camera Corp., 100 6th Ave., New York, N. Y.

Non-technical treatise on the essentials of recording. Cost is 10c and postage. Allied Radio Corp., 833 W. Jackson Blvd., Chicago.

Catalog of home laundry equipment including portable ironers. Landers, Frary & Clark, New Britain, Conn.

Fifth edition of Replacement Transformer Guide and Catalog listing exact duplicates and universal transformer replacements for all popular radio models. Standard Transformer Corp., 1500 N. Halsted St., Chicago.

New edition of Sylvania Characteristic Sheet includes data on the local and cathode-ray tubes. Hygrade Sylvania Corp., Emporium, Pa.

"Electronic Musical Instruments" by Benjamin Franklin Miessner. Discussion of researches and developments in that field. Miessner Inventions, Inc., Millburn, N. J.

Booklet, samples and information on Perma Disks. Federal Recorder Co., 630 S. Wabash Ave., Chicago.

Catalog containing prices and description Littelfuse line. Littelfuse, Inc., 4260 Lincoln Ave., Chicago.

Bulletin T-1, giving complete diagrams, specifications, standards for high voltage condensers necessary for television work. Solar Manufacturing Corp., 599 Broadway, New York.

Data applying to new 1.4 volt "Bantam" type tubes, available for manufacturers and engineers. Hytronic Laboratories, 76 Lafayette St., Salem, Mass.

Philco tube manual. Socket layouts of all Philco sets, tube characteristics, schematics, base layouts, dimensions. Parts and Service Division, Philco Radio and Television Corp., Tioga and C Sts., Philadelphia.

Catalog 600-D featuring new line of amplifiers, available from Thordarson Elec. Mfg. Co., 500 W. Huron, Chicago.

Illustrated booklet describing York Cool-Wave Air Conditioner for Home and Office. Write Philco Radio and Television Corp., Philadelphia, Pa., Dept. 104.

Folder showing new Bendix Battery Analyzer. Bendix Radio Corp., General Motors Bldg., Detroit, Mich.

Illustrated description with specifications, new Pleasantaire air conditioning unit, model C-3. Pleasantaire Corp., 1623 Connecticut Ave., Washington, D. C.

Catalog including new 1939 price list and specifications on high power reproducers for musical towers. Also special recordings for use with these systems. Sundt Engineering Co., 4233 Lincoln Ave., Chicago, Ill.

Booklet containing complete descriptions of all Mallory Vibrapacks with technical data and instructions. P. R. Mallory & Co., Inc., Indianapolis, Ind.

"Tru-Fidelity by Thordarson," booklet describing new line of Broadcast equipment, No. 500-D. Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.

Television engineering data on transformers and television coils. F. W. Sickles Co., 300 Main St., Springfield, Mass.

Bulletin containing a receiving tube list with characteristics indicating interchangeability. Of practical value to the service men, or those engaged in circuit design or tube application. Ken-Rad Tube & Lamp Corp., Owensboro, Ky.

RCA Globe Trotter, May, 1939, showing the "New Yorker," new line of RCA sets. Technical data and complete descriptions. RCA Manufacturing Co., Camden, N. J.

Guide to correct types and sizes of replacement batteries for portable radios. Burgess Battery Co., Freeport, Ill.

Results of a study of program popularity among rural families. Based on 20,000 interviews in 300 towns. Cooperative Analysis of Broadcasting, 330 West 42nd St., New York.

Complete description of UsaLite battery units for portable radios. United States Electric Mfg. Corp., 222 West 14th St., New York.

20-page booklet giving technical details of experiments made to determine the directive properties of metal pipes and horns when used as receivers of electromagnetic waves. Bell Telephone Laboratories, Inc., 463 West St., New York.

"Build Your Own Recorder." All instructions given in Rek-O-Kut's new bulletin. Rek-O-Kut Corporation, 254 Canal St., New York.

Start making ELECTRONIC MUSICAL INSTRUMENTS

UNDER MIESSNER LICENSE

IF YOU WANT A SURE AND
PROFITABLE MARKET



No. 2 in a SERIES
of frank talks with
radio manufacturers

● Electronic pianos, organs or fretted instruments are a natural product for any radio manufacturer. They symbolize the musical World of Tomorrow. They have a worthwhile market, actually waiting to be served. They are entirely free of the trade evils that result in profitless selling.

Most radio factories can make Electronic Musical Instruments without disturbing present production; without capital investment and without risk. There is no development work to do. It has been done by MIESSNER and is covered by 40 patents issued and others pending.

And here are other important things to consider:

No yearly models, no obsolete inventories, no dumping

No trade-ins, no service, no cut-price competition.

Sales channels established higher type outlets. Higher unit sales; greater profit protection. Sensational store traffic builder; great piano revival.

What Is an Electronic Musical Instrument?

Piano, organ or fretted instrument, played in the usual manner but with electronic control of tone-range, tone-power and timbre, giving the artist unlimited freedom of expression and variety of tone. For example, a miniature piano, combining and surpassing the finest grand piano and largest organ, with the optional convenience of a fully concealed radio and superb phonograph. This great development, unbelievable until actually heard, is the outstanding musical feature of two world's fairs — New York and San Francisco.

MANUFACTURERS LICENSED UNDER MIESSNER PATENTS

Piano Manufacturers (listed alphabetically)

Ansley Radio Co., Bronx Blvd. & 238th St., N. Y. City
Gulbrandsen Company, 816 N. Kedzie Ave., Chicago
Hardman, Peck & Co., 33 W. 57th St., New York City
Krakauer Bros., Cypress Ave. and 136th St., N. Y. City
Packard Bell Radio Co., Los Angeles, Cal.
Story & Clark Piano Co., 64 E. Jackson Blvd., Chicago
Winter & Co., 849 E. 141st St., New York City

Foreign

August Forster Piano Fabrik, Germany
Mason & Risch, Ltd., 642 King St., W. Toronto 2, Can.
Sherlock Manning Co., Clinton, Ontario

Organ Manufacturers

Everett Piano Co. (The Orgatron), South Haven, Mich.
Sebastian Gundling & Sons, Lancaster, Pa.

Fretted Instrument Manufacturers

Epiphone, Inc., 142 W. 14th St., New York

Manufacturers—For license data, write us direct
Dealers—Write to any of licensees above

MIESSNER

MIESSNER INVENTIONS, Inc., MILLBURN, N. J.

New



"A" & "B" RADIO BATTERIES
for ALL 1.4 volt
PORTABLE RECEIVERS



• Top-quality, high efficiency batteries for every Portable Radio need. 1½ Volt "A" batteries made in 4, 6 and 8-Cell types; new 4-Cell 6 Volt "A" Battery for combination electric and Portable Radios; latest "A & B" Power Pak providing 90 volts of "B" and 1½ Volts of "A" power in one complete unit; the latest development in 45 Volt Portable "B" batteries—all equipped with Plug-In sockets.

Exclusive Usalite formula, superior construction assures amazingly economical performance. Manufacturers, distributors write for prices, literature to-day!

Built Right • Priced Right
Powered for extra long service

U. S. ELECTRIC MFG. CORP.
222-228 WEST 14th ST. NEW YORK

Chicago—323 W. Polk Street

Trade Flashes

Stromberg-Carlson plans for a two kilowatt station in Rochester to develop the high fidelity system using high frequency receivers have been submitted to the FCC.

The FCC has designated *Commander E. M. Webster*, ass't chief engineer of the Commission, as its representative at the meeting of the Subcommittee of the Third World Conference of Radiotelegraph Experts for Aeronautics. The conference will be held at Cracow, Poland, May 19 to May 22, 1939.

Universal Microphone Co. has added press-to-talk hand phones to its catalog of intercommunicating desk phones and mike-and-phone handsets. A Universal cutting head for home recording and non-professional use is also announced.

Allen B. DuMont Labs. have filed application for television transmitting licenses covering a portable mobile transmitter and a 1 KW transmitter in New York City.

Shortwave Station WIXAL, Boston, is conducting a course in television with lessons broadcast every Friday after May 15. Only cost is one dollar and postage for booklet-text-book.

The Radolek Co., Chicago, has been appointed distributor in northern Illinois and Indiana for *Bogen Sound Equipment*.

Norman Bel Geddes, famous designer, will design the new *Majestic* models.

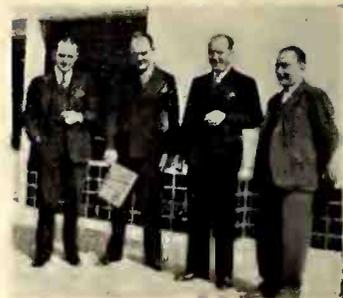
"Man-made static" and a simple means to eliminate 75 per cent of all radio interference will be broadcast over the NBC-Red Network May 16, 7:45 P.M.

National Association for Prevention of Radio Interference is the sponsor.

Cinaudagraph built a special 27 inch electro-dynamic speaker for the N. Y. World's Fair. They've illustrated and described it in a new brochure.

W. A. Coogan, Hygrade-Sylvania, has returned from his three-month business-honeymoon trip abroad.

Carl J. Hollatz, V.P. of *KenRad Tube & Lamp Corp.*, says *Russell W. Metzner* is new sales mgr. of the Lamp Division, with headquarters at the Owensboro, Ky., office.



"Art" Beyer, T. O. Sullivan and L. E. Harris of Sound Sales and Engineering, Houston, Texas, with "Walt" Marsh, Sales Mgr. of Meissner Mfg. Co.

The Admiral Radio & Television Company, a new jobbing organization formed to handle the distribution of Admiral sets in Metropolitan New York and Northern New Jersey, has completed its first month of operation. Two hundred thirty-five dealers in their territory have been sold the new Admiral line; of this number, 104 purchased the display deal, according to J. H. Clippinger, vice-president Continental Radio, Chicago, makers of Admiral sets.

P. S. Billings, Belmont Radio Corp. president, states that the company sales for the first quarter 1939 increased more than a quarter of a million dollars over the same period last year.

Sprague Specialties Co. have purchased a second set of factory buildings in North Adams, Mass.

James M. Skinner elected chairman of the board of the *Philadelphia Storage Battery Co.* *James T. Buckley* becomes president, retains his office of treasurer.

Hygrade Sylvania Corp. have approved plans for a large addition to the plant in Emporium, Pa.

Stating that "96 million Detrola impressions will be made between now and Decoration Day" due to national advertising, dealers are being urged by Detrola Corp., to have an adequate stock so that they may cash in on the results.

Pretty models in the seasons craze-chapeaux posed and perspired before the iconoscope of the American Television Corp. while three floors below, via coaxial cables, comfortable customers watched the fun. Bloomingdale, N. Y. City department store, was showing a method of selling merchandise and estimating the interest in television in one operation. Thousands of curious clients thronged to see the unusual exhibit and much valuable publicity resulted.

A GOOD NAME GOES A LONG WAY



Ken-Rad has the experience, the resources and the plant equipment to make dependable Ken-Rad Radio Tubes your best choice.
KEN-RAD TUBE & LAMP CORP.
OWENSBORO, KENTUCKY, U. S. A.
Address Export Dept.:
116 Broad St., New York, U. S. A.
Cable Address: Minthorne, N. Y.

KEN-RAD
DEPENDABLE RADIO TUBES

D. Spector heads Andrea sales

David Spector has been appointed general sales manager of Andrea Radio Corp., Woodside, L. I., announces President F. A. D. Andrea. From 1916 to 1921 Mr. Spector was general manager of the St. Paul Electric Co., St. Paul, Minn., resigning to become general merchandising director of Kolster Radio from 1922 to 1927. After executive connections in the merchandising of perfumes, Mr. Spector served as general manager of the Whitehall Distilleries, San Francisco, from 1933 to 1938. More recently he has acted as merchandising consultant for the Packard Electric Shaver and other products, including Andrea which will now have his full time.

Solar Mfg. Corp.—After making a thorough survey of electrolytic condenser manufacture in the United States, the Amtorg Trading Corporation, purchasing for the government of U.S.S.R., has bought complete electrolytic condenser manufacturing equipment from the Solar corporation. Soviet officials, wishing to set-up plants in Russia for the manufacture of condensers, first made a thorough investigation of various methods of manufacture in the United States. Russian engineering investigators, having approved Solar methods, orders were placed with that company for complete equipment to install in Russian plants.

Frank E. Ellithorpe leaves Chicago for New York City to develop *Utah Carter* parts sales on the Atlantic seaboard. He'll see you at 56 W. 45th St., New York, N. Y.

Fred M. Williams, former president and treasurer of the RMA, has returned from England, where he represented the Philco interests, and is now making his headquarters at the office of the Philco Radio & Television Company, Tioga & C Streets, Philadelphia, Pa.

Esterline-Angus Co. appoints *H. L. Hildebrand* for metropolitan New York area. His office is at 36-43 212th St., Bayside, L. I., N. Y.

Recoton Corp. is distributing a 15c trial size of its Liquid Record Renewer.

Ward Leonard Electric Co., appoints *W. B. Pray* Sales, 84 State St., Boston, Mass. He'll handle *Ward Leonard* radio products in the New England States.

Jim Schoonmaker, 2312 Griffin St., Dallas, Texas, now rep for *Howard Radio* communication receivers in Texas and Oklahoma.

Experienced Radio Salesman, aggressive, having good following to represent nationally known manufacturer producing complete line of Dry Batteries for new Portable Radios. All territories open. Commission basis. Replies confidential. Write Box C, Radio TODAY, 480 Lexington Ave., New York, N. Y.

OPERADIO SPEAKERS
made SO GOOD we Sell A MILLION A YEAR

You may not be able to see the difference, but you can HEAR the difference in

OPERADIO SPEAKERS

Speakers by Operadio have been used by practically every large set manufacturer and have withstood the test of time and service.

What is more natural than that you should choose these industry accepted speakers for replacement or public address.

Send Now for Our Speaker Catalog
Address Dept. R. T. 5

Export Division
145 West 45th St., New York

OPERADIO

MANUFACTURING COMPANY
ST. CHARLES ILLINOIS

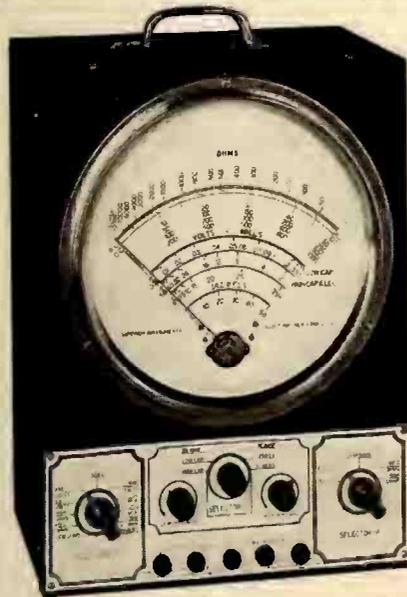
The Outstanding Name in Speakers, Public Address Equipment and Intercommunicating Systems

All Operadio Sound Systems are licensed by Electrical Research Products, Inc., under U. S. patents of American Telephone and Telegraph Company and Western Electric Company, Incorporated.



THE NEW X-RAYOMETER WITH 9 INCH METER MEASURES UP TO 30 MEGOHMS

Without external batteries or power supply



Specifications:

- ★ RESISTANCE MEASUREMENTS in 3 RANGES: 0-1,000 Ohms, 0-100,000 Ohms, 0-30 Megohms.
- ★ DC VOLTAGE MEASUREMENTS in 5 RANGES: 0-50 Volts, 0-250 Volts, 0-500 Volts, 0-1000 Volts, 0-2,500 Volts.
- ★ AC VOLTAGE MEASUREMENTS in 4 RANGES: 0-50 Volts, 0-250 Volts, 0-500 Volts, 0-1,000 Volts.
- ★ DC CURRENT MEASUREMENTS in 5 RANGES: 0-1 Milliampere, 0-50 Milliampere, 0-250 Milliampere, 0-1 Ampere, 0-10 Amperes, 0-25 Amp.
- ★ 2 CAPACITY RANGES: .005-1 Mfd. 2 Mfd.-50 Mfd.
- ★ 4 OUTPUT RANGES: 0-50 Volts, 0-250 Volts, 0-500 Volts, 0-1,000 Volts. Built-in blocking condensers enable rapid alignment.
- ★ INDUCTANCE MEASUREMENTS in 2 RANGES: 1-7 Henries. 7-703 Henries
- ★ DECIBEL MEASUREMENTS in 3 RANGES: -10 to 29 -10 to 43 -10 to 49
- ★ PERCENTAGE OF LEAKAGE of electrolytics read DIRECTLY on scale.
- ★ INSULATION, INTER-ELEMENTS AND ALL OTHER LEAKAGES directly read up to 30 megohms.

X-RAYOMETER utilizes an etched aluminum panel and comes housed in a new army grey crystalline, heavy-gauged cabinet. Complete with test leads and instructions. Size 13 3/8" x 10" x 6". Shipping weight 20 pounds. Our net price.

\$1795

Buy Direct from Manufacturer—Save 50%
SUPERIOR INSTRUMENTS COMPANY
136 Liberty St., Dept. T.I., New York

"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.

PIONEER GEN-E-MOTOR CORP.
Dept. R-2E

466 W. Superior Street

Chicago, Ill.

Trade Flashes



Paul Waller, Ben Boren, Jr., of Boren Bicycle Co., Little Rock, Ark., Crosley distributor, and Charlie Golenpaul of Aerovox talk things over.

Elliott Roosevelt broadcasts for Emerson

An exclusive arrangement with Elliott Roosevelt to broadcast twice a week over the Texas State Network, is announced by Emerson Radio & Phonograph Corp. as a part of the advertising and sales promotion campaign featuring the Emerson Self-Powered Portables and including the other products of the company's line.

Replies received as a result of the broadcasts are passed along to dealers in the area covered. Further tie-ups with the broadcasts to make the campaign effective include, trade journal copy, newspaper copy, and special window and store displays.

Representatives of Majestic Radio & Television Corp., the Crosley Corp., and the Wald Radio & Television Labs, met recently with the FCC in an effort to iron out the complicated aspects of television as a service to the public. Don Lee Broadcasting System and Zenith Radio Corp., are also cooperating.

Philco auto radios have been made standard equipment on the new stream-

lined Comfortractor of the Minneapolis-Moline Corp. A fleet of 125 of these luxury farm units is now on tour throughout the country.

Dealers benefit from NAB-RMA campaign

Dealers who wish to capitalize on the tremendous "radio consciousness" that will result from the RMA-NAB joint industry project to promote radio interests, are cooperating through meetings and radio councils, now being held by local organizations. Main objectives of the campaign are to increase interest in programs, increase hours of listening, enlarge the listening audience, and sell more receiving sets, tubes, parts and the American system of broadcasting. Energetic dealers are now helping to spread the gospel and plan to reap much benefit from such parts of the campaign as the promotion of auto and portable radios and the multiple-set idea.

Len Cramer becomes general sales manager of Dumont; Bob Mezger assists him with industrial sales.

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

City State

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.



MU-2

ASTATIC

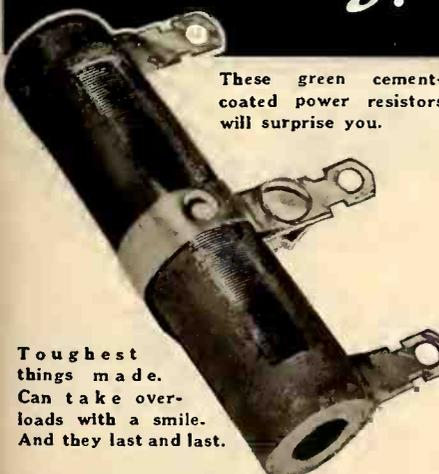
IT'S GRAND FOR BANDS

New MULTI-UNIT Crystal Microphones provide maximum amplification with greatly reduced feedback tendencies and cannot be acoustically overloaded. Combine performance, flexibility and beauty. Complete with interchangeable locking connector and 25-ft. cable. MU-2 \$29.50. See your Astatic Jobber or write for literature.

ASTATIC MICROPHONE LABORATORY, Inc.
YOUNGSTOWN, OHIO

Licensed Under Brush Development Co. Patents
Astatic Patents Pending

Our Hats in the Ring!



These green cement-coated power resistors will surprise you.

Toughest things made. Can take overloads with a smile. And they last and last.

★ Next time you need a power resistor, try a CLAROSTAT, fixed or adjustable, 10 to 200 watts. Give it the hardest tryout. You'll then know why builders of dependable equipment have turned to CLAROSTAT.

CLAROSTAT
MANUFACTURING CO.
Incorporated
285 North Sixth St.
Brooklyn, N. Y.



New factory representative for Farnsworth Television & Radio Corp. is Bob Kane, veteran of the radio and phonograph industry.

Kelsey addresses 75 jobber meetings

On Saturday, April 29, L. L. Kelsey, radio division sales manager for the Stewart-Warner Corporation, spoke before Stewart-Warner radio distributors and their salesmen at 75 meetings held simultaneously in key cities throughout the United States. Main object of the meetings was to introduce to the trade Stewart-Warner's new streamlined Air Pal, announced as "the mighty mite of radio." Mr. Kelsey's message at each meeting was delivered in approximately ten minutes. During this time he outlined the history of the Stewart-Warner Radio Division, stressing that for the first quarter of 1939 Stewart-Warner radio sales showed a 300 per cent increase over the corresponding period for 1938. At each meeting the new Air Pal radios were on display.

Early in April, Kelsey wrote individually to his 75 radio distributors requesting them to call in their salesmen for a meeting to be held April 29, at which he would be principal speaker. Kelsey did not mention that he was addressing more than one gathering that day. To distributors' frantic requests regarding his date of arrival, hotel reservations, etc., Kelsey replied that he would handle all matters personally, adding "provide light entertainment, including a phonograph in good condition."

To 75 Stewart-Warner radio distributors throughout the United States, a phonograph record was delivered on April 28. On April 29, Mr. Kelsey spoke, as scheduled, before the 75 distributors' sales meetings.

RSA news

Bridgeport, Conn.—Television installation and service explained by R. E. Moe of G.E.

Chicago, Ill.—Reports that the RSA television service course at RCA Institutes has increased chapter activity considerably. Automatic volume expansion discussed by Charles Hirsch of Majestic.

Cleveland, Ohio—Radio tubes and television high-mu tubes described.

JUST OUT!

AUDEL'S NEW RADIO MANS GUIDE THE KEY

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.

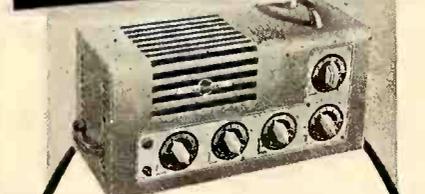
4 COMPLETE • PAY ONLY \$1 A MO.

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.

Mr. Serviceman
SOUND IS HOT TODAY
LAFAYETTE P.A. HOTTEST!

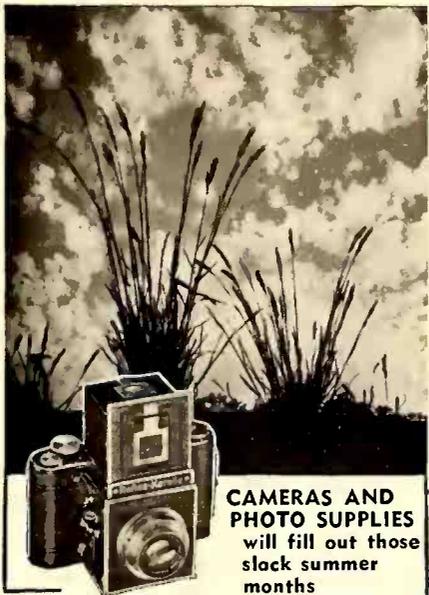


THEY'RE SELLING sound systems hand-over-fist today. Theatres, dance halls, ball parks, cafeterias, churches, plants—all want Public Address. Get in—and add Lafayette, the BIG profit line to your line!

LAFAYETTE GIVES YOU 3 complete lines to sell. Hit every price bracket with Lafayette's Economy, Standard and new DeLux 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.! *The most complete line of sound equipment in the world.*

LAFAYETTE RADIO CORPORATION
Dept. 12E9—
100 Sixth Ave., New York, N. Y.

LAFAYETTE
p. a. sales division
NEW YORK ATLANTA CHICAGO



CAMERAS AND PHOTO SUPPLIES will fill out those slack summer months

The IDEAL COMPANION LINE FOR RADIO

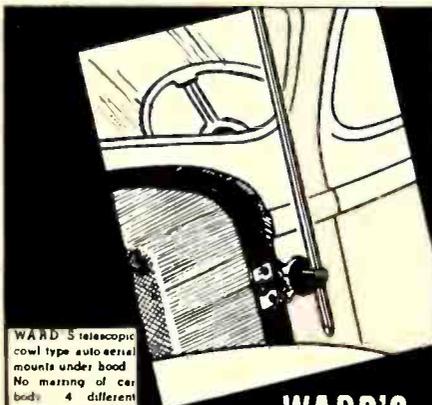
Inquiries from responsible radio dealers who are interested in adding cameras and accessories to their regular line are invited. When writing advise if you are now carrying photographic equipment—and mention the lines you carry.

We offer a complete line of cameras and photo supplies and the benefit of our long experience is available to interested dealers. Address Dept. RT-4 on your business stationery.

A complete line of cameras for the dealer

- KORELLE-REFLEX** 2 1/4 x 2 1/4—12 on 120
- WELTINI, Coupled** 35mm., 18 or 36 exp.
- WELTUR, Coupled** 1 3/4 x 2 1/4 - 2 1/4 x 3 1/4 in.
- WELTI** 35mm., 18 or 36 exp.
- WELTAX** 2 1/4 x 2 1/4 - 1 3/4 x 2 1/4 in.
- GARANT** 2 1/4 x 3 1/4 - 1 3/4 x 2 1/4 in.
- WATSON Candid** 35mm., 18 or 36 exp.

Burke & James, Inc. 225 W. Madison St. CHICAGO, ILL.



WARD'S telescopic cowl type auto aerial mounts under hood. No marring of car body. 4 different models available.

WARD'S

new Concealed Mount **AERIALS** Give You These

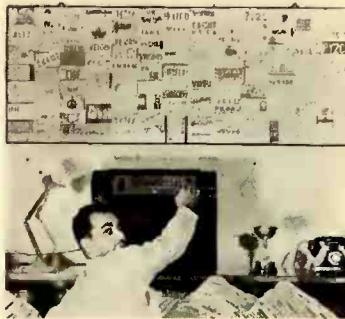
5 Sales Advantages

SEE YOUR JOBBER OR WRITE FOR FREE CATALOG

- No drilling thru car body, mounts under hood
- Rattle-proof with Ward's patented anti-rattle feature
- Streamlined design lopped with "anti-static" ball tip
- Sturdy brass mounting brackets
- Gives better reception

WARD PRODUCTS Corp

WARD BUILDING CLEVELAND, OHIO



D. R. D. Wadia, Philco distributor in Bombay, India, gets plenty of DX. He heads several ham clubs, shoots tigers and races cars on the side.

Danville, Ill.—Showmanship in business and service demonstrated.

Detroit, Mich.—Committee appointed to work out minimum service charge plan.

Duluth, Minn.—Car radio installation prices discussed. Frequency Modulation explained.

Flint, Mich.—Trying to eliminate word "free" from all radio service advertising. Telephone book is cooperating.

Long Island, N. Y.—Cards listing names and 'phones of all members and a plug for RSA will be attached to all sets sold or serviced. Card to have small discount value at any member shop.

New Jersey—Explanation of vibrators and methods of auto radio servicing by Mr. Shapiro of Radiart.

New York City—Problems and outlook of television discussed by M. B. Sleeper of Andrea.

Springfield, Ill.—Price-cutting and free-service offenders contacted.

R. T. Brengle retires

The retirement of *Ralph T. Brengle* from *Clough-Brengle Co.*, due to illness was announced recently by the company. Mr. Brengle formerly supervised manufacturing and held the office of treasurer.

Mr. Brengle is succeeded as plant manager by *William Meyenberg* and the post of treasurer is assumed by *Arthur R. Hall*, secretary.

Clough-Brengle Co. has acquired a more favorable location at 5501 N. Broadway, Chicago.

Stewart-Warner has scheduled four sectional conventions in June; Chicago, June 6; New York, June 9; Dallas, June 12; San Francisco, June 14.

R. A. Youngblood becomes manager of *Zenith's* premium division.

Dumont is making a point to educate picked servicemen by television lectures and demonstrations.

MUSICAL TOWERS BELFRY CHIMES • CARILLON

Biggest PROFIT opportunity yet for established organizations specializing in sound installations. Brand new field! Market hasn't been touched! Sell and service complete amplifying systems for tower, belfry chime installations. NEW Sunco MASTER finest quality custom-built instrument m a d e.



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. We furnish everything—speakers, accessories, installation directions. Sales help. Special low-noise records for church service on acetate discs. 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. FUSE MOUNTING—ALL KINDS. See your jobber or write today for catalog and prices.

LITTELFUSE INCORPORATED 4260 LINCOLN AVE. CHICAGO, ILL.



Little Americans . . .

THE SMALLEST MIDGET with the **BEST PERFORMANCE**

ALL STANDARD CAPACITIES ALL WORKING VOLTAGES

Literature and Price Lists on Request

AMERICAN CONDENSER CORPORATION 2508S. Michigan Ave., Chicago, Ill.

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



Dean A. Lewis has joined the Farnsworth Television & Radio Corp. as special factory representative.

N. Y. City Radio Men Aid Refugees

To enlist the support of the trade on behalf of the emergency refugee campaign, leading members of the radio and musical instruments industries in New York City have organized to form a division of the United Jewish Appeal for Refugees and Overseas Needs. Funds raised will be expended here and abroad to further the activities of the three principal Jewish organizations devoted to refugee aid, retraining and resettlement—the Joint Distribution Committee, the United Palestine Appeal, and the National Coordinating Committee.

Included in the list of men cooperating are: Ben Abrams, Emerson Radio Co.; Henry Benjamin, Davega City Radio; William Brand, Wm. Brand & Co.; Abram Davega, Davega City Radio; Henry Halpern, Air-King Radio Co.; Julius Kasover, Vim Radio Co.; Samuel Salzman, Wholesale Radio Co.; Irving Sarnoff, Bruno-New York Co.

* * *

Bendix Home Appliances have appointed *W. C. Jones* to assist *Parker H. Erickson* in the development of contests, advertising plans, and promotional activities.

A radically designed cubical antenna has been developed by *General Electric* for their new 10 kilowatt television station near Albany, N. Y.

C. P. Cushway, *Thordarson* general sales manager has returned from a two weeks' trip to New York and other eastern points.

Gilbert Seldes, CBS television program director, sailed for England to "borrow" Donald Hunter Munro from the British Broadcasting Corp.

The *Finch* facsimile system was demonstrated before the Canadian Radio Committee in Ottawa, Canada.

Joe Gerl has purchased the *Sonora Electric Phonograph Corp.*, 132-4 W. 22nd St., New York, N. Y., from its present owners and will take an active participation in its development.

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

BIGGER PROFITS in C-D CAPACITORS



Type BR "Blue Beavers"
Fastest Moving Electrolytics on the Market

In twenty-nine years of capacitor engineering C-D has never compromised with quality—and never will. But there is more to making money than supplying your customers with product dependability.

You must also have a product that will lend itself to a majority of present-day servicing jobs. That is why the new Improved Type BR "Blue Beavers" are the fastest selling electrolytics on the market today. Compact, scientifically vented, with flexible wire terminals the Type BR's satisfactorily combine quality and adaptability.

Standardize on C-D capacitors for bigger profits. Catalog number 165A describing the complete line of C-D paper, mica, Dykanol, wet and dry electrolytics on request.

World's Largest Manufacturer of Capacitors



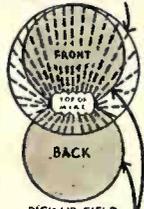
**CORNELL-DUBILIER
ELECTRIC CORPORATION**
1022 Hamilton Blvd., So. Plainfield, N. J.
Cable Address: "CORDU"

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

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AMPERITE Velocity MICROPHONES

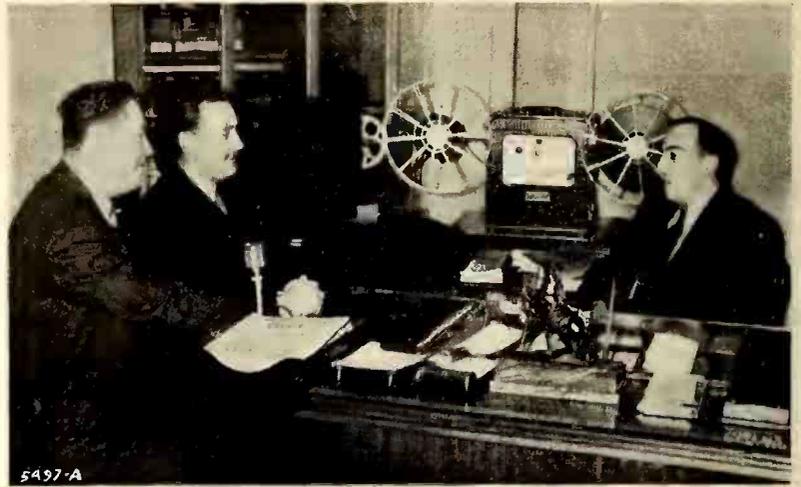


WAXES AND COMPOUNDS

FOR INSULATION & WATERPROOFING of ELECTRICAL and RADIO COMPONENTS

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

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



A Miles reproducer being used to record a conference between (l. to r.) J. M. Kuhlik, v.p. of Miles Co.; M. Seldmen, asst. sales mgr. of Miles, and Mr. Simon, pres. of Altex Products Co., 79 Madison Ave., NYC., makers of National Brake Block.

James J. Lawler, Safety Engineer with Hygrade Sylvania has been elected to the American Society of Safety Engineers.

Universal Microphone Co. is now producing crystal microphones mounted in the handi.mikes, 15 mm. model and the breastplate type, giving low impedance of 33,200 and 500 ohms, as well as the regular high impedance direct to grid types.

Cornell-Dubilier execs at the Trade Show will include: Leon Adelman, William Dubilier, Charles Caine, William Bailey, Paul Deeley, and Frank Taylor.

Universal Microphone Co., Inglewood, Cal., has assembled a complete pressing and processing plant for factory demonstration and mainly for export through Frazar and Co., San Francisco.

Philco is marketing a new refrigerator cabinet polish called Conserva-Finish and are shipping special record player needles with all Philco RP models. The needles are listed separately at 25 cents per package of 35.



W. B. E. Norins, new General Sales Manager for Majestic Radio & Television Corp., formerly in charge of eastern sales.

Jobbers doings

"Sound advice"

On its envelopes mailed out to customers, the Walker C. Cottrell Company, First Street between Main and Cary, Richmond, Va., carries the catch-line "Sound Advice — from Walker C. Cottrell, etc." The company carries Atlas, Amperite, Bell, Turner, Remler and Presto equipment, as well as sound-motion-picture apparatus.

American Record Corp., appoints B. & O. Radio, Inc., 620-634 Market St., Newark, N. J., to distribute Columbia, Brunswick, and Vocalion records in Northern New Jersey Area.

Stern-Brown, 42-24 Orchard St., Long Island City, N. Y., have engaged permanent display rooms at 1150 Broadway, New York City. Room 505. Their line of electrical appliances will be on display.

Stromberg-Carlson distributor's saw the S-C television receivers at the company's annual sales convention in Rochester May 9-12.

Southeastern Supply Corp. announce two offices where dealers may contact them for electric refrigerators, beverage coolers, radios, heaters, ranges, water pumps and other items. Main office is located at 128 W. Olney Road, Norfolk, Va. Present address in Richmond, Va., is P. O. Box 4174.

Mfr's salesmen

Radio Salesmen Wanted—A radio manufacturer wants experienced radio salesmen with following among department stores and best rated music and radio stores. All territories open except New York City. Liberal commission. Address Box B, Radio Today, 480 Lexington Ave., New York, N. Y.

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Within a few days the Mighty Monarch of the Air will present to you an inspiring first edition . . . complete facts about the new MAJESTIC - its policy, its plans, its aspirations.

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You will learn why MAJESTIC DEMANDS NO QUOTAS.

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To those of you who have reserved your decision on a line for 1940 - to you who have planned a change for the coming year, this enlightening MAJESTIC edition brings a vitally important message.

If you have not received your copy by May 30, wire me and I will mail one to you immediately.

Very truly yours,



W. B. E. Norins, General Sales Manager,
MAJESTIC RADIO & TELEVISION CORPORATION