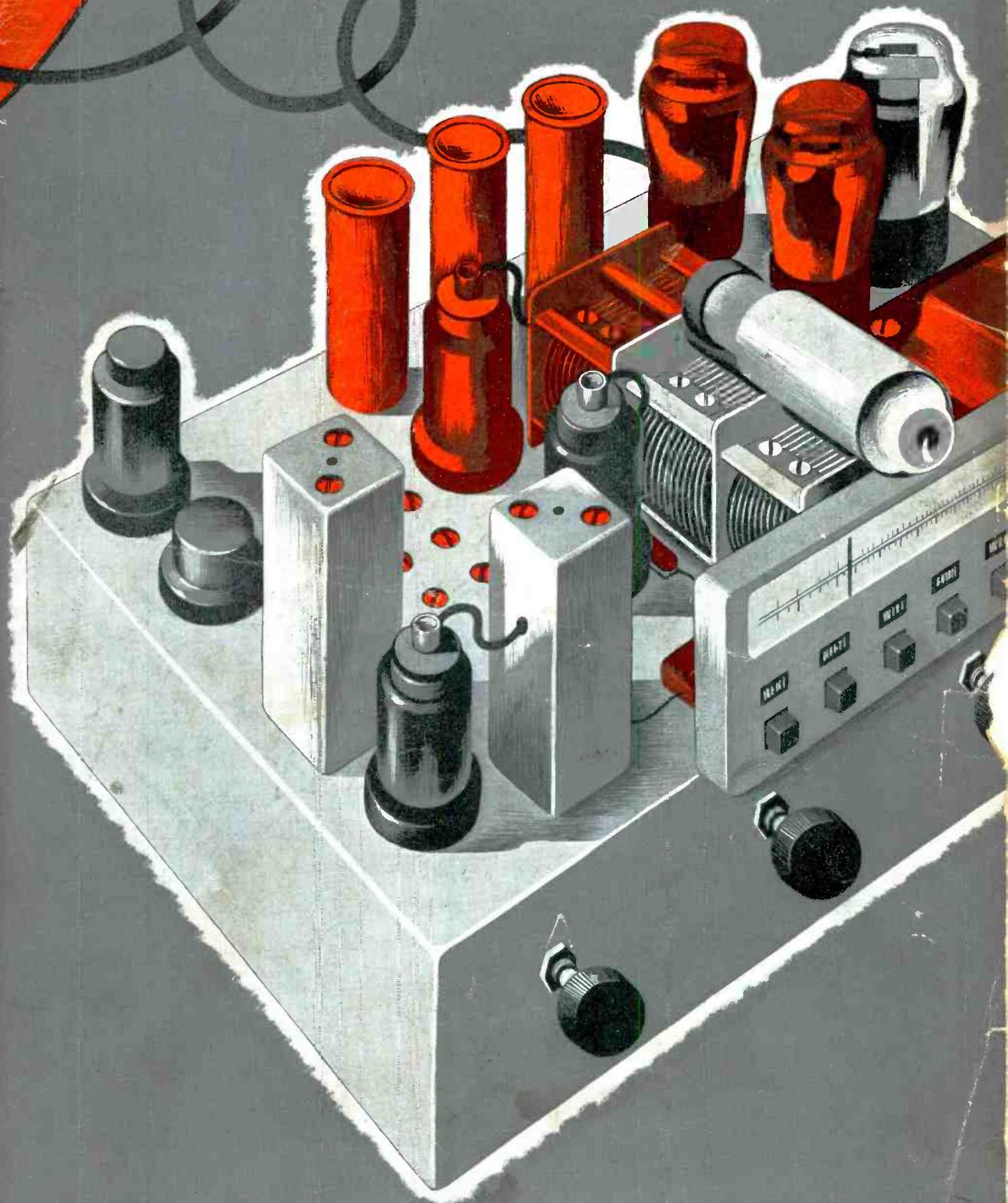


RADIO RETAILING

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McGraw-Hill Publishing Company, Inc.

MARCH • 1939



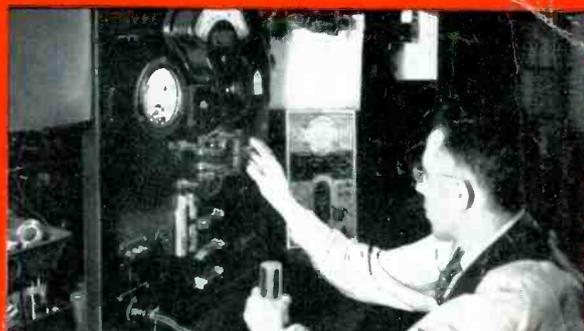
Are New Radios Good **ENOUGH?**

(Story on Page 16)

Best! by Test-



After assembly, every Mallory Vibrator mechanism is carefully checked to see that all mechanical adjustments are perfect.



After assembly, every Mallory Vibrator is tested for electrical characteristics . . . output, balance, wave form, starting voltage and steady operation on this meter-board and cathode ray oscilloscope.

P. R. MALLORY & CO. Inc. **MALLORY** Replacement **Vibrators**



Every Mallory Vibrator is tested for noise in a sound-proof room under actual set operating conditions.



Life test. A percentage of every production run on every type of Mallory Vibrator is tested under actual set operating conditions for 1000 hours.

*Insist on Mallory—
Buy the best—
They cost no more!*

Mallory Vibrators have won overwhelming preference as original equipment in the majority of auto radio receivers by "Show Down" tests. Tests and long life records have settled the question of "what vibrator to use" indisputably in their favor. Manufacturers find them better. That's why it is no wonder that Mallory Replacement Vibrators lead the field.



Only the Second Edition Mallory-Yaxley Radio Encyclopedia gives you *all* data on every Vibrator application. It covers every servicing problem—you cannot afford to be without it. Ask your distributor.

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MALLORY
REPLACEMENT
CONDENSERS...VIBRATORS

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VOLUME CONTROLS

RADIO RETAILING



A McGRAW-HILL

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MARCH 1939

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SALES STATIC... So you demonstrated a record-player to a dame like her with "Flat Foot Floogie!"



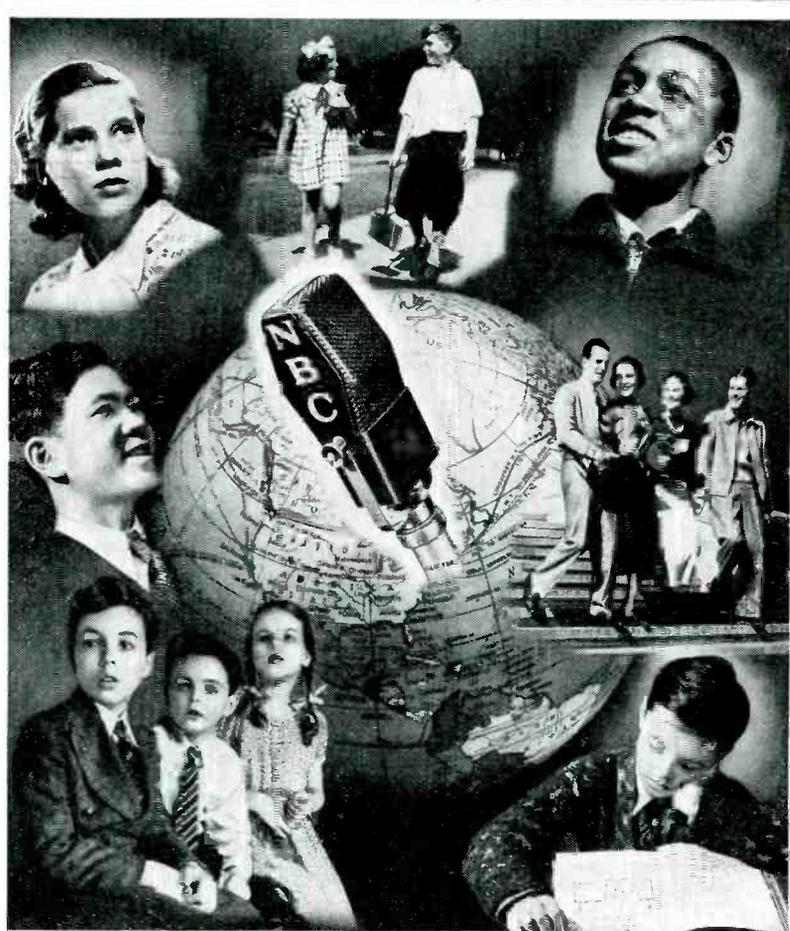
Radio's Service to Education

IN the past ten years knowledge of good music has grown a thousandfold. An informed electorate has been created by the thorough airing of public issues. Drama, literature, the arts and sciences are vastly better understood. Students, from kindergarten to university post-graduates, have found new interest in their studies.

The National Broadcasting Company, the broadcasting service of Radio Corporation of America, has given long and careful thought to the building of programs of an educational nature. NBC now offers each week many "public service programs" planned to fit into the scheme of education in the United States. They do not seek to replace educators or supplant schools or colleges. Rather they are planned to help the work of teachers by inspiring greater interest in learning.

RCA Victor Radios, RCA Victrolas, and Public Address Systems are instruments for education. Fact is, RCA has helped make radio a fourth "R" in the famous series... "readin', 'ritin', 'rithmetic" and radio. And—in so doing RCA has rendered a service to dealers, service men and distributors who handle equipment built by RCA. It pays to go "RCA All the Way."

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



Youth's is a great heritage. Today through the magic of radio, whether it be the first generation in this country, or the tenth, the younger generation and all people of the United States understand and appreciate their country better—are more widely informed on more subjects than ever before.



Through Radio, the Crossroads School finds itself at the Crossroads of the World—Typical country school in New Castle Township (N.Y.) where today radio opens new fields of cultural opportunity.



"I like school now we've got a radio!"



He teaches in more than 70,000 schools.

The "Music Appreciation Hour," conducted by Dr. Walter Damrosch and broadcast each Friday during the school year by NBC is a regular part of the course of study in more than 70,000 schools.

Radio Corporation of America

RCA MANUFACTURING COMPANY, INC. RADIO CITY, N. Y. NATIONAL BROADCASTING COMPANY
RADIOMARINE CORPORATION OF AMERICA R.C.A. COMMUNICATIONS, INC. RCA INSTITUTES, INC.

The Biggest News in VIBRATORS



FROM coast to coast the best Parts Jobbers now have complete stocks of Meissner Vibrators—the finest that money can buy.

No expense has been spared to make the Meissner name mean "tops" on vibrators just as it always has on coils.

The Meissner line is complete, a model for every replacement—all extensively field tested.

Each Meissner Vibrator is manufactured, tested and aged on the shelf at the factory. Then it is tested again to be sure the metallurgical changes have not impaired its efficiency or uniformity. We believe this expensive safeguard is not done by any other vibrator manufacturer. It is your GUARANTEE of top quality. And, of course, Meissner Vibrators cost no more than less reliable ones.

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 • I. F. TRANSFORMERS
SERVICE PARTS • DIALS • SWITCHES • TUNING UNITS

MEISSNER MFG. CO.
Mt. Carmel, Illinois, Dept. R-3

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"

8624



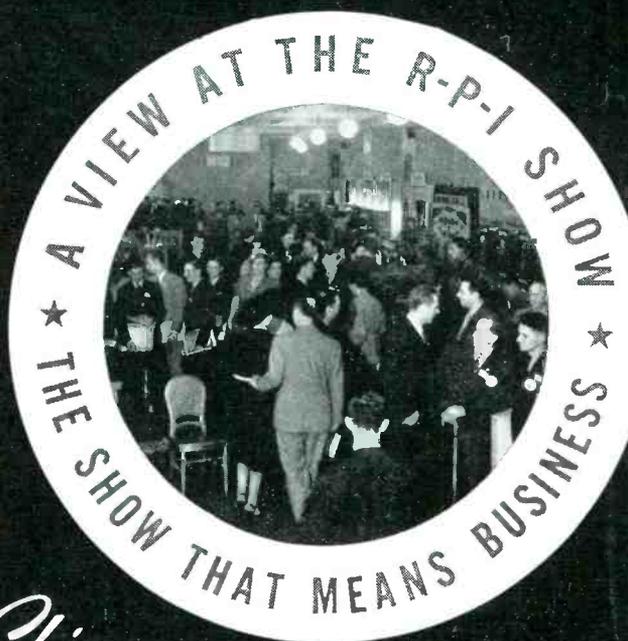
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Yes...eight thousand six hundred and twenty-four attended the National Radio Parts Trade Show in Chicago last June—the biggest get-together the Radio Parts Industry has ever held! Look at the record—see how the National Radio Parts Trade Show has grown in interest and attendance with each successive year! Every branch of the Industry has been represented. Manufacturers, Jobbers, Manufacturers' Agents, Engineers, Factory Men, Sound Specialists, Servicemen and Amateurs—from all over the world—meet in this one and only big annual event for the Radio Parts Industry.

IT PAYS TO ATTEND THE TRADE SHOW

Whatever you do, don't miss the next National Radio Parts Trade Show at the Stevens Hotel in Chicago, June 14, 15, 16, 17. Over 100 Manufacturers have already taken exhibit space. That's setting a new record—and means the biggest show ever! Make plans now to attend.

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

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

**WITH THE AID OF
RAYTHEON TUBES**

Illinois Police Radio Blockade Cuts Crime Careers Short!

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

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

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

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

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



RAYTHEON

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

"WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS"

WHY SELL AT ALL IF YOU



THE LEONARD WAY OF DOING BUSINESS IS A PATH TO A PROFIT

Dealers, tired of merry-go-round selling—lots of work without getting anywhere—are asking to hear Leonard's story for 1939



A MERRY-GO-ROUND rider can travel a long time and get off exactly where he got on.

A dealer can sell a lot of refrigerators and come to the end of the year exactly where he started. It's hap-

pened before this.

The Leonard Way of Doing Business aims at a net profit rather than mere volume.

First of all, merchandise must be kept moving. You can't make money with your capital tied up in a warehouse. Neither can we. So sales *by* dealers mean more to Leonard than sales *to* dealers.

Dealer problems must be recognized as factory problems. So ours is a shirt sleeve partnership. If you have headaches we want to know about them. We want to help you to *sell* rather than "gang up" on you

to buy. Naturally we want you to have Leonard refrigerators in stock. But not one red cent's worth more than you can sell.

We, too, think about net at the end of the year. We couldn't show a profit if we had to build a new dealer organization every year.

The only way we know to keep dealers from year to year is to help them to make *their* profit—and we *do* keep them.

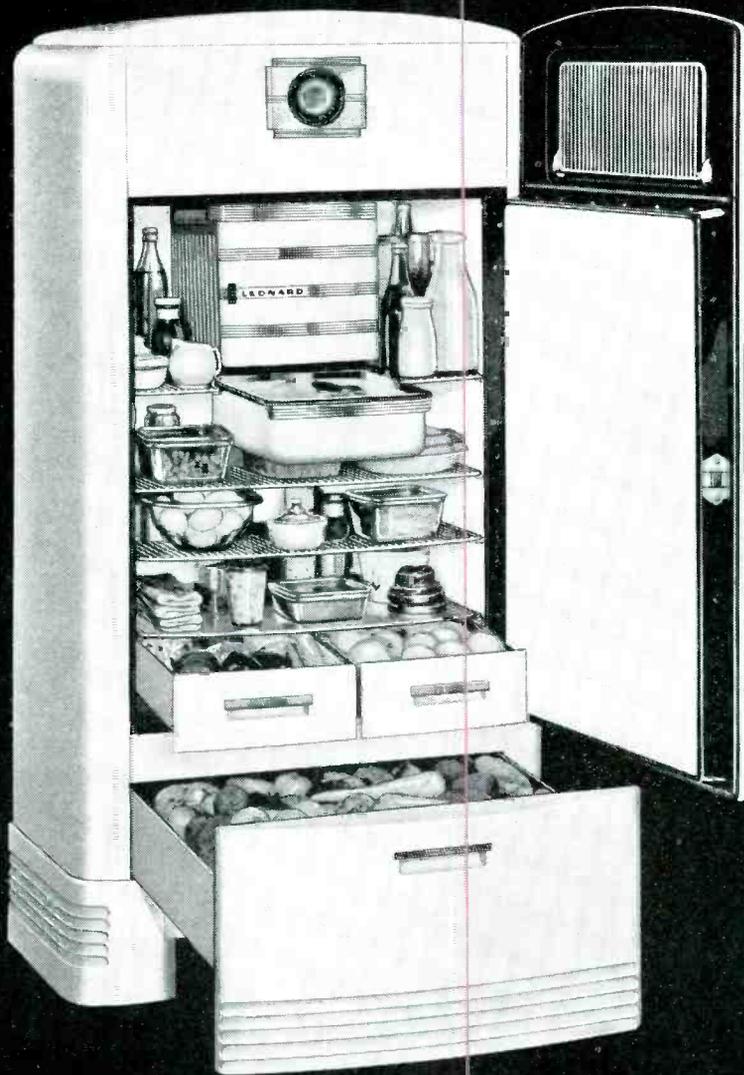
That's the real, low-down on the Leonard Way of Doing Business. And that's why our whole program is tailored to fit you and your own sales problems.

One dealer—and a typical dealer, by the way—said the other day, "Leonard treats me as an individual. And both the factory and my distributor seem to think *my* problems are just as important as their own. My net is what seems to count with Leonard." LEONARD, 14250 Plymouth Road, Detroit, Michigan.

IT'S EASIER TO MAKE
MONEY WITH THE

LEONARD WAY

U DON'T MAKE MONEY?



MORE FAMILIES, FOR MORE YEARS, HAVE KEPT THEIR FOOD SAFE IN LEONARD THAN IN ANY OTHER REFRIGERATOR

This statement is in itself an additional guaranty of quality and performance—the kind of a guaranty that refrigeration shoppers appreciate. It backs up the brilliant array of selling features which they can see for themselves—or which you can demonstrate—the stainless

steel Zero-Freezer, the “Ice-Popper” Trays, the Master Dial, the Vegetable Bin, the Meat File, the Show-Case Food File, the 3-Way Len-A-Latch, the Rearranging Shelf and, of course, the economical, trouble-proof, quiet Glacier Sealed Unit.

Leonard Travels in Good Company

Albany, N. Y.	E. S. & E. Co., Inc.
Altoona, Pa.	Electric Appliance Distributors
Amarillo, Tex.	Nunn Electric Co.
Atlanta, Ga.	Lamar-Rankin Co.
Binghamton, N. Y.	Morris Distributing Co.
Birmingham, Ala.	Magic City Appliance Co.
Boise, Idaho	Bertram Motor Supply Co.
Boston, Mass.	J. H. Burke Co.
Buffalo, N. Y.	Joseph Strauss Co.
Charleston, W. Va.	Eskew, Smith & Cannon
Charlotte, N. C.	Page-Williamson, Inc.
Chicago, Ill.	L. C. Wiswell Co.
Cincinnati, Ohio	Schuster Electric Co.
Cleveland, Ohio	Arnold Wholesale Corp.
Columbus, Ohio	Appliance Distributing Co.
Dallas, Texas	Peaslee-Gaulbert Corp.
Dayton, Ohio	York Supply Co.
Decatur, Ill.	Linn & Scruggs
Denver, Colo.	Hendrie & Bolthoff Co.
Des Moines, Iowa	A. A. Schneiderhahn Co.
Detroit, Mich.	Buhl Sons Co.
Dodge City, Kans.	Mullin Furniture Co.
Escanaba, Mich.	Delta Hardware Co.
Grand Rapids, Mich.	J. A. White Distributing Co.
Harrisburg, Pa.	Knerr, Inc.
Indianapolis, Ind.	United Distributing Co.
Kansas City, Mo.	Federal Distributing Co.
Knoxville, Tenn.	Maytag Appliance Co.
Los Angeles, Cal.	Graybar Electric Co.
Louisville, Ky.	Stratton-Terstegge Co.
Memphis, Tenn.	Harry T. Wilson Co.
Miami, Florida	Major Appliances, Inc.
Milwaukee, Wisc.	Taylor Electric Co.
Minneapolis, Minn.	Enger Supply Co.
Montgomery, Ala.	Mathews Furniture Co.
Nashville, Tenn.	Nashville Chair Co.
Newark, N. J.	E. B. Latham Co.
Newburgh, N. Y.	Shapiro Sporting Goods Co.
New Haven, Conn.	H. M. Tower Corp.
New Orleans, La.	Radio Specialty Corp.
New York, N. Y.	E. B. Latham Co.
Omaha, Nebr.	Paramount Radio Shop, Inc.
Paducah, Ky.	Gleaves & Son
Peoria, Ill.	Coher Furniture Co.
Philadelphia, Pa.	Motor Parts Co.
Phoenix, Ariz.	Graybar Electric Co.
Pittsburgh, Pa.	J. A. Williams Co.
Plattsburgh, N. Y.	A. H. Marshall Co.
Portland, Maine	Cressey & Allen
Portland, Ore.	Electrical Distributing, Inc.
Providence, R. I.	Ballou, Johnson & Nichols Co.
Richmond, Va.	Graybar Electric Co.
Rochester, N. Y.	Kamp Equipment Co.
Salt Lake City, Utah	United Electric Supply Co.
San Francisco, Cal.	Graybar Electric Co.
Scranton, Pa.	Household Appliance Distributors
South Bend, Ind.	Cloud Bros.
Syracuse, N. Y.	Morris Distributing Co.
Toledo, Ohio	Electric Range & Equip. Co.
Trenton, N. J.	Adams Distributing Co.
Tulsa, Okla.	Otasco Supply Co.
Washington, D. C.	Southern Wholesalers, Inc.
Williamson, W. Va.	Persinger Supply Co.

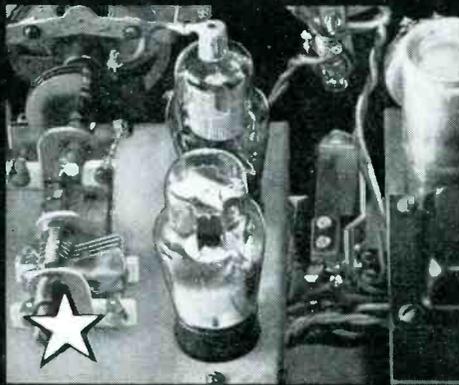
of Doing Business

Your Lucky Stars

...YOU GET THEM ALL WHEN YOU SELL SYLVANIAS!



COMPANY DEPENDABILITY: Sylvania has invested vast sums in engineering brains—to insure its leadership for the future! Sylvania is one of the world's largest manufacturers of radio tubes!



PRODUCT DEPENDABILITY: Sylvania tubes are made of only the finest materials . . . with infinite skill and precision! And Sylvania eliminates "seconds" by destroying any tube proved imperfect!



PROFIT DEPENDABILITY: Sylvania quality is your insurance against kick-backs—and that means *dependable* profits for you! Sylvania gives you a full line of powerful sales-promotion items—to help you help your business!



The success of any retailing business depends largely on the brand-merchandise sold. That is why it's so important for radio tube retailers to feature a line that offers *3-way dependability*—dependability in company, product, and above

all, in PROFIT. You need *full measure* on each.

Take stock . . . then take Sylvania. For you get "all three" if you sell the Sylvania line—not only company and product dependability—but PROFIT DEPENDABILITY, too!

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

SELL SYLVANIA
SET-TESTED RADIO TUBES

• D E P E N D A B L E A L L W A Y S •

The RADIO MONTH

MARCH

1939

The Outlook Let no one be discouraged because right now some lines of business still are feeling a post-holiday lull of unusual duration. They will surely snap out of it when spring comes, and meanwhile current reports are producing plenty of evidence that underlying business conditions are good, and that retail business this year is bound to be far ahead of 1938.

For instance, steel production since January 1, 1939, has been running over 60% ahead of 1938, automobiles are being turned out at an average of over 80,000 per week against a weekly average of less than 60,000 last year this time. The index covering machinery production has gone up 35% in 3 months. The awards of contracts for new construction work, made during the first eight weeks of this year, were 29% above the same period of 1938, and incidentally January was the biggest construction-award month since 1929.

What about retail business? Well—here are some figures that will surprise you. Retail sales of automobiles during January were 'way above 1938, Chevrolet sold 31% more new cars to consumers than last January, Nash retail sales were up 55%, Oldsmobile up 78%, Pontiac up 85%, and even the high-priced Cadillac-LaSalle line topped last year's January sales by 50%. Chain store and mail order sales are up.

The sad part is that radio set sales are up in units, 25% in December, 18% in January, but deplorably down in dollar value.

Prices on automobiles have not been cut. They involve hundreds of dollars per sale, and the terms at which they are sold are no better than those available on radio sets.

What's the answer?

Barring unexpected developments, the outlook for business is good. Retail buying is increasing. There are plenty of good radio sets. Good sales terms can be offered to

induce buyers. If, therefore, the radio industry can develop the same nerve and salesmanship that is typical of the automobile industry, radio set sales should go up—not merely in units, but the dollar value per sale would be retrieved from the sub-cellar levels of today and carried into more profitable price brackets. **THE TIME IS RIPE AND IT CAN BE DONE.**

20 Millions Big figures—those. Heap big palaver for radio dealers. Nevertheless there are today just that many registered automobiles traveling the highways and by-ways **WITHOUT** a radio.

True—that some of those cars don't "rate" a radio. For others, their owners can hardly afford to buy tires, when needed, much less than a radio.

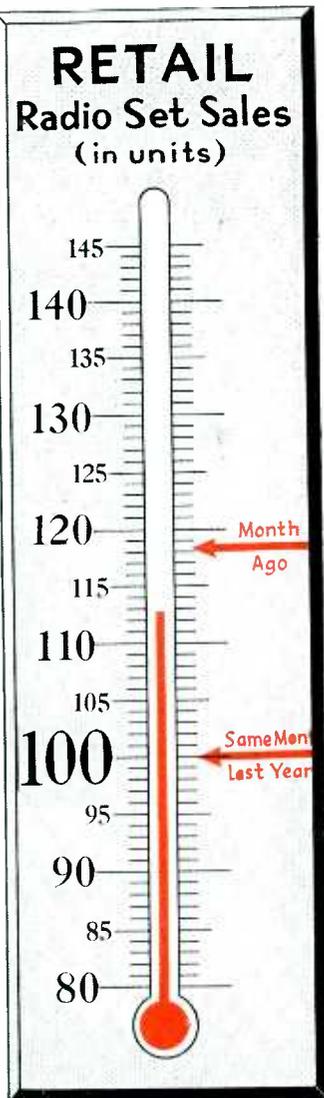
But—cut that figure in half if you prefer—even ten million cars offer a big sales opportunity for the radio dealers who don't take no for an answer.

Just remember that sales of auto radios can't be made from an armchair or in a swivel chair, instead you have to go out and do a selling job if you want that kind of business.

Manufacturers are supplying auto radios of unquestioned quality, to fit any car and anybody's purse. There are enough non-radio cars in any territory to give a dealer plenty of sales opportunities. Passing up this business is passing up good profits. If you do—don't blame the radio industry.

Radio and Congress I n

land of proverbial liberty, our freedom of action and speech—guaranteed under the Constitution and the Bill of Rights—is taken so much for granted that many of us do not recognize a time when there is need for an active campaign in protection of that freedom, when failure to de-



February Sales

Business Barometer

PERSISTENT promotions, particularly of microbe models, are keeping unit set sales for the country at large well above last year's level, even though last year the figures were artificially upped through the tremendous volume of dumping that was going on.

Thus the fact that for February our barometer stands at 113, or 13% above last year, indicates that the public is absorbing sets in good quantities, but from all over the country come grumblings and complaints that distributors and dealers are getting decidedly weary of going through a lot of motions without much or any profit.

In some of the large cities, department or chain stores staged special promotions which helped independent dealers. In a few spots, campaigns to sell a recently announced sub-microbe set pushed up unit sales. Nevertheless numerous dealers report that trading-up tactics are successful when the extremely cheap sets are not shown, others say they can't sell expensive sets at all right now.

From southeastern states, particularly Alabama, Florida, Georgia and Louisiana, a surprising number of dealers report healthy increases in February sales with the average values per sale well above the midget levels and not far below last year.

Most of the midwestern retailers appear to be holding their own in unit sales, but dollar volume is substantially below last year.

Reports from North Atlantic coast states reflect unit performance about on par with last year, while in metropolitan centers special promotions are getting good response without building up great dollar volume. Similar conditions seem to prevail in the Pacific Coast states.

fend it may mean forfeiture of the privilege of its enjoyment.

It appears that for the radio industry right now such a time is at hand. Free speech and the American system of broadcasting are under attack. Congressional committees are investigating radio. Numerous measures introduced in Congress propose all sorts of regulations, limitations and worse. Just what will come out of all this, no one knows. Certain it is that the radio industry and the broadcasters must fight for self-preservation or find progress and expansion hampered or perhaps entirely stifled by the government.

What government interference or control may mean is demonstrated by recent news reports from Canada where the government-controlled Canadian Broadcasting Corporation reigns supreme.

That body has decreed that there are to be no *privately owned* facsimile broadcasting stations. Similarly, the development of *privately owned* television stations is frowned upon, and only recently an already existing Canadian broadcasting station (in good standing) was denied the privilege of investing \$85,000 in television transmitting equipment by being refused a license.

Under its charter, the CBC practically controls the ether, may regulate, determine or prescribe in connection with all broadcasting activities. Its regulations and censorship reach right down into the terminology of broadcasts. And, as in Canada's mother country, Great Britain, owners of radio sets must pay an annual tax of \$2.50 for the privilege of listening in. It is probable that if British listeners did not have access to the highly popular Luxembourg programs, and Canadians could not tune in on United States programs, but that they would have to listen solely to what government controlled stations dished up to them, both countries would have far fewer radio sets.

It is our constitutionally guaranteed freedom of speech and action that has enabled the American radio industry to lead the world in development, has enabled us to put at least one radio set into 9 out of every 10 homes, has given American broadcast programs world-wide popularity.

It behooves everyone, directly or indirectly interested in radio, to help guard that freedom against any

encroachment, actual or implied, from whatever quarters it may threaten. Only by demonstrating our readiness to protect that freedom can we prove that we are worthy of its enjoyment.

On the Loop Sales feature sufficiently dramatic to attract consumer attention this season is the built-in loop of special construction designed to make certain sets under certain conditions "antennaless." Cleverly applied several months ago to home sets by one manufacturer who improved an early idea by adding static shielding, the stunt lent itself to many new battery portables when compact and efficient winding types were developed. And now it appears certain that many power-line receivers will adapt it to further add to the convenience of home set installation.

Noted in most instances will be some directional pickup characteristics. Used to favor broadcast signals and discriminate against unwanted electrical noise, especially where effective static shielding is provided, the feature can do much more than just simplify installation. And where an outside antenna is required in remote areas it will be found that in most cases binding posts are provided for such external collectors.

Tube Life Recently, while testifying before the Temporary National Economic Committee in Washington, Dr. F. B. Jewett, Vice President of the American Telephone and Telegraph Co., mentioned a 50,000-hour vacuum tube used in long distance telephone service.

Some investigators pounced on the item, thought that somebody had been holding out, wanted to know why such long life tubes were not made available to the public for use in radio sets.

Dr. Jewett points out that to build such long life into any tube "would definitely entail a greater cost" and suggests that in connection with radio sets, that are a "thing of relatively short life, perhaps four to six years" nothing would be gained by using tubes whose normal life is eight to ten times the life of their associated equipment.

From the standpoint of the com-

mittee, Dr. Jewett's statement from which we quoted should settle the matter.

From the standpoint of the radio dealer and serviceman, it appears that, as far as the public is concerned, 50,000 hour tubes have been supplied ever since tubes were put into radio sets. The set owner leaves the tubes undisturbed until something happens and then resents the fact that new tubes may be needed. Many set owners brag about the fact that they have not touched a tube in their sets since they bought it.

It is about time that the industry tell the public just what highly sensitive function a radio tube performs, how continued service impairs performance, why periodical replacement is necessary to perfect reception.

Dealers and servicemen will cooperate in educating the public if manufacturers will supply material for a "change your radio tubes once a year" campaign. Who will start the ball rolling?

Hollywood Holdout

From Hollywood come persistent rumors that movie makers, attributing a pinch at the pocketbook to radio and concerned about the imminent competition of television, plan to deny broadcasters continued use of their brightest stars.

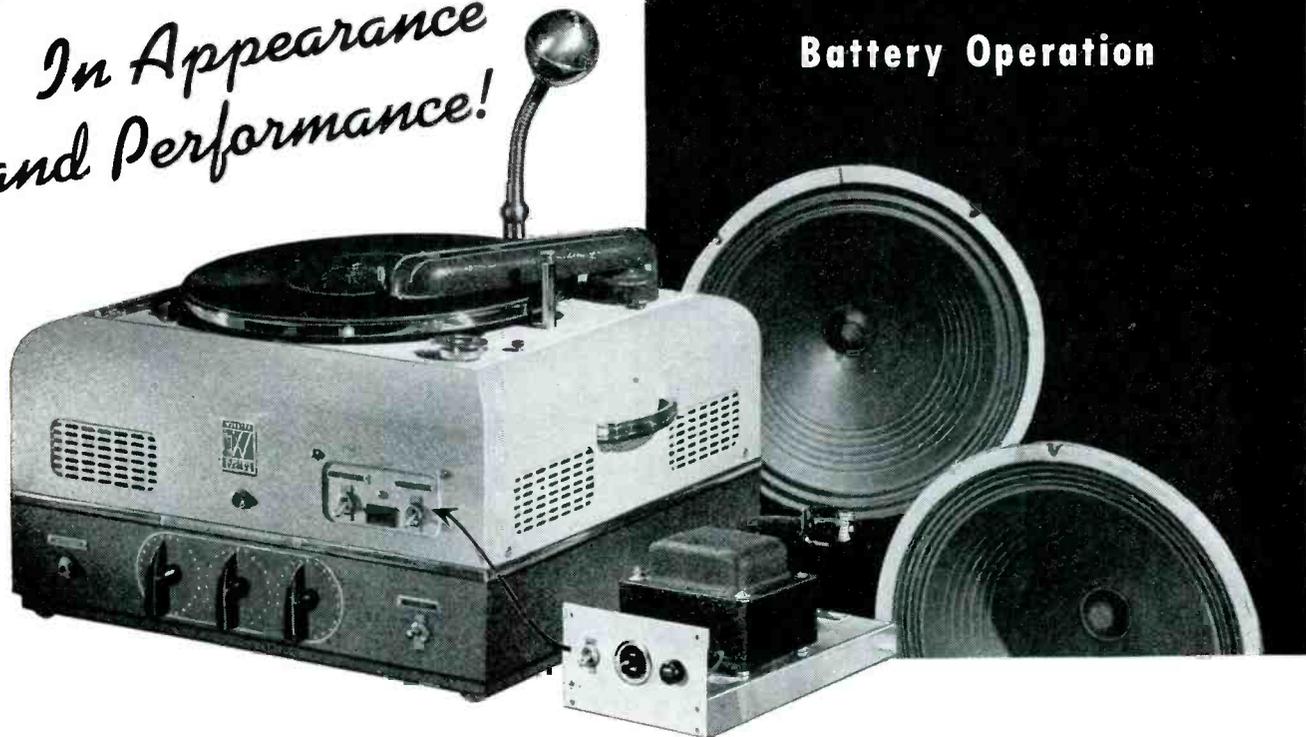
Should such a ban become effective we suspect that the movies will lose infinitely more than will radio. For the box-office power of movie stars depends very nearly as much upon their ability to keep in the public eye through every available publicity medium as it does upon their actual ability on the silver screen. And radio is the most effective publicity medium yet devised by man.



EDITOR

OUTSTANDING

*In Appearance
and Performance!*



For 110-Volt A.C.
or 6-Volt Storage
Battery Operation

The Webster Electric Amplifier Assures a Complete High Quality Mobile Sound System

When you buy a Mobile Sound System you might just as well get outstanding appearance as well as outstanding performance. You very definitely get both in this fine Webster Electric unit.

Note the illustration. Have you ever seen a better looking unit? Follow the arrow and see how simple it is to change for either 110-volt operation or 6-volt battery operation. It is convenient, too. Four speaker receptacles are provided with change-over switch for matching impedance. The power output is 20 watts at 5% harmonic distortion. Gain: 130 D. B. for microphone; 91 for phono unit.

The complete system includes amplifier with turntable and crystal pick-up; hand type crystal microphone with shielded cord and plug; two P.M. dynamic speakers with cords and plugs; set of matched tubes and power packs for operation off of 110-volts A.C. and 6-volts D.C. and battery connecting cord.

Write for complete specifications on complete line of amplifiers and portable systems. It is a well-known fact that you cannot secure anything better than Webster Electric quality—at moderate prices.

WEBSTER ELECTRIC COMPANY
Racine, Wisconsin . . . U. S. A. . . . Established 1909
Export Dept., 100 Varick Street, New York City
Cable Address "ARLAB" New York

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

Webster Electric

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

DRAMATIC NEW PERFORMANCE

Admiral Aeroscope

els present
The New
Admiral Aeroscope
Radio
6 Tube Superheterodyne

Shielded Against
Static and Noise!

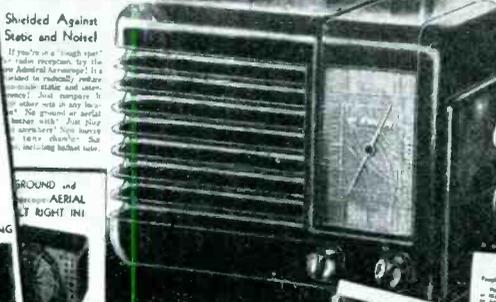
If you're in a "rough spot"
for radio reception, try the
new Admiral Aeroscope! It is
shielded to reduce outside
interference, and its
"Aeroscope" antenna is
shielded to pick up only the
best signals. Just plug it
into your radio and you'll
hear the difference!

\$9.95

ADIRAL AUTOMATIC TUNING
RADIO

\$21.95

KAPPELS
100-107 Sixth Street
New York, N.Y.



**PEOPLE'S
OUTFITTING CO.**

GIMBEL BROS.
PHILADELPHIA

6 Tube
Superhet

NO GROUND
NEEDED

\$9.95

NOTHING ADDED
FOR CREDIT

ONLY
\$9.95

Admiral
New Development in Radio
'AEROSCOPE'
6-tube Superheterodyne
Radio — Needs No
Ground or Aerial
9.95

NOTE: SEE OUR OFFICE COUPON

SPEAR & CO.
PITTSBURGH, PA.

SUNDAY TIMES CHICAGO, JANUARY 10, 1933

Buschs present
The New
Admiral Aeroscope
Radio

6 Tube Superheterodyne

First in Los Angeles!

\$9.95

ADIRAL AUTOMATIC TUNING
RADIO

\$21.95

Buschs

Admiral Aeroscope

Full 6-Tube
No Ground on

EASTERN STORES
LOS ANGELES

NOTE:
WEST COAST PRICE
ADMIRAL

ADMIRAL
"6-tube Super-Het"
"Smart Set" for only
11.95

WIEBOLDT'S
No Aerial! No Ground!

With the New
Sensational
Admiral Aeroscope

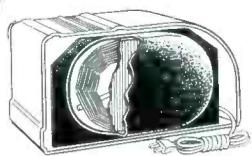
**NO AERIAL
NEEDED!**

**NO GROUND
NEEDED!**

**ADMIRAL
RADIO**

Admiral

the HOTTEST LINE IN RADIO



THESE top-notch merchandisers know a good thing when they see it . . . are more than willing to back it up with newspaper advertising like this! At \$9.95, with the magic antenna Aeroscope, Admiral is the hottest thing in radio today! Over one hundred thousand Admiral radios have been sold since January first! Ask your jobber or write for descriptive circular.

CONTINENTAL RADIO & TELEVISION CORP.
3800 W. Cortland St. Chicago, Ill.

BE SUPERHET

Admiral Aeroscope

\$9.95

SUPER SIZE SET
NO AERIAL OR GROUND!

SPEAR

HENR BREUNIG
1147 TORRANCE STREET

RADIO RETAILING

MARCH, 1939

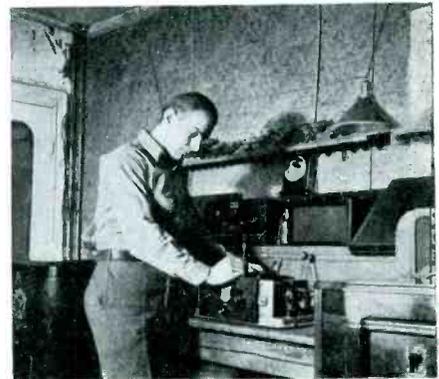
Small Town SETUP . . . These are the principal outlets through which sets reach the public in Beaver Dam, Wisconsin (Pop: 10,000. Considered average by U. S. Dept. of Agriculture)



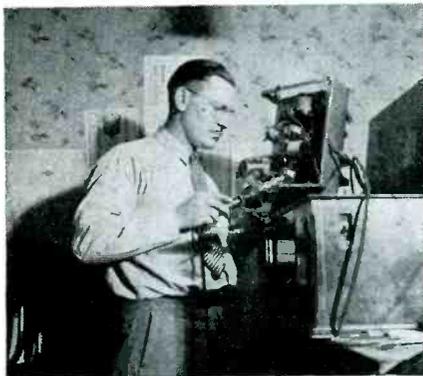
RADIO—Harry Guenther of *Guenther Electric* cultivates young people, believes in liberal home demonstration



APPLIANCES—Mrs. Evans of *Beaver Appliance* handles the store while husband Bill sells on the outside



SERVICE—Neal Blanc of *Beaver Radio* concentrates on repairs, moves a lot of replacement tubes



SERVICE—Earl Dowd of *Dowd Service* likewise concentrates on repairs, much of it for other dealers



DEPARTMENT—Barney Spoon, radio manager for the *Gamble Store*, sells mostly for cash



BICYCLES—Lawrence Buchta of *Larry's Cycle Shop* does a job on both radio and electrical appliances



HARDWARE—N. R. Klein of *Zweck-Wollenberg* sells largely through newspaper ads and old customers



HARDWARE—Art Volkmann of *Volkmann Hardware* keeps his well handled radio display up front



PAINT—Merritt Belling finds *Quandt's Paint Store* floor traffic ideal for radio selling

(Other outlets for radio: *Witt Auto, Economy Boys, Coast to Coast, Gus Hall*)



TWIN LINE MODEL STORE

Here's one ideal way to display both radio and refrigeration, as visualized for dealers by Crosley. Note definite split, on floor and in windows, island display for auto-radio up front



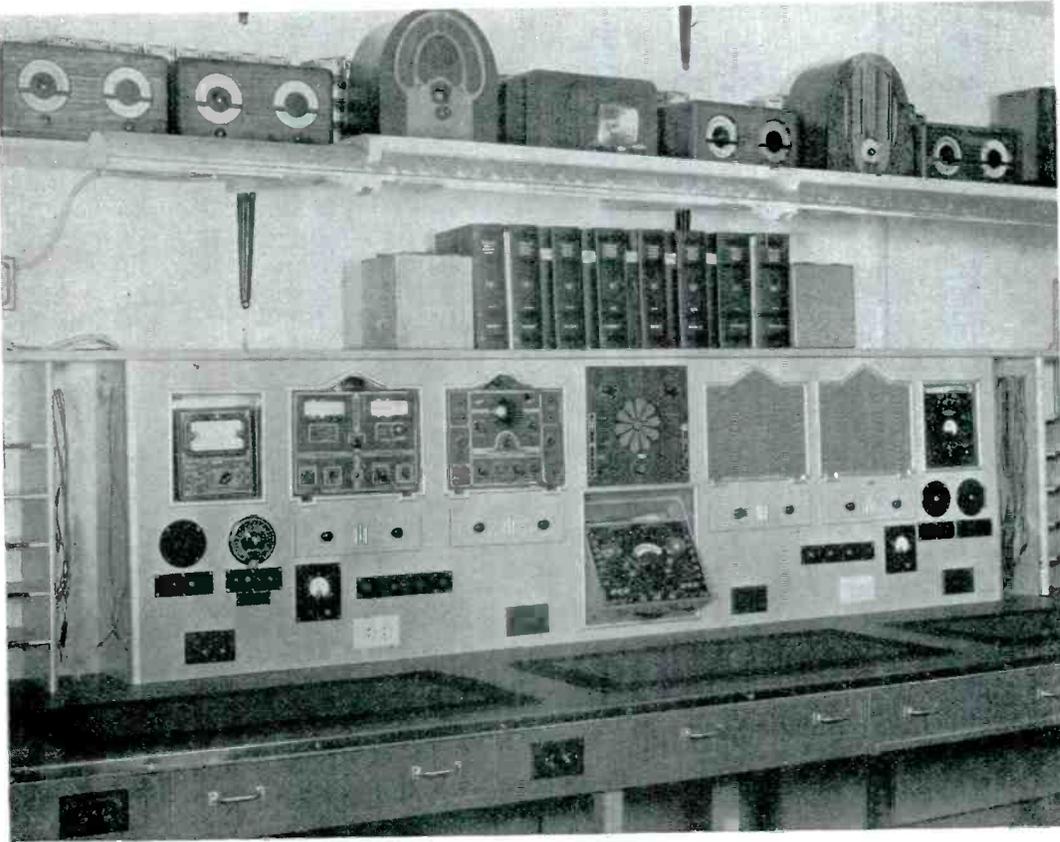
EXIT CARRIER PIGEONS

Last year *Harper's Bazaar* ballyhooed its Paris correspondent's pre-season fashion review by sending advance copies to style-setters via carrier pigeon. This year the magazine's Carmel Snow broadcast the news, exec Fred Drake sent RCA-Victor battery portables to 175 via messengers so they could listen



COPS REALLY BIG NOISE

Used to promote street safety and to direct traffic is this sound car maintained by the Idaho State Police. Tricky-looking weatherproof speakers on the front fenders are Atlas "Marine Midgets." Haight's Radio Service of Boise supervised the installation



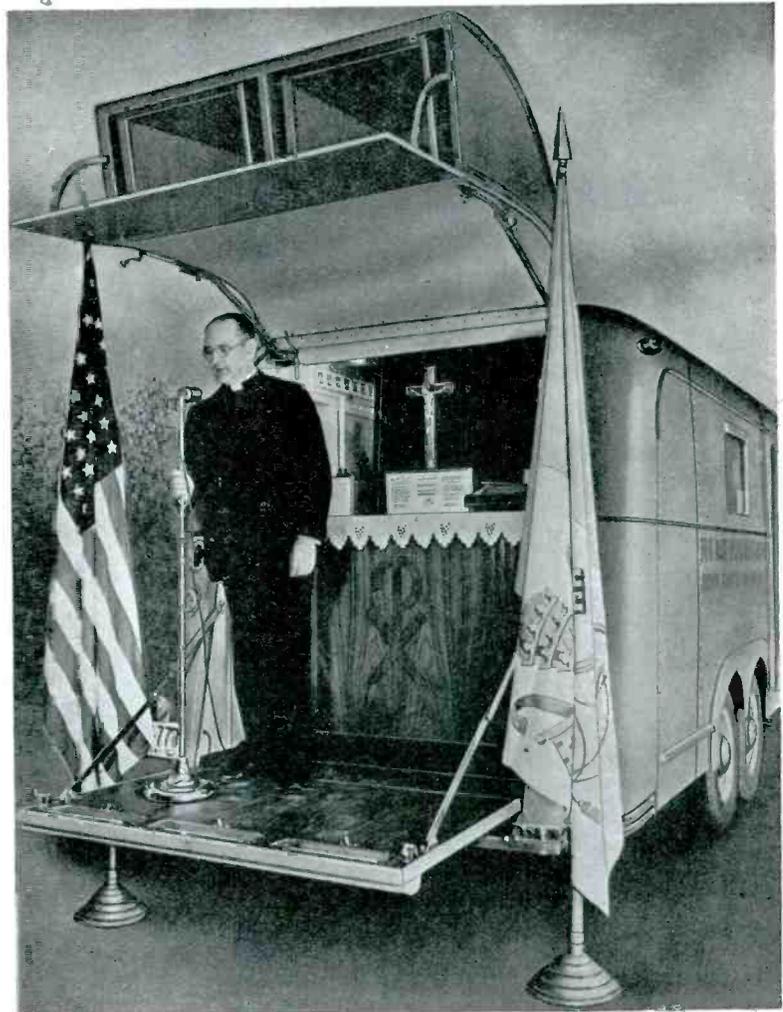
**NEAT, BUT NOT GAUDY,
WINS \$100**

One hundred smackers richer is Rochester's Arthur W. Granger, who designed this mechanically efficient, aesthetically effective radio service shop layout, submitted a picture of it and won \$100 offered by Hygrade-Sylvania in a modernization competition just concluded. Granger Radio Service has been in business five fruitful years



30-WATTS WORTH OF RELIGION

To isolated mountain regions of the Virginias, religion is carried by the Diocesan Missionary Fathers of Richmond in this new trailer. Included is a sound system installation incorporating radio tuner, phono turntable and mike, just completed for them by the Lafayette division of Wholesale Radio Service



Are NEW RADIOS GOOD ENOUGH?

One way to help the dealer sell up
is for the manufacturer to build up

ACROSS the Editor's desk with significant frequency come letters from the trade like the following:

"I have just lost another sale through no fault of my own. A man came into the store and said that if I could demonstrate a new radio that would pick up less code interference than his six year old receiver he would buy it. I confidently took a \$79 set to his home and, much to my consternation, it not only failed to reduce the interference but actually was bothered more. Furthermore, while I naturally did not admit it at the time, I agree with the man that the tone quality of his old set was at least as good as that of the new one."

The trade is becoming skeptical about the performance of many new models. Admitting that some are easier to tune and cover more wavebands, the average dealer is not too certain that actual reproduction on local broadcast stations to which most people now listen is all it should be.

This attitude among retailers is not conducive to successful selling. Should it be communicated to the consumer, the inevitable result would be a reduction in vital replacement business. For while features that make a radio easier to operate and designs with striking eye-appeal undoubtedly create initial interest in a new set to a much greater degree than that which industry so loosely terms "quality" the latter is assumed by the replacement prospect and its omission is apt to throw a monkey-wrench into a sale during comparative demonstrations.

Expediency Vs. Future

Technical questions asked by the trade include such obviously cynical ones as these:

"Is the omission of TRF stages from most of today's superheterodynes a step forward, or backward?"

"Is the almost universal use of single multi-element tubes rather than earlier push-pull triodes desirable?"

"Is the market best served by speakers with small baffles plus tone compensation systems which disguise low note deficiency or by sets equipped with adequate baffles in the first place?"

"Is the manufacturer justified in skimping the safety factor of parts in order to further compress either the size of the set or the price?"

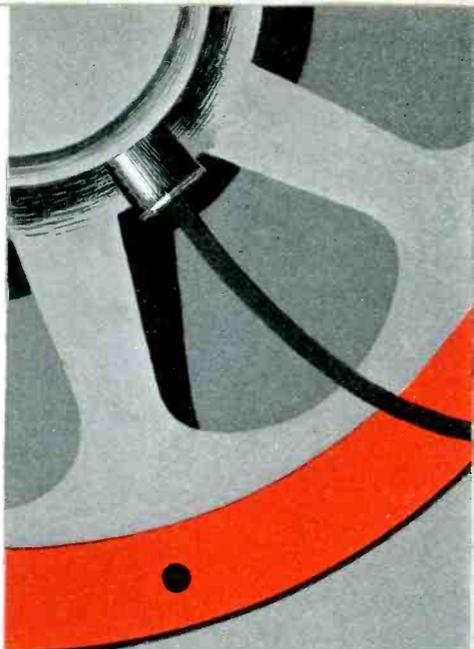
Less technical, but still in the same questioning vein, are letters such as this:

"Is the semi-modernistic cabinet style in which most new radios are encased really what the average woman wants or are they too obtrusive?"

Difficult Line to Draw

To the trade it appears that some recent design trends are justified, if for no other reason than temporary economic necessity. It is also felt, judging from our mail, that the manufacturer may be justified in any effort which through actual volume production savings, employment of new circuits, tubes and components puts radio within reach of more people. However the feeling is growing that it may be neither in the public's ultimate interest nor that of the manufacturer to cut prices still further by omitting things which his own engineers undoubtedly tell him belong in any modern model. Shrewd dealers observe that such practice might be considered "selling one's birthright for a mess of pottage."

Just where to draw the line of demarcation is a serious question which involves more than just the manufacturer. There are features whose omission may perhaps be economically justified when satisfying low income bracket demand or when designing models specifically for auxiliary use. Other fea-



UNDERWRITERS APPROVAL

PROVISION FOR NOISE
REDUCING ANTENNA

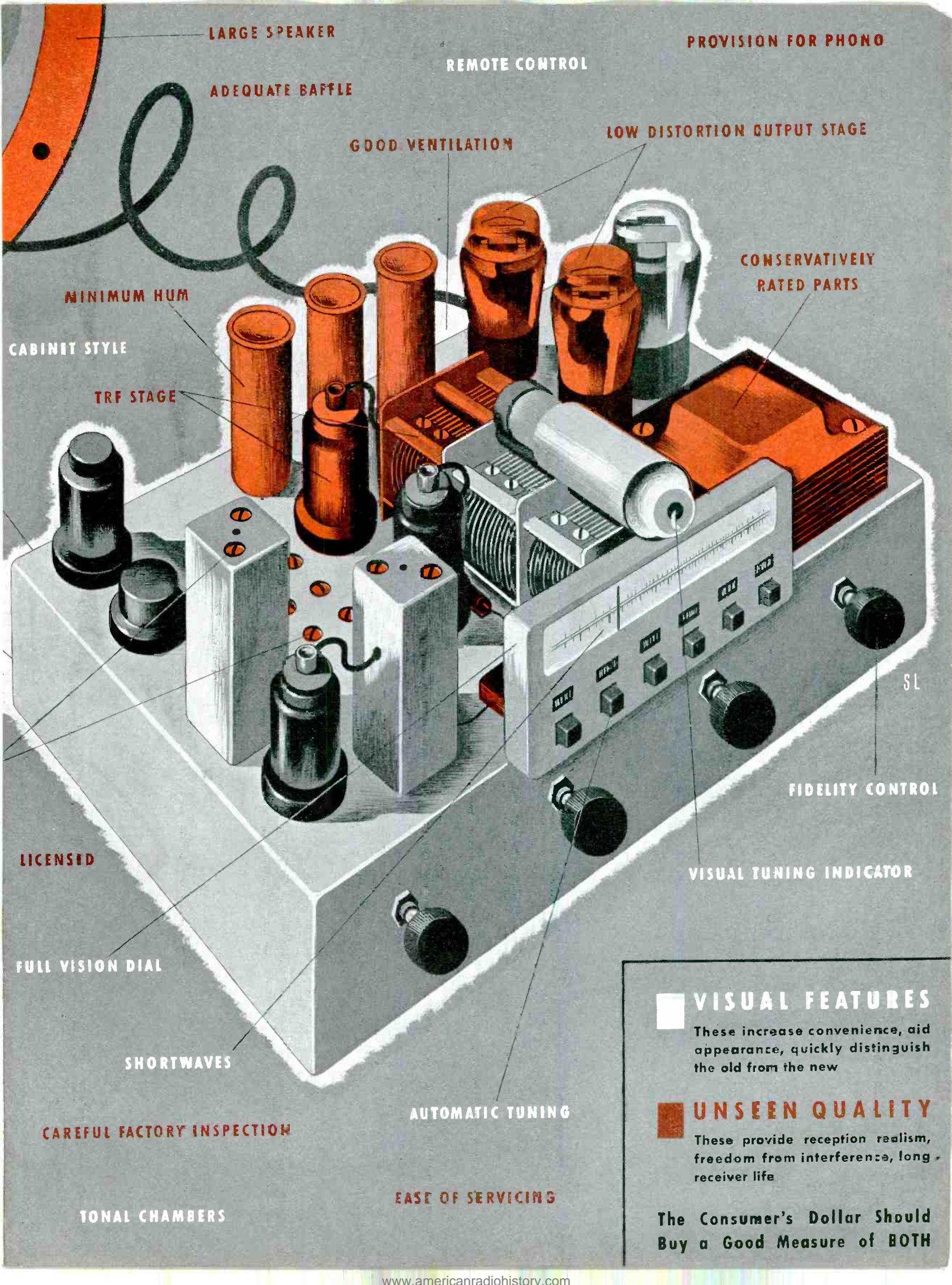
MODERN SELECTIVITY

PERMANENCY OF ALIGNMENT

AUTOMATIC VOLUME CONTROL

THOROUGH SHIELDING

MODERATE SENSITIVITY



LARGE SPEAKER

PROVISION FOR PHONO

REMOTE CONTROL

ADEQUATE BAFFLE

GOOD VENTILATION

LOW DISTORTION OUTPUT STAGE

MINIMUM HUM

CONSERVATIVELY RATED PARTS

CABINET STYLE

TRF STAGE

SL

FIDELITY CONTROL

VISUAL TUNING INDICATOR

LICENSED

FULL VISION DIAL

SHORTWAVES

AUTOMATIC TUNING

CAREFUL FACTORY INSPECTION

EASE OF SERVICING

TONAL CHAMBERS

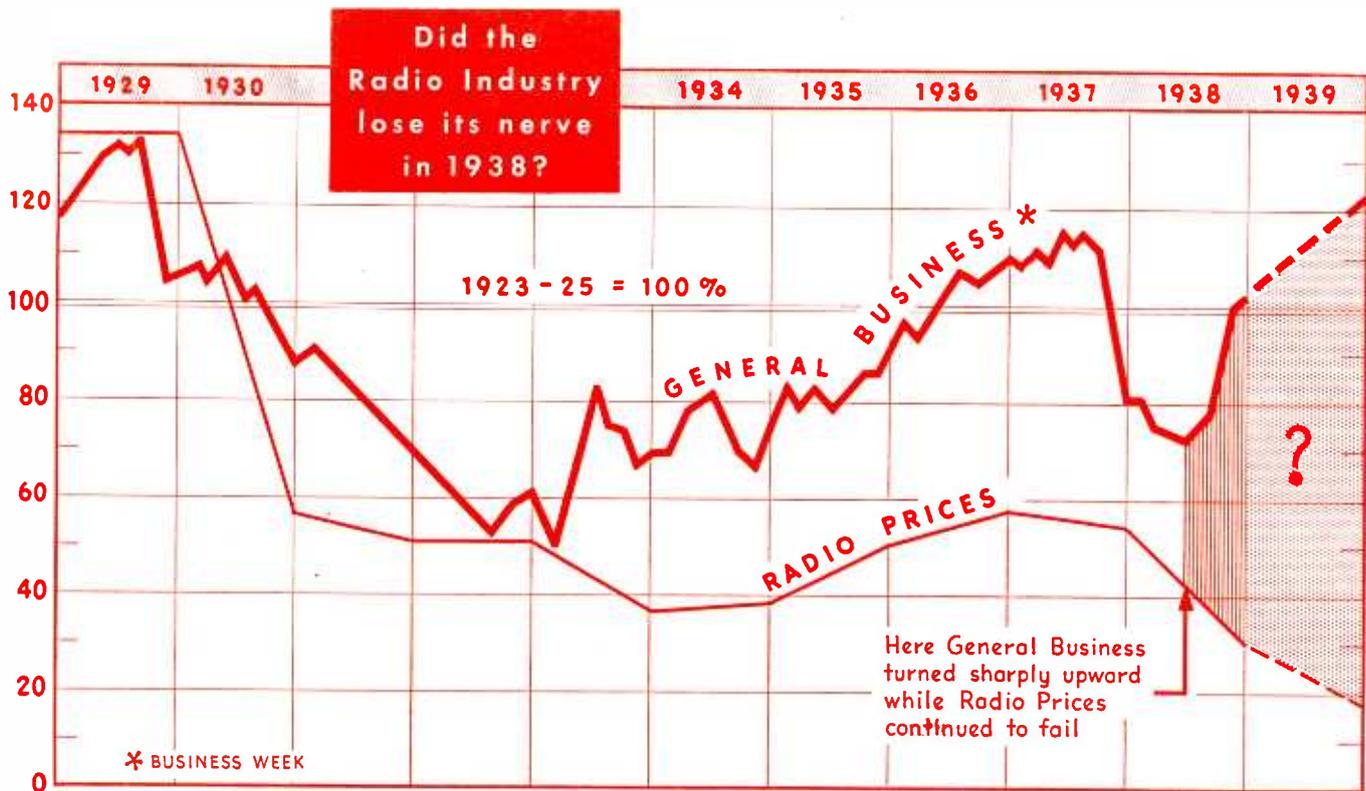
VISUAL FEATURES

These increase convenience, aid appearance, quickly distinguish the old from the new

UNSEEN QUALITY

These provide reception realism, freedom from interference, long receiver life

The Consumer's Dollar Should Buy a Good Measure of BOTH



tures cannot be dispensed with if replacement sales are to continue to people who want and can afford to pay for quality and who should be sold without recourse to razzle-dazzle methods.

Dealers, prone to be vitriolic when writing to a magazine such as *Radio Retailing* which they know to be edited in their interest, generally say that manufacturers are largely responsible for the gradual cheapening of radio in the eyes of the public. And to a certain extent we must agree, pointing out in passing, however, that many factories have undoubtedly found it essential to cut corners through lean times in order to eat, and would not in normally profitable years stoop quite so far.

Because we know that most of our retail readers can "take it" as well as "dish it out" and would prefer not to be Pollyanna'd we simultaneously say that while the manufacturer's featuring of price in advertising has been one of the chief causes of unit sales price declines *so also have many dealers, despite profession of dislike for cheap sets, fostered this trend by taking the line of least resistance and virtually demanding still cheaper sets for competitive use.*

Two things must happen if the radio industry is to continue as a profitable major business. Manufacturers must stop cutting corners where such shortcuts jeopardize to-

morrow's market. And dealers must support such a policy after it is established by materially intensifying whatever effort to sell better merchandise they have made in the past. This is just paraphrasing our headline to the effect that dealers must *sell* up and manufacturers must simultaneously *build* up. Neither effort is apt to be very successful without the other.

If you like your spades called spades . . . most people already replace radios only when major repairs seem imminent. They think a cheap new set is just as good as models priced up closer to what they paid for their old one insofar as noise-free quality on locals most frequently listened to is concerned. Many feel that the convenience features and bulk of higher priced sets are scarcely worth the extra cost. And some in the trade privately agree.

This is not a healthy condition.

Not A Question Of Size

When we say in just so many words that reproduction quality of all new radios, regardless of price or size, should be at least equivalent to that turned out by older receivers designed for the buyer in the same general income bracket, we know that many loopholes are thereby left open for "needlers".

There are those who will say that the public should not expect as good quality from a new \$15 table

model as from a \$50 table model made five years ago. Or as good quality from a new \$50 console as from an older \$150 job. But the public *does* and if it is not forthcoming there will be trouble. The trade, rather than the public, has established new low, medium and high price group ideas and has led the consumer to believe through intensive and none-too-modest claims that startling savings have been effected without sacrificing quality simply by employing new circuits.

It is not a question of size. Rock-bottom priced midgets and table models of today should in *all* respects perform at least as well as the lowest priced sets of yesterday, even if there is a wide differential with respect to cost, if they are to do more than temporarily fascinate people who are replacing similar sets. Table models and consolettes of today designed for the middle-class buyer must similarly outperform older receivers with respect to quality, even if the medium-price range has been materially lowered by the industry's own efforts. And upper-bracket consoles and combinations should turn out obviously better stuff for the tone-critical than earlier "super-super" specials.

We do not mean to imply that the cheapest midget made today must deliver quality better than that of a \$300 console made in 1934.

The average consumer, even if slick copy has partially sold him that idea, can be readily convinced that this is asking too much. We do mean that that same cheap midget must compare favorably with the lowest priced radio ordinarily available in 1934.

There are also those who will say that tone quality does not mean a thing to the average radio listener. We will admit that it is not yet tangible to many, but we are convinced that this idea is too readily accepted by the trade for its own good. As pointed out in an earlier paragraph, visible features may make a very necessary flash first impression but good tone is assumed to be part of any new radio. And tone consciousness is becoming more pronounced every day, particularly where the consumer has become interested in recordings. Comparative demonstrations on quality will be the major sales approach of the future. We must make sure new sets will win in this respect as well as in others.

Tone is admittedly hard to sell because it is so intangible. But it will, tomorrow, be the soundest argument for replacement. Modern radios simply must have it. Otherwise the whole business is asking for a black-eye.

Trick cigar-lighters do help sell automobiles . . . but the essential functions of this transportation device, speed and riding comfort, are continually improved.

"Double-jointed" shelves do help

sell mechanical refrigerators . . . but new boxes are designed as a matter of course to keep food better, freeze ice faster.

These and other businesses recognize the fact that the public is something of a "setup" for style but they do not go quite so far as to assume that this is so to the exclusion of discrimination regarding actual results. Nor do they often cut prices below a limit determined by minimum requirements for preservation and improvement, however slight, in such fundamental results.

This is just good, old-fashioned horse-sense.

Entire Industry At Fault

While certain manufacturers, and certain models of certain manufacturers, are perhaps beyond criticism and some dealers may be straining every muscle to sell up, we will "stick our neck out" for the good of the industry's soul far enough to make this flat statement:

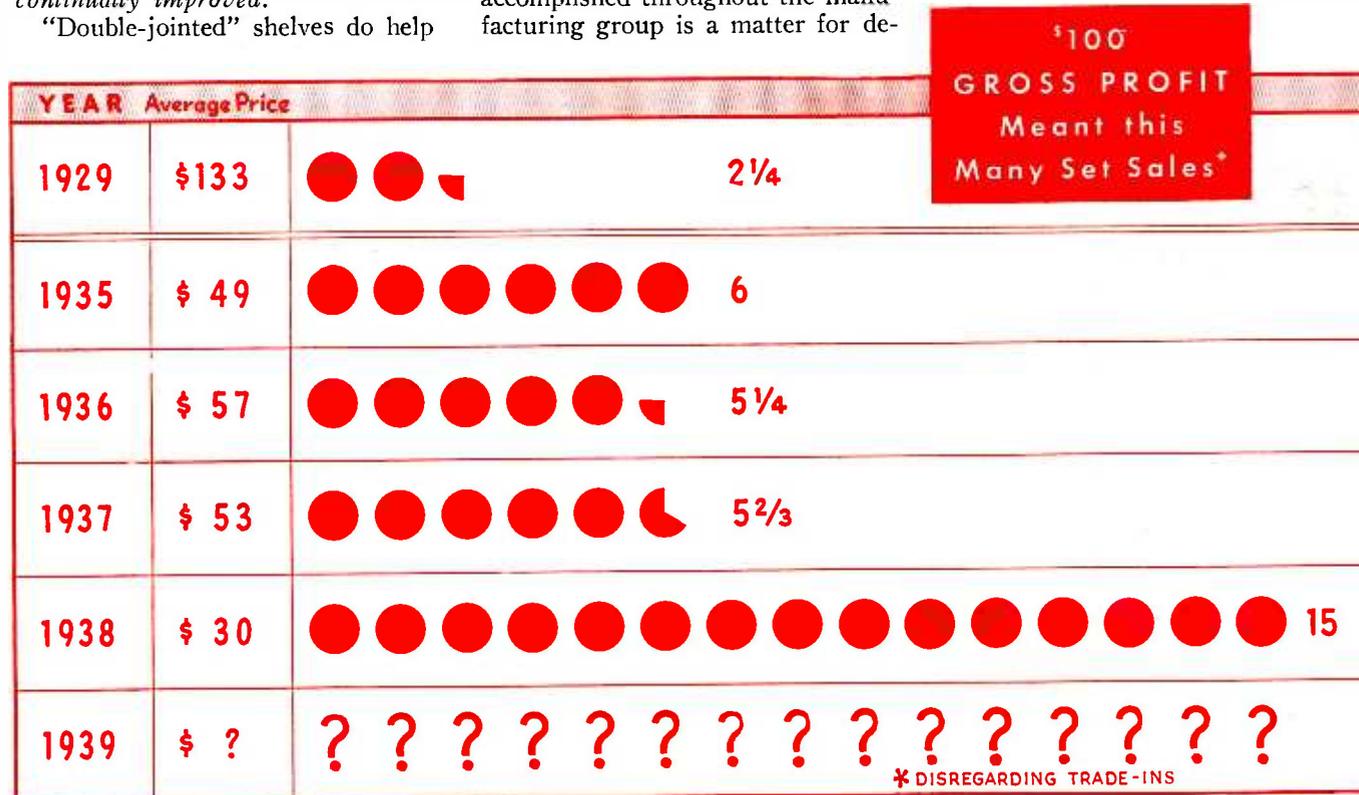
It is not enough that just a few manufacturers make just a few models that are functionally better than old sets. Nor is it enough that just a few dealers sell up. *The entire industry, including manufacturers, distributors, dealers, servicemen and the press, must wipe out any impression created in the mind of the consumer by any new radio that ALL new radios lack quality.*

Just how "building up" is to be accomplished throughout the manufacturing group is a matter for de-

cision by the RMA. Two possibilities come to mind: Sets designed for auxiliary use about the home might be so labelled. Members of the Radio Manufacturers Association might find it more desirable to establish minimum technical standards for sets regardless of price. Such standards should have a practical meaning to the consumer rather than just to the engineer. Given better merchandise with which to do the job, it will then remain for the dealer to sell it.

"Selling up" by the retailer is absolutely essential if any move made by manufacturers to improve quality is to be successful. Comparative demonstration must be practiced to a much greater extent than it is today. If retailers ask that manufacturers have the courage to soft-pedal cheap sets they themselves must have the courage to chance a lost sale or two in order to stop people who can afford really good radios from buying sets intended for people down at the bottom of the financial ladder. They must not sell "second" sets as "first" sets.

This is no job for the manufacturers alone but one for the entire industry. The joint job of building up and selling up is one which should be tackled immediately to avoid further heightening the already non-too savory reputation of the radio business.



How to Act When the

It's a lot easier to get people to call you when they need service than it is to actually get their business after they call . . . and that's what counts

A SUCCESSFUL plan to build business by telephone, just as any other sales plan, must rest upon the bedrock of service—the radio retailer's ability to do in a pleasing manner what the customer wants, when he wants it, and for a price he is willing to pay.

It is with this in mind, that the following five-point plan to get more telephone business is constructed.

Most telephone plans you've read about probably begin with ways to get more telephone customers. But before you lay plans to get more people to call you, make sure you are handling the telephone business that now comes to you in a way to promote customer satisfaction

and to bring you the most dollars possible. So the first point in our plan is:

Make every possible improvement in the service given on calls you now receive.

WE have put this point first because service improvement is the first step toward getting more telephone business. If you give good service on your telephone calls, your customers will tell others about it. And there's no better advertisement than a satisfied customer.

Examine carefully your methods of handling telephone calls with this question in mind: Do I handle all calls now—from the time the tele-

phone rings until I complete the job—in a way that is satisfactory to the customer?

Start at the beginning. How do you answer the telephone? Do you pick up the receiver, and in a gruff and more or less unfriendly way say "Hello," without giving the customer any idea that he has reached the proper place for good, dependable and friendly radio service?

When you answer the telephone, use your firm's name and your own—"Blank Radio Service, Mr. Jones speaking." Say it in a way to let the customer know that you are glad he called and are ready to give prompt attention to his wants. Incidentally, be sure that some responsible person—someone who knows the details of your business and is familiar with your way of handling customers—is always at hand to answer the telephone, if you can't be there yourself.

In every telephone interview make sure that you understand just what the customer wants, so that you won't leave the shop only partially prepared to do the job. If you can't do the job at the time wanted, tell the customer so and

BAD—Offhand handling of calls by irresponsible employees can kill more business than any telephone can bring in.



Telephone Rings

By R. FRANK HARREL*

try to arrange a time that is mutually satisfactory. In other words, keep whatever promises you make.

Remember that, on a lot of calls, the customer will be getting a first impression of you and your ways of doing business. Make this *first* impression a good one. Let him know that you appreciate the opportunity to serve. And when you have finished the interview, thank the customer for the call and bid him a courteous goodbye.

Only after you've looked into the matter of handling your incoming calls properly, are you ready to give consideration to the next point in our five-point plan.

Be sure that you get as many dollars as you can out of your present telephone business.

GOOD—Careful handling of calls is assured when the employee pretends that the customer is present in person.



*We asked this New York Telephone Company sales solicitation expert to don false whiskers and investigate the use of telephones as business-getters in radio stores with faint misgivings, rather expecting him to come back with a roseate picture calculated to swell the nickel input. We're less hard-boiled since we read his article. For Mr. Harrel leans over backward to help telephone subscribers get the most for the money they already spend on the service, makes some practical suggestions which we feel certain will be of genuine value to our readers.

HOW many people call you to ask about a repair job and then don't give you the "go ahead" signal because of an unsatisfactory telephone interview? The other day we overheard a conversation in a radio shop that went something like this:

"Well, I'll come out and look it over. Of course, you know we have a minimum service charge of a dollar for making any kind of inspection, even if we don't get the job."

That repairman didn't get that job, and it isn't likely that he will get any future jobs from the caller because of this unsatisfactory interview.

A customer calling you for the first time usually asks a number of leading questions in order to find out what you're like, what your

service policy is, whether or not you can do the job for a reasonable amount. Go back in your mind over the last few interviews of this sort that you have had. Put down the questions you've had customers ask you and then figure out answers to them—answers calculated to get the customer to let you make an inspection of his radio or refrigerator or whatever it is he wants repaired. You can talk over the price later.

These calls that come in will group themselves into several distinct classes. Look at your telephone business with this in mind, classify the various types of calls you have, and then work up your part of the interview. Have in mind in general terms what you are going to say, how you are going to meet situations presented.

Another means of getting the most dollars out of every call is "suggestion selling." Many calls offer an opportunity to suggest to customers some item of your stock which they may need.

Say you have a special price on an electric iron. If one of your service calls is from the woman of the house, you have an opportunity to tell her about the special, to describe the iron in enough detail to get her interested, and to offer to bring it out with you when you come to repair the radio so she can see it. Incidentally, experience indicates that customers appreciate helpful sales suggestions.

Put this suggestion selling on a seasonal or related item basis, if possible. Examples of seasonal suggestions are electric heaters at

(Continued on page 60)

SERVICE *by* SYSTEM

By HAROLD F. JENKINS

Fred C. Harrison, Parts Distributor

AFTER five years of close association with radio servicemen, I am convinced that many of the management problems confronting them can be readily solved.

Frankly, I believe that the average serviceman, like most people of a technical turn of mind, is an extremely poor businessman. Sales methods, and most important, perhaps, collection methods, are "Greek" to him.

The suggested remedial plans in this article are all tried and proven. Two of them, I have "stolen" from successful service shop operators, with their permission of course.

First, let's cover price-cutting competition. Curiously, your cut-price competitor may be doing it unknowingly, as I have frequently found.

Checking closely on the customary complaint that the fellow down the street is doing work for nothing, a surprising fact showed itself. Believe it or not, few servicemen have the slightest conception of how much to charge for work done. Some who are considered price-cutters, are merely afraid to charge a fair rate, because they think the other fellow is asking less.

Of course, a definite price schedule for various types of work done cannot be adopted which would work in all sections of the country. Conditions, and living costs vary too greatly. However, where there are organized service groups, a frank, round table discussion will do wonders in improving this condition. As an example, in Elmira, N. Y., the local organizations have worked out a scale of minimum charges for various types of work. Each individual may charge as much more than this as he desires, but all agree to avoid going under the established figure. It has worked successfully for three years, and definitely raised the status of the servicemen in the community.

Now, for advertising. I have found that most servicemen believe that the word, applied to them, consists in its entirety, of the following: (1) A constantly run classified ad, (2), a post card mailing every six months to approximately 5% of

SUGGESTED MINIMUM RADIO SERVICE RATES	
Labor charges for shop work only--All parts are extra	
Replace Fixed Resistor	\$1.50
Replace Voltage Divider Resistor	2.00
Replace Volume Control or Illum. Control	1.75
Replace Filter Choke	2.00
Replace Power Transformer (minimum charge)	4.00
Replace On Off Switch	1.50
Replace Tube Socket (Water minimum charge)	2.75
Replace or Repair Tuning Indicator	2.00
Replace Speaker Field Coil	1.00
Replace Multi-Polar Switch	2.75
Replace Audio Transformer	2.00
Replace Bypass Condenser (single unit only)	1.75
(2 or more units in can, 25c extra per unit)	
Replace Mica Condenser or Padding Condenser	2.00
Replace Tone Control	1.75
Replace Filter Condenser	2.00
Replace Rf or IF Coil	3.00
Replace Dial Cable (minimum)	2.50
Install New Dial	1.75
Center Speaker Cone	1.75
Replace Speaker Cone	2.00
Balancing RF or Neutrodyne Receiver	1.50
Balancing Superheterodyne Receiver	2.50
All-Wave Super.	7.50
Installation of Aerial (minimum charge)	4.00
SERVICE CALL	
Price to be set by individual service man	
Hourly rate	\$

SUGGESTED MINIMUM—The author thinks these service charges are fair to the consumer, profitable for the serviceman

the total number of set owners in the community: (3) and as a super colossal climax, a once-a-year drive on free home tube-testing. This drive consists of a one inch, one column insertion in a daily paper, followed by patient waiting for the telephone to bring results. This drive always takes place at some time of the year when business is slow. Why does it fail? When customer interest is low, results would be meagre, even though you were to offer a free tube or two. The real time to try this is at the peak of the season, some winter month. And the real reason for the drive should not be to sell a few extra tubes, but to make permanent new customer-friends.

I am only going to suggest a promotional method that can be worked the year around, costs nothing, and is perfectly ethical. It is based, first, on eliminating an itemized repair

bill. By this, I do not mean tubes, but rather a statement broken down which shows \$3.00 labor charge, and a part replaced which lists at 27¢. The customer *never* can understand this. To itemize a bill, unless requested to do so, is just sticking your neck out for trouble.

The plan? Here it is. When you are called to a radio owner's home and find that the chassis must be taken to the shop for repairs you are usually asked what the cost will be. Estimate slightly high. Then, return the set with the charges 50¢ or a dollar under this figure.

Analyzing the customer's mind, we find that his impression is this: The first estimate was a given figure. Yet, the final cost was less. The serviceman *could* have collected the higher price. But, he did not. Now, here is one honest radio man.

(Continued on page 62)

You Can Make Money At Kelvinator's BIG BIRTHDAY PARTY!

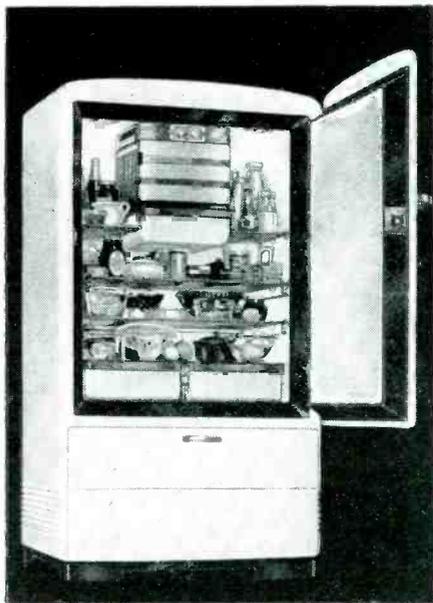


CUT YOURSELF IN
on this biggest Refrigerator selling
event in 25 years—Kelvinator's
Silver Jubilee Celebration!

EXPERIENCED MERCHANTISERS—department store executives—dealers who know what it takes to get store traffic—appreciate the sales value of special events. Experienced merchandisers are saying, "This Jubilee of yours means business for us."

Every Kelvinator dealer and distributor is getting ready to cash in on the big celebration . . . with its six-day Birthday Party . . . brand-new promotional material . . . live-wire local cooperative advertising and free gifts!

This is going to be the "hottest" sales promotion of the year. Behind it is the story of the first successful refrigerator and the latest Kelvinator models . . . the story of improvement after im-



Watch the crowds during Kelvinator's Silver Jubilee Week, April 3rd to April 8th. Many Kelvinator dealers and distributors plan to give away free gifts and special frozen desserts to celebrate the occasion.

provement that dates back to the very first electric refrigerator.

Behind it is the new 1939 Kelvinator line, with more new features to talk about . . . *more new features to sell* . . . with new *low anniversary prices* that will make Kelvinator the "value" line of the year.

Behind it is the practical, effective sales training program of the Kelvina-

tor National Salesmen's Institute, turning lookers-around into buyers, demonstrations into sales, store traffic into profits.

All this means that 1939 is going to be Kelvinator's big year . . . *your* big year, too—if you include Kelvinator in your plans. Don't just wish you had—get your share of the profits now. **IT'S NOT TOO LATE!**

Perfected Product of a Quarter-Century!

TODAY, Kelvinator adds a fitting climax to its first 25 years of pioneering . . . by introducing the new Silver Jubilee models . . . modern . . . beautiful . . . sensational . . . as revolutionary as the first Kelvinator that introduced electric refrigeration.

These new "selling features" give you the opportunity to make 1939 a volume year for you and your salesmen.

NEW! Conditioned Cold—the latest refrigeration discovery . . . flavor protection in special compartments for meats, vegetables, and frozen desserts.

NEW! The Polarsphere—considered the most efficient cold-producing unit made. Completely sealed in a welded steel ball . . . produces cold power enough for five refrigerators.

NEW! "Family Planned" interior . . . shelving arranged to end groping and fumbling. New wider front, less depth, more storage space.

NEW! Vegetable Bin. Dry storage for nearly two bushels of onions, potatoes, squash, etc. Tilts open easily. Attractive chromium type handle. Kelvinator, Division of Nash-Kelvinator Corp., Detroit, Michigan.

Silver Jubilee KELVINATOR

BE IN THE SPOTLIGHT WITH KELVINATOR IN 1939



TESTERS *and* TIRES



Facts and figures about instrument upkeep, car maintenance expense

By JOE MARTY

*Executive Secretary
Radio Servicemen of America, Inc.*

BACK in the bold, bad Mississippi River steamboat gambling days, there was a card sharp named Broncho Billy who used to fight his way out of tight spots by butting. Apparently possessed of a skull an inch thick, Herbert Asbury says in his book, "Sucker's Progress," that Billy would hold his victims arms and bang him with his head, with dreadful results. Still, poor Broncho Billy died early of lead poisoning.

In the radio repair business, I am appalled by the number of fellows who try to butt their way out of tough situations by brute force.

Fixing radio is a difficult enough gamble. Why should a man depend on his head alone when there is so much equipment to help him? In my peregrinations, I observe that there is a severe turnover in servicemen. What makes so many lads give up radio repairing to return to careers as bundle-wrappers in grocery stores and as pilots in livery stables? With an estimate of 26,428,797 radios in the United States and 5,283,000 sold in 1938, the amount of work for servicemen

is continually increasing. So why this turnover? Why?

One Way to Oblivion

One of the quickest ways down the chute to oblivion as a radio repairman is followed by the fellow who lets his test equipment become obsolete, the fellow who tries to substitute eyes, ears, hunches and a screwdriver for critical apparatus that will really tell what's wrong. Like a doctor who throws dust in his patient's eyes by using big words, he may get away with it for a while. Sooner or later, the sick radios come home to roost and a serviceman gets a bad reputation. Then it is a case of back to truck driving or nothing.

In the survey made by the Radio Servicemen of America on average monthly expenses, we encountered something which should make the test equipment people open their eyes wide. We found that smart operators were constantly buying new stuff. The

lowest figure reported was \$5.40 per month for replacement on test equipment. The highest report was \$13 a month with an average of \$8.15.

When I opened up shop as a serviceman several years back I had this investment:

Analyzer	\$100
Mutual conductance tube tester	125
Second hand oscillator...	40
	<hr/>
	\$265

After six months I found that the oscillator was no longer suitable because there were new frequencies being used. I laid \$47 on the line for a new one. Then came along new tube bases and the old analyzer was out. I bought a new checker for \$40.

A year later, in 1935, I had to junk my signal generator again. The new one, with a wobulator, cost me \$75. I bought an oscilloscope for \$84.50. Incidentally, when I felt I needed it, I got ten lineup jobs at \$7.50 to pay for this gadget. By 1936 my tube tester was out again, and a new tube checker cost \$57. At that time

COST of Operating Ford Car Six Years*

Item	Total Cost	Mi. per Unit	Cost per Unit	Cost-Cents per Mile
Gasoline (2,864 gal.)	\$469.91	17.61	16.4c	0.9315
Oil (460 qt.)	127.46	109.66	27.7c	0.2526
Greasings (72)	70.18	700.64	97.51c	0.1392
Washings (23)	18.00	2193.3	78.3c	0.0356
Repairs (misc.)	170.63			0.3382
Battery	22.38			0.0444
Tires	48.08			0.0953
Insurance	68.30			0.1354
Licenses (7)	60.75		9.00 ea	0.1205
Totals for operation	\$1,055.69			2.0927
Depreciation	405.63			0.8041
Grand total cost	\$1,461.32			2.8968

* One typical case.

there was nothing on the market with which to check vibrators on the automobile radios I was installing. I built one and the parts cost me \$42. Then I put in a screen room in my place and that set me back \$25. In 1937 along came another tube checker for which I laid out \$50 and a new signal generator was bought for about \$50 more. There, gentlemen, you have a total of \$403.50 of additions made within three years to my original layout of \$265.

The serviceman who doesn't add to his equipment and keep it up to date with the changes in the industry is going to butcher his job. He may think he gets away with it, but I assure you that the public, while it may be fooled on methods, is a darned good judge of results and will quickly put the bungler out of business.

Another Common Headache

Next greatest stumbling block that puts servicemen out of business is their failure to recognize that transportation is a considerable item of expense. In our survey we found this to be the case:

AVERAGE MONTHLY EXPENSES

	Average All Reports	Lowest Reported	Highest Reported
Car storage	\$ 2.00	None	\$ 6.00
Gasoline	18.25	\$6.00	50.00
Tires	2.05	.50	5.00
License plates	1.50	.35	2.35
Car depreciation	13.70	4.00	25.00
Car insurance	1.05	None	4.50

Shoot a paper wad into any servicemen's convention and the chances are nine to one that you will hit some fellow who says, "Oh, I don't have any car expense. I just run around in my old jallopy."

This fact, however, remains: If you make a service call anywhere within a radius of two miles around your place it is going to cost you 25 cents to get there and back. You are going to average two to three miles per call. In the busy season you will probably travel 25 miles a day and be able to spread the cost over a number of jobs. You may go only five miles a day during your slack season or, say, ten miles on the average day in and day out. And each call should bear its percentage of the cost.

Because servicemen notoriously are fond of buying used cars it is difficult to tell what the actual cost of driving is. A used car is generally subject to more trouble than a new car. Few owners keep any cost records and the few who do only note the gasoline, oil and repair costs, insurance. Licenses and incidentals are items often forgotten.

Once in a while there is some

man who has done more detailed bookkeeping on his automobile. C. Milo Thelin, designing engineer in the city engineers office at Fort Worth, Texas is one of these. He drove a model "A" Ford over a period of 6.11 years, travelling 50,446 miles, or an average of 8,256 miles per year. All necessary work on the car was done by garage mechanics or service station attendants except for an occasional washing or polishing. Fire and theft insurance in a private mutual company was carried continuously by the owner and public liability insurance for the first two years only. Depreciation of \$405.63 was calculated by subtracting the trade-in value of \$267.00 from the original cost of \$640.25, plus \$20.18 for exchange on tires, \$6.00 for carburetor air cleaner and \$6.20 for suitcase carrier, a total investment of \$672.63.

Thelin found it cost him 2.89 cents per mile to travel in a model A Ford. This car probably represented automobile travel at about its cheapest as it was a 4-cylinder job. It's a cinch that Buick, Dodge, 8-cylinder Fords and Plymouths cannot cut this expense factor.

If you want to follow rule-of-thumb, hang a map up in your office and mark a radius of two miles. Charge your customer 25¢ for every trip made in that radius. From 3 to 4 miles charge them 50¢.

Play safe and your automobile won't put you out of business.

OF THE SERVICEMAN, BY THE SERVICEMAN, FOR THE SERVICEMAN!



MAIL THIS COUPON

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

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

Name

Address

City State.....

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

Yes . . . the RSA is yours, Mr. Serviceman! It's run by and for its members—uncontrolled by any outside interests. You elect your representatives (all responsible officers are done)—and they work for you!

Here is what RSA gives you: ★ Advanced Circuit Notes for Members each month. ★ Technical Help on Service Problems. ★ Access to its National Speakers Bureau. ★ Advanced Service Courses to Members at slight cost. ★ A Monthly RSA Publication. ★ Annual Convention. ★ And many other benefits now being planned.

Make progress this year by using your time to the best advantage. Send the Coupon *Today*—and be "in" with your fellow servicemen!

National Yearly Dues \$3.00
Initiation Fee \$1.00

Let's Grow Together in 1939!

RADIO SERVICEMEN OF AMERICA, INC.

Joe Marty, Jr., Executive Secretary

304 S. Dearborn Street, Chicago



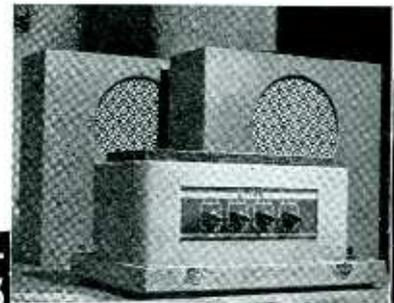
THE MOST COMPLETE LINE ON THE MARKET

BELL

SOUND SYSTEMS INC. 1185 ESSEX AVE. COLUMBUS, OHIO
Export Dept. 5716 Euclid Ave., Cleveland, Ohio

STRIKING DESIGN MATCHED by BRILLIANT PERFORMANCE in a NEW BELL 15 WATT SYSTEM

Take a look at this new Bell 15 watt P. A. System . . . then double check its features! Packed in its smartly designed case of dustproof gray you'll find such hit refinements as improved tone-control, larger baffles, illuminated control panel, three input channels, heavy-duty permanent magnet speakers, high-gain amplifier, octal series tubes—and many others! Supplied with any current type microphone. Easy to service, too—amplifier cover fastens firmly with only two screws! Readily portable in a compact unit, and available with walnut speaker baffles and pedestal mike stands for permanent installations. The biggest buy of the year! Bell's complete line leads the field. Write for full information . . . today!



THE SENTINEL DEALER HAS NO "JUST-AROUND-THE CORNER" COMPETITION ON HIS OWN LINE

Sentinel

QUALITY RADIO SINCE 1920

A COMPLETE LINE SENSIBLY PRICED

AC MODELS FARM MODELS

Sentinel Radio Corporation • Dept. RR • 2222 Diversey Pkwy., Chicago

How to Sell AUTO-RADIO

**By
FRED MERISH**

IN a field survey covering eastern radio retailers we found that too few appreciate the profit possibilities in auto-radio. Yet these dealers, who get from 5 to 25 per cent of their total volume from auto-radio, report increasing sales from year to year, with an average net profit of 11.3 per cent on sales.

The big improvement in auto-radio during the past few years has brought a larger volume of buyers into this market. Five factors, we were told, have largely contributed to this increase: better tone and tone control, push-button tuning for greater safety and convenience, eye-appealing designs, high signal-to-noise ratio, more adaptable installation technique.

When car radios were super-sensitive to interference from chassis, generator, wheel or tire static and external electrical disturbances, when installation was difficult, expensive and often necessitated disfiguring a car, the auto-radio possessed too many mechanical defects to warrant acceptance by all car owners. Often installation had to be made piecemeal. Today, car radio is a packaged job, quickly sold, installed and serviced.

Cars On Road Best Bet

The average unit sale computed from our survey work sheets runs between \$40 and \$50, with fewer complaints anent price buying than formerly, eighty per cent of the sales are to owners of cars from 1 to 3 years old. Fifteen per cent are sales above \$65, 8 per cent above \$75. Ninety per cent of all sales are for cash. Some dealers who had been advertising time-payments discontinued the offer through lack of demand.



INQUIRING REPORTER—He got the lowdown from radio retailers attributing between 5 and 25 per cent of their volume to car sets

Our field studies show that 15 per cent of all new customers come in for panel controls, aerials and automatic tuning devices to modernize car radios in use, and dealers frequently utilize these contacts as a wedge to sell new jobs complete.

Recommended Advertising Methods

Dealer helps play a big part in promoting car radios. Many dealers use display boards, complete with built-in antenna and battery racks, cooperative newspaper ads, colorful broadsides, posters, wall charts, banners, window trims, neon-effect signs, handbills and direct-mail. These silent salesmen are doing an excellent job for radio retailers who seem to appreciate it, because we

found many evidences of their use.

Some dealers are using cooperative ads with success, others include car radio listings with home radio ads. Power-line supply devices were noticed in many showrooms, are used to eliminate the danger of having a battery go dead or weak during demonstrations.

Some dealers have built up a substantial business in storage batteries by selling power adequacy to car radio purchasers, replacing old, inefficient units with new. Other dealers recommend service stations and garage men to car radio purchasers for battery and generator replacement sales and service.

It apparently pays to establish connection with service stations,

battery dealers, garage proprietors, dealers in trailers, car dealers and owners of used car lots because they contact many potential purchasers for car radios. In some instances, radio retailers provide demonstrating units to such outlets, but they advise certain limitations.

One dealer with 22 outlets insists that each sell at least one car radio monthly to keep the demonstrator. Commissions should not exceed 15 per cent. Some outlets demand almost all the margin. Wise dealers turn them down. The radio retailer must get sufficient mar-

gin on cooperative sales to pay for the additional investment in demonstrators, installation and servicing. Demonstrators become scratched, the models grow obsolete quickly and they must be kept in good operating condition, therefore mar-

(Continued on page 64)

1939 AUTO RADIO SPECIFICATIONS

Number Model	List Price	Number and Type Tubes (1)	Type Tuning (2)	Speaker Type, Size, and Location (3)	Recommended Antenna (4)	Audio Output (Watts)	Tone Control	Vibrator Type (5)	Battery Drain	I. F. Peak	Dimensions	Special Features
Automatic Radio Mfg. Co., 122 Brookline Ave., Boston, Mass., (Automatic)												
C70	\$22.95	6G	PD	5E	TFW	2.5	No	NS	5.5	456	6½x5x13	
C30	17.95	5GT	D	5E	TFW	2.5	No	NS	4.5	456	6x4x9	
C40	19.95	6G	D	5E	All	2.5	No	NS	5.5	456	6½x5x13	
C50	24.95	6G	R	6E	All	2.5	No	NS	5.5	456	8½x7½x7	
C60	19.95	6G	D	5E	TFW	2.5	No	NS	5.5	456	6½x5½x13	
C80	39.00	8G	R	6E	TFW	5	Yes	NS	7.5	456	8½x7½x7	
Continental Radio & Television Corp., 3800 Cortland St., Chicago, Illinois, (Admiral)												
5S	\$24.95	5GM	P	5E	All	3		NS	5.5	456	5½x11x5½	
69	39.95	6GM	R	6E	All	3.5	Yes	NS	6	456	7½x7x8½	
Crosley Corp., (Cincinnati, Ohio, (Crosley)												
A259	\$19.99	5	*PD	ES5	All	3.5	No	N.S.	6.7	455	5x5x12	
A169	24.95	6	*PD	ES5	All	3.5	Yes	N.S.	7.0	455	5x5x12	
* Electro-Magnetic Tuning.												
Galvin Mfg. Corp., Chicago, Illinois, (Motorola)												
9-24	\$24.95	6LM	P	6EC	*	5	No	NS	6.5	455		
9-29	29.95	6GM	R	6ES	*	5	No	NS	6.5	262		
9-44	44.95	6GM	R	6ES	†	5	Yes	NS	6.5	262		
9-49	49.95	6LM	P	6ES	*	5	Yes	NS	6.5	262		Boost-O-Matic aeria
9-69	69.95	8LM	P	8P	*	5	Yes	NS	8.0	262		Motor driven tuner
15-F	△	6GM	P	6EC	*	5	Yes	NS	6.5	455		Ford ±
16-C	△	6	P	6EC	*	5	Yes	NS	6.3	455		Chevrolet ±
17-D	△	6GM	P	6EC	*	8	Yes	NS	7.5	455		† ±
18-O	△	6LM	P	6E	*	8	Yes	NS	6.5	455		Oldsmobile ±
19-B	△	7LM	P	8PC	*	12	Yes	NS	7.5	455		Buick ±
20-P	△	6GM	PR	8E	*	5	Yes	NS	6.6	455		Pontiac ±
21-L	△	7GM	PR	6½PC	*	10	Yes	NS	7.0	455		La Salle-Cadillac ±
22-S	△	6GM	PR	6½PH	*	5	Yes	NS	6.6	455		Studebaker ±
24-K	△	7GM	PR	8E	*	10	Yes	NS	7.0	455		Packard ±
25-N	△	6GM	PR	8PC	*	5	Yes	NS	6.6	455		Nash ±
* Motorola type with Booster coil												
† Price includes antenna												
△ Price includes antenna and installation												
† Dodge, DeSoto, Plymouth and Chrysler												
± Specific models fit exact locations provided by car manufacturer												
General Electric Co., 1285 Boston Ave., Bridgeport, Conn., (General Electric)												
GA-62	\$27.95	6GM	P	6E	All	3.5	No	NS	7.3	465	6½x7½x12½	
Howard Radio Co., 1735 Belmont Ave., Chicago, Ill., (Howard)												
HA-10	\$39.95	6GM	DP	6½PC	TFW	2.5	No	NS	6.6	465	8½x5½x3	
Noblitt Sparks Industries, Columbus, Indiana (Arvin)												
7A	\$24.95	5GM	R	5ES	W	3	No	NS	6	455	8½x8½x6½	Phantom Filter
8A	29.95	6GM	DP	5ES	W	3	No	NS	6	455	6½x6½x12	Phantom Filter
44C	49.95	6GM	R	8ES	W	4.3	Yes	NS	6.7	170	8½x8½x7½	Phantom Filter
6	22.95	5GM	DP	5ES	W	3	No	NS	6.0	455	6½x6½x11½	Station Variator
RCA Mfg. Co., Camden, N. J., (RCA, Victor)												
9M1	\$24.95	5M	DP	5ES	TFW	4.0	No	NS	6.8	455	6x6x11	
9M2	29.95	6M	DP	5ES	TFW	3.5	No	NS	7.3	455	6x6x11	
Transitone Automobile Radio Corp., Tioga and "C" Sts., Phila., Pa., (Philco Auto Radio)												
936	\$29.95	6-GL	R	ES	WU			NS		470	9x8½x6½	
937	49.95	6GL	PR	ES	WU		Yes	NS		470	9x8½x6½	
938K	69.95	7GL	PR	EC	WU		Yes	NS		470	9x8½x6	Reception Control
933	39.95	6L	PR	*E	W		Yes	NS		470	6½x4 ⅞x9½	Reception Control
* Speaker mounting optional; dash, instrument panel or universal.												
Troy Radio & Television Co., 1144 So. Olive St., Los Angeles, Calif., (Troy)												
557	\$27.50	5G	PD	5S	All	2.5	No	NS	5.5	460	12x8x7	
85	34.50	5G	R	5½S	All	2.5	Yes	NS	5.5	465	10½x7½x7	
United Motors Service, Detroit, Michigan, (Delco Radio)												
R-675		5SMG	PD	5ES	Any	3.5	No	NS	6.3	455	12x6½x5½	
R-676		6MG	R	6ES	Any	4	Yes	NS	6.5	260	10½x7½x6½	
R-677		6SMG	PD	EPCH	Any	4.5	Yes	NS	7.0	455	12x6½x5½	
R-678		6SMG	*PD	8EC	Any	5.0	Yes	NS	7.0	455	10½x9x6½	
* Custom Built.												
Wells-Gardner & Co., 2701 N. Kildare Ave., Chicago, Ill., (Wells-Gardner, Arcadia)												
46C11-21		6G	R	6ES	W	6	Yes	S	7.5	175	10½x7½x6½	
26C9-21		6GM	P	6ES/C	W	3	Yes	S	7.	455	8½x7½x7	
25C10-21		5GM	P	6ES	W	1.25	No	S	5.5	455	6½x12x1½ or 6	
(1) G—Glass M—Metal GM—Glass and Metal L—Loktal												
(2) R—Remote D—Direct P—Pushbutton												
(3) E—Electro-dynamic P—Permanent Magnet S—In Set C—Cowl H—Header												
(4) B—Built-in Roof T—Top F—Fishpole W—Whip U—Under Car												
(5) S—Synchronous NS—Non-Synchronous												

Business Opportunities

THE MAN we're looking for need not invest his capital — but he must have a representative radio service business, equipped to meet his competition in technical knowledge and set-up. He must be a good enough merchandiser to turn over his tube stock at least every three or four months. Such a man will have proper facilities for using the attractive, sales-producing displays we will provide.

He will appreciate the necessity for maintaining established prices—and can be depended on to make monthly reports of CONSIGNED stock with remittance for tubes already sold. Last but not least, he will have a location free from interference with our already established agents.

UP
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)-Large front-
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WEST.
LES. DOUBLES.
TO \$9 WEEK.
facing Cathedral,
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telephones, baths.
ew studios, singles,
ing service; \$4-\$6.
A RESIDENCE CLUB
ointed studios (singl-
tendly refined environ-
Exceptional,
ervice)
ping, Homelike,
York Studios, \$5-\$10.
levator, switchboard; spa-
s.
T (5C)—Morningside Resi-
dence, established 1920, delightful
"Smart Studios"
in Columbia section,
al furnishings, service;
\$8.50.
ARTS, FISH-
S.

IF YOU are this man, you qualify under the Tung-Sol Consignment Plan. This means an adequate supply of world-famous Tung-Sol Tubes without investment. Write for details.

TUNG-SOL LAMP WORKS INC.
Dept. B Radio Tube Division



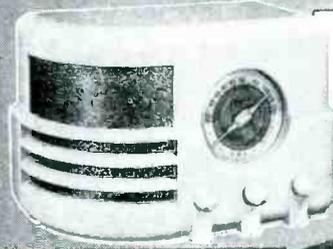
SALES OFFICES: Atlanta · Chicago · Dallas · Denver · Detroit · Kansas City · Los Angeles · New York
General Offices: Newark, New Jersey

Majestic

mighty monarch of the air!

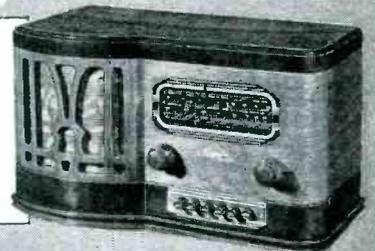
DEALER SPECIALS

LOW PRICED for HIGHER DEALER MARK-UPS!



Model 651—6 Tubes
6 tube (includes ballast) AC-DC superhet. Automatic volume control. Tunes 535-1750 Kcs. Plastic cabinet in Ivory or Walnut.

Model 259 EB—6 Tubes
Full 6 tube AC superhet. 2 tuning bands. 6 pushbutton permeability tuning. Genuine walnut cabinet. Model 2D5 EB. 7 tubes (incl. ballast) AC-DC.



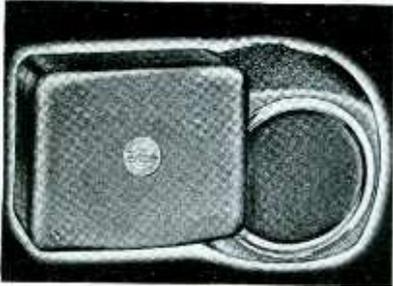
Model 1A59—5 Tubes
AC superhet with automatic volume control, slide-rule dial. Genuine walnut cabinet. Model 1D59. 6 tubes (incl. ballast) AC-DC.

Model 1A59—Phono Combination
5 tube AC radio. Phonocrystal pickup, self-starting motor, automatic stop, 10" turntable. Cabinet genuine walnut, gumwood finish. Model 1PD59. 6 tube (incl. ballast) AC-DC.



It's so much easier to sell Majestic!

Majestic
RADIO & TELEVISION CORP.
2600 W. 50th ST. CHICAGO, ILLINOIS

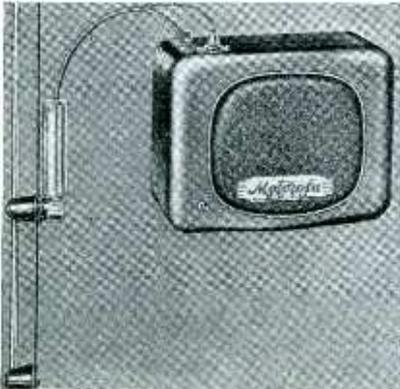


MOTOROLA—"Golden Voice", Model 9-69 made by Galvin, 8 tube with 6 station push-button tuning. List \$69.95.

Preview of New

MOTOROLA

Galvin Manufacturing Corp.
4545 Augusta Blvd., Chicago, Ill.



"BOOST - O - MATIC" MODEL 9-44 — with automatic variable sensitivity unit matched to "Booster" aerial, highly selective. Sensitivity development permits the model to pick up stations in low-signal areas not ordinarily obtainable. Six tubes, rubber-mounted 3-gang tuning condenser, push-button tone control, self-contained 6 in. electro-dynamic speaker. List \$44.95.

BELMONT

Belmont Radio Corp.
1257 Fullerton Ave., Chicago, Ill.

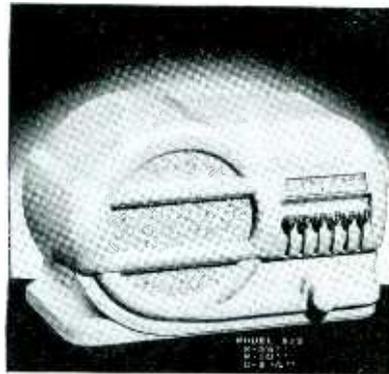
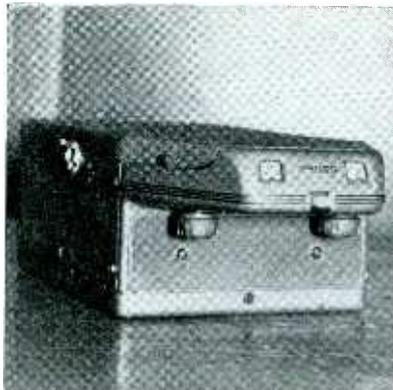


PORTABLE—Model 403 employs new 1.4 volt tubes, has battery compartment large enough to hold battery which will deliver 250 hours of service. Size, height 11¾, width 13, depth 4½ in. Furnished without batteries.

PHILCO

Transitone Automobile Radio Corp.
Tioga and C Sts., Philadelphia, Pa.

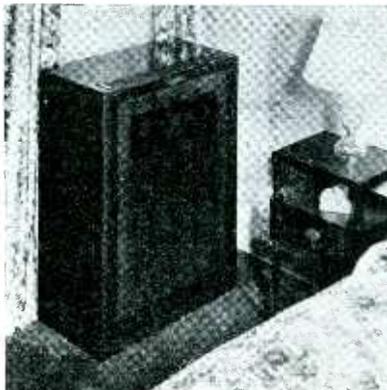
AUTO RADIO—Model 933 is an all-electric 6 tube superhet operated with single, positive-action, push-button, automatic tuning combined with direct manual controlled dial tuning. Easily installed. Shielded and filtered against car ignition interference.



MODEL 519—Contains 5-150 milliamper tubes, built-in aerial, six button automatic tuning.

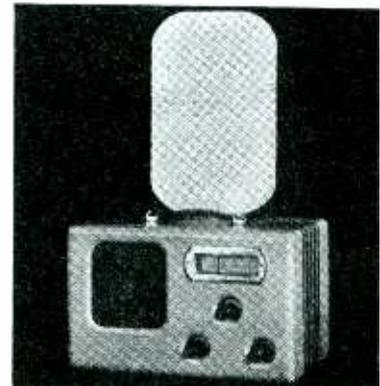
SETCHELL CARLSON

Setchell Carlson, Inc.
2233 University Ave., St. Paul, Minn.



AIR CONDITIONER—Operates from simple control, quiet, uses little current, the illustrated York-Cool-Wave air conditioner is one of a line which includes 1/3 h.p., 1/2 h.p. and 3/4 h.p. models.

D.C.-A.C. PORTABLE—Dry cell or a.c. operated portable tunes 540 - 1820 kc., 2.3 to 6.3 mc. Self-contained loop antenna; uses 2.45 volt "B's" and 4 flash-light cells in d.c. position; plugs into power line when available; in rugged, weather-proof aero-luggage case with slide-rule dial; weight 20 lb.



Radio Merchandise



WILCOX-GAY—Wireless record player, Model A-61 by Wilcox-Gay Corp., Charlotte, Mich. Lists at \$14.95.

RCA VICTOR

RCA Manufacturing Co.
Camden, N. J.



MODEL U-127E—End table cabinet houses 6 tube radio-phonograph with cabinet designed to accommodate regular 12 in. record albums. Phono has feather-touch crystal pickup, automatic stop, self-starting constant-speed motor. Improved RCA electric tuning to 5 stations, automatic bass compensation, illuminated station scale, continuously variable tone control. Tuning range, 540-1720 kc. List \$79.95 f.o.b. Camden, includes membership in Victor Record Society plus introductory supply of records.

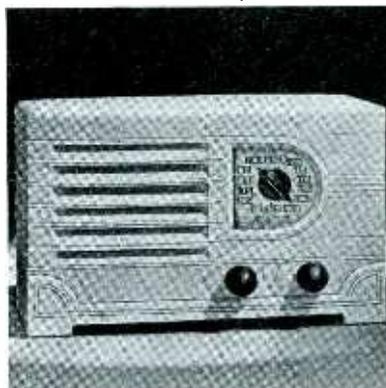
EMERSON

Emerson Radio and Phonograph Corp.
111 Eighth Ave., New York, N. Y.



COMBINATION — Model BM-242 radio-phonograph with "Miracle Tone Chamber", electro dynamic speaker, automatic overload control, 4 tubes and one ballast unit, receives standard American broadcasts and police calls. Full-vision dial, velvet drive tuning assembly, beam power tube, built-in antenna. Phono has crystal pickup, constant speed motor, tangential tone arm. Cabinet is acoustically constructed. List \$29.95.

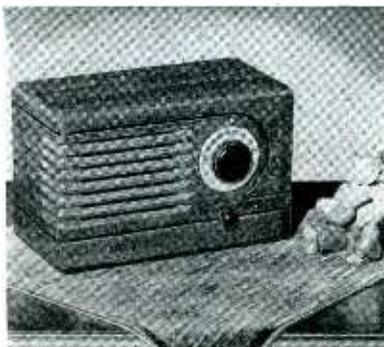
LITTLE NIPPER, Model 9TX23—Contained in modern style cabinet, walnut with mahogany sides, edge-lighted vertical station scale on dial. Electrodynamic speaker, 5 tubes, a.c., d.c., built-in antenna, automatic volume control. Tuning range is 540-1720 kc. List \$16.95.



MODEL CH-253—"Miracle Tone Chamber", electro dynamic speaker, automatic volume control, full-vision dial, beam power tube, built-in antenna, are features of this 5 tube a.c.-d.c. superhet which covers standard American broadcasts and police calls. The case has padded, domed top and embossed design, is available in ivory morocco, red morocco and brown morocco. List \$14.95.

WESTINGHOUSE

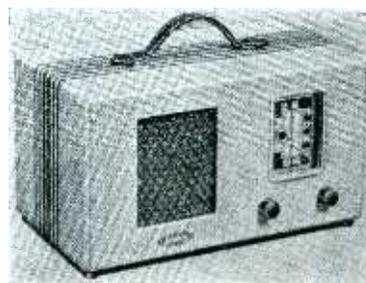
Westinghouse Electric Supply Co.
150 Varick St., New York, N. Y.



WR-165 SERIES — Five tube superhet, 6 to 1 vernier drive, clear vision illuminated dial, weight of 4½ lbs. American broadcast band, built-in antenna, 4 in. dust-proofed electro dynamic speaker, automatic volume control. WR-165-M illustrated has solid mahogany cabinet with maple finish, ivory dial, brown control knobs.

WHOLESALE

Wholesale Radio Service Co., Inc.
100 Sixth Ave., New York, N. Y.



MODEL CC-55, Lafayette portable receiver can be operated anywhere by means of the self-contained batteries or from either a.c. or d.c. light lines where such service is available. Built-in loop eliminates necessity for other types of antennas except in difficult reception areas. Dimensions 13½ x 8¼ x 8 in. and weight 20 pounds including batteries. Enclosed in case of aero-luggage type, weather - proofed. Tuning range is 550 to 1700 kc.

NEW RCA Victor RADIOS

To Make More Money for



AMAZING
ELECTRIC
TUNING
VALUE! ONLY..

\$89⁹⁵*

Push a Button—There's Your Station!

RCA Victor Console Model 98K2. A superb 8-tube radio with Electric Tuning for 6 stations, Victrola Button, 3-band Super-Sight Dial, Plug-in for Victrola Attachment, Magic Eye, RCA Metal Tubes. Instrument panel and top, rolls over, has Oriental wood veneer cut on 45 degrees in the center with heart walnut on either side and band of butt walnut at bottom. Many other great features.

Listen to the Magic Key every Sunday, 2 to 3 p. m., E. S. T., on the NBC Blue Network

**For finer radio performance—
RCA Victor Radio Tubes**

**SENSATIONAL NEW MODELS DESIGNED,
STYLED AND PRICED FOR FAST SELLING!**

Once again RCA Victor steps out in front with new sets that *sell*. Priced right for you and for your customers! Packed with features that make them want to buy! Designed and styled so those who come to look will remain to buy! Values such as these are sending RCA Victor dealers off to a flying start towards another great RCA Victor year. Make sure you cash in on them, too.

LOOK AT THIS
END TABLE
MODEL! ONLY.. **\$69⁹⁵***

Push a Button—There's Your Station!

RCA Victor End Table Model 96E2. Has improved Electric Tuning for 6 stations, 3-band Super-Sight Dial, Victrola Button, Plug-in for Victrola Attachment, RCA Metal Tubes. Cabinet has top of "V" matched Oriental wood face veneer. Front and sides are of butt walnut face veneer with band of zebra wood veneer, top and bottom. Many other sales-making features.

**All prices f. o. b. Camden, New Jersey, subject to change without notice.*



RCA Victor

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

NEW Victor Record PLANS

you this Spring!

**DECIDE NOW TO BECOME
AN RCA VICTOR MUSIC MERCHANT—
HANDLE VICTOR AND BLUEBIRD RECORDS**

The re-birth of the record business is one of the most remarkable phenomena of recent American business history. If you are not handling Victor (both Red Seal and Black Label) and Bluebird Records you are missing a rare opportunity to make more money not only this spring—but for years to come. Think what the record business offers:

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

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 newspaper; and show you the many sales-making plans that are yours as an RCA Victor Music Merchant.



**GET IN THE RECORD BUSINESS THIS SPRING—
SEE YOUR RCA VICTOR DISTRIBUTOR NOW!**



VICTOR RECORDS

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



A TREMENDOUS SALES MAKER —THE VICTOR RECORD SOCIETY

You are familiar with the famous Victor Record Society offer. In one short year more than 100,000 members have joined. And—this is important to you—not only have most of these members continued to buy Victor and Bluebird Records, but thousands have graduated to higher priced RCA Victrolas.

This is just one of the many sales-making plans which go to work for you when you become an RCA Victor Music Merchant.



*For finer radio performance—
RCA Victor Radio Tubes*

Still More Ways to

MAKE MORE

DISPLAY... *RCA Victor*
RADIO TUBES

THE striking RCA Victor Radio Tube display illustrated is the Spring Tonic your radio tube business needs now. Use it to start a big push on RCA Victor Radio Tubes that will mean real profits for you.

This display is only a part of the fine 1939 RCA Victor Window Display Service which consists of:

1. Four separate 8-color window displays, each made up of a number of individual pieces—any or all of which may be used effectively by itself as a display for different parts of your store.
2. Two attractive window streamers will be furnished with each of the four window displays.

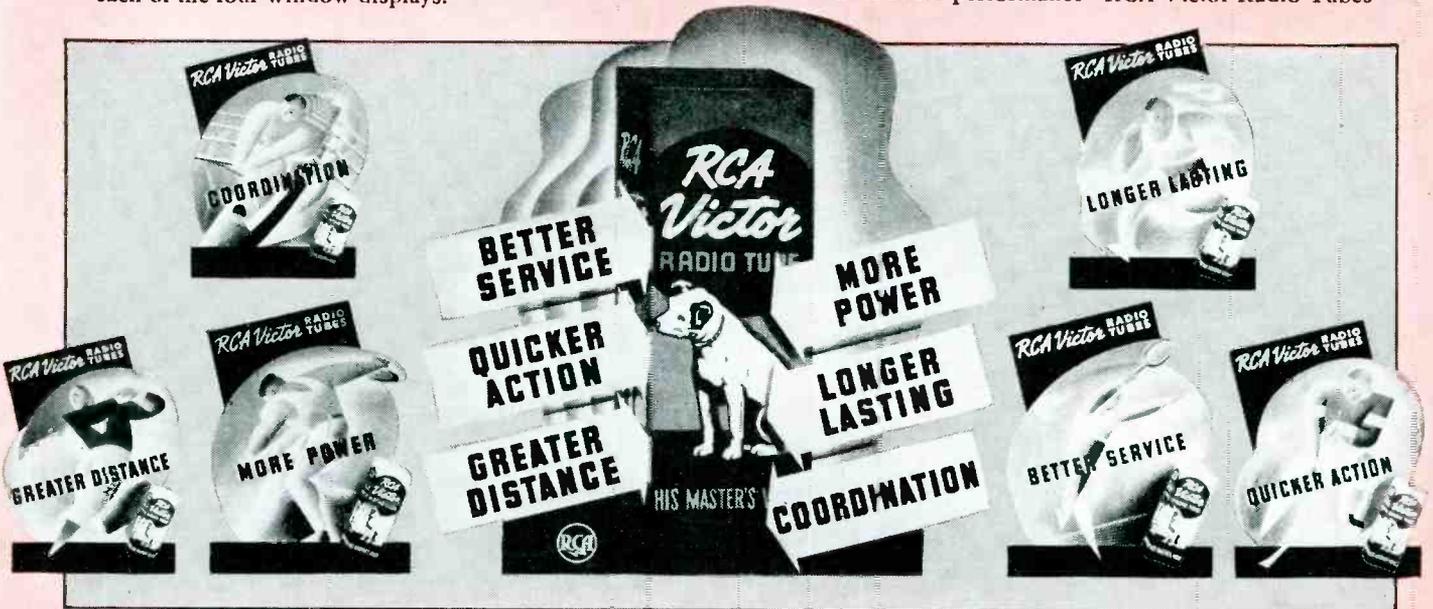
3. A quantity of World Series score sheets.

4. A supply of complete 1939 collegiate football schedules.

This sales-getting material will help you make more money—not only this Spring—but all year long. Ask your RCA Victor Distributor how you can obtain this service.

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

For finer radio performance—RCA Victor Radio Tubes

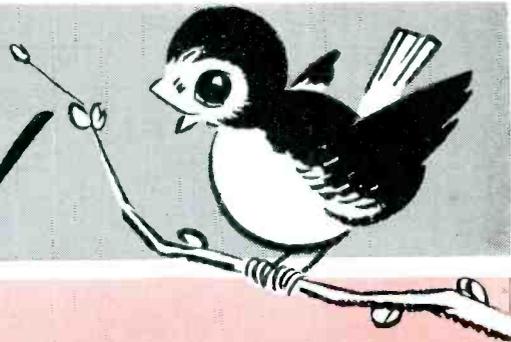


RCA Victor **RADIO TUBES**

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

MONEY

This Spring!



A Profitable Brand New Business Offered to You on a Platter!

RCA Victor RECORDERS



Illustrated is RCA Victor Console Recorder MI-12700. This instrument records and reproduces records at a speed of 78 or 33 1/2 revolutions per minute using 10", 12" or 16" discs. Employs inside-out or outside-in recording methods. Visual indicator. New cutting and recorder head with cutter-head float stabilizer. High fidelity amplifier and speaker. Volume and tone control. Completely self-contained, providing all necessary elements for recording and reproducing discs and records with RCA Velocity Microphone **\$475⁰⁰***



YOU PROFIT IN ALL THESE WAYS!

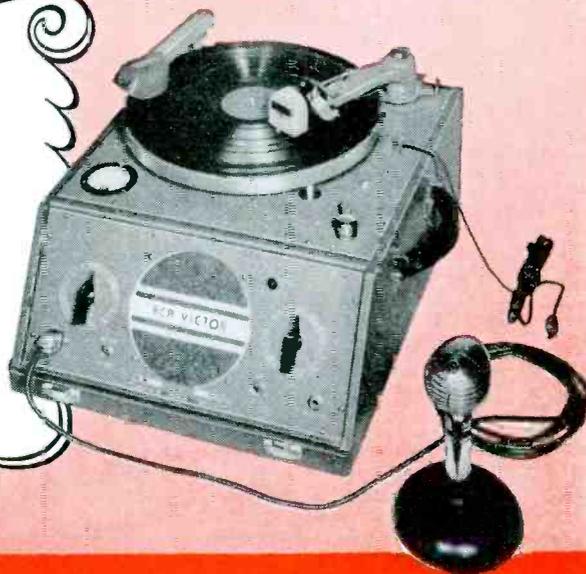
1. On the recordings made in your store.
2. On the sale of RCA Victor Recorders to your customers.
3. On the sale of RCA recording discs.
4. On recordings made outside your store.
5. By the great increase in your store traffic—making extra sales to those drawn by this new attraction.
6. By making sales of RCA Victrolas, RCA Victor Radios, Victor and Bluebird Records, and many other musical instruments for which this attraction will create new interest.

Custom recording is sweeping the country... and RCA Victor offers you now a plan to establish you as a leader in this growing business. Your prospects are legion for the new RCA Victor Recorders and for the recording service you can offer in your store. Music Students, Public Speakers, Business Offices, Clergymen, Lawyers, are but a few. Now, for the first time, you can offer highly efficient record mak-

ing equipment by RCA Victor, the leader in record making and record playing instruments. Backed by outstanding promotional material, displays, and advertising, RCA Victor Recorders mean new business. And new profits! In addition, this business means new stimulation to all your musical instrument business. Details from your RCA Victor distributor—or write us in Camden.

Portable RCA Victor Recorder, MI-12701 comes in attractive, gray carrying case with handle. Turntable speed, 78 revolutions per minute. Will handle discs up to 12". Volume indicator meter. Tone control. Completely self-contained. All necessary elements for recording and reproducing, including RCA Aerodynamic Microphone. Employs outside-in recording method. **\$179⁰⁰***

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



RCA Victor RECORDERS

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

PREVIEW OF NEW RADIO MERCHANDISE

WESTON

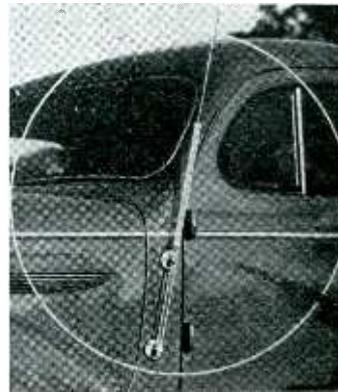
Weston Electrical Instrument Corporation
Newark, N. J.

U. H. F. OSCILLATOR—Model 787 ultra high frequency test oscillator covers 22 to 150 mc. with continuous band-spread, no band switching. Self-contained 400 cycle modulation; portable; weight 16 lb.; accuracy 1 per cent. Provision for audio and video modulation. Output may be supplied by small rod antenna or output jacks. Designed for police, amateur, aircraft and television testing; price \$125.00 list.



CONSOLIDATED

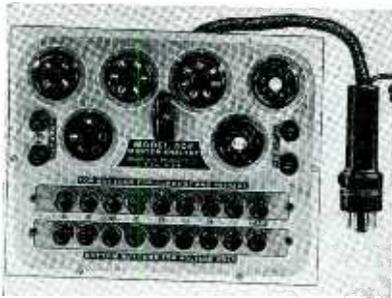
Consolidated Wire and Associated Corp.
514 S. Peoria St., Chicago, Ill.



AUTO RADIO ANTENNAS—Cowl and hinge type antennas are announced. Both models are built of three rods of stainless steel, two of which are firmly fixed with center rod operating on slide for extension. Both models have insulated copper lead-in with rubber sleeve. Cowl mounting type held in place by heavy rubber suction cups and when mounted with cement provided is secure. List \$3.50. Hinge mounting type installed by driving hinge pin out, placing mounting bracket over hinge and replacing. List \$2.50.

RADIO CITY PRODUCTS

Radio City Products Co.
88 Park Place, New York, N. Y.



PUSHBUTTON ANALYST—In model 504 analyst, ranges are selected by pushbuttons. Permits current and voltage readings at the same time. No danger when two buttons are depressed. Six sockets including loctal built into panel; complete with 10 wire analyzer cable.

CROWE

Crowe Name Plate and Manufacturing Co.
1745 Grace St., Chicago, Ill.



AUTO-RADIO CONTROLS—Panel kits for 1939 cars contain all additional parts needed for custom installation of remote control units. Model illustrated suitable for Ford cars.

HICKOK

The Hickok Electrical Instrument Co.
Cleveland, Ohio

TESTER—Model TS-50 vibrator and universal speaker tester, meter equipped. Meter is connected to special winding on output transformer so that it will read in watts. Special features include "A" battery circuit for auto radio testing. Substitute speaker section includes permanent magnet dynamic speaker with universal output transformer for matching load of 2000 ohms to 30,000 ohms in seven steps. Substitute speaker field available having resistance of 300 ohms to 10,000 ohms.



ZIP-A-BAG

Zip-A-Bag Corp.
35 E. 20th St., New York, N. Y.



—A novel arrangement on the vacuum cleaner bag makes it possible to empty bag without detaching it from cleaner. Comes in a variety of colors and materials. Complete with all fittings.

USALITE

United States Electric Mfg. Corp.
222 W. 14th St., New York, N. Y.

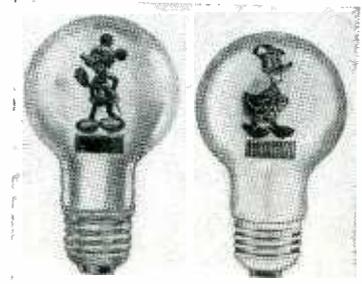


A AND B BATTERIES—For portable radios. No. 624 45 volt portable "B" is equipped with plug-in socket for all standard makes of 1.4 volt portable receivers supplied with "B" battery plugs. Dated. List \$1.50. No. 634 1 1/2 volt plug-in "A" battery for use with all standard makes of 1.4 volt portable receivers equipped with "A" battery plugs. Dated. List \$0.50.

AEROLUX

Aerolux Light Corp.
653 Eleventh Ave., New York, N. Y.

GLOW LIGHTS—For use where a subdued light is desired; embossed replicas of flowers, figures, comic characters fluoresce to soft glow when current is applied. Operate on principle of electronic ionization of gases. Operate on a.c. or d.c., 100 to 120 v., consume 1 to 5 watts depending on type.



PATHE

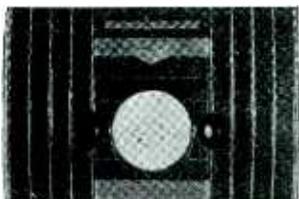
Pathe Radio and Television Corp.
2241 Indiana Ave., Chicago, Ill.

MICROPHONE—High fidelity induction dynamic microphone, high impedance for use with broadcasting or P. A. equipment. Complete with stand. List \$3.00. Microphone is designed for use with the Pathe Mystic Tuner described on p. 30 February issue, *Radio Retailing*, which lists at \$19.95 without microphone.



STAR

Star Machine Manufacturers, Inc.
1377 East Bay Ave., Bronx, N. Y.

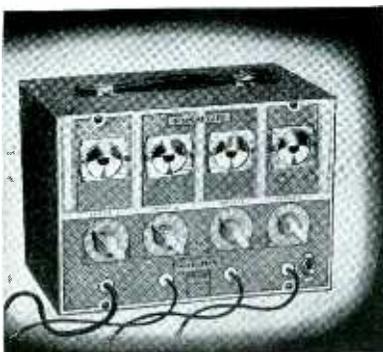


AUTO RADIO CONTROL
—For the 1939 Chevrolet —to re-install any 1936, 1937 or 1938 Delco, United Motors or Chevrolet custom built radio into the 1939 car only this plate is necessary utilizing original control. The plate is a die casting and is an exact duplicate of the original dummy plate on the dash board of the 1939 Chevrolet. List \$3.50.

MILLION

Million Radio and Television Laboratories
685 W. Ohio St., Chicago, Ill.

SIGNALYZER — Indicates the presence of a signal throughout all sections of a receiver. Four input connections, one a coaxial cable which makes instrument usable on ultra-high frequencies. Three inputs operate on a.c. and one on a.c. or d.c. Input capacity is approximately five mmfd. No current is drawn from circuit at any time. Especially suitable for trouble shooting dead or intermittent sets. Circuit incorporates electronic rather than radio engineering principles, simulates functions of vacuum tube volt meter, output indicator and potential measuring device. Any four sections of a radio may be checked simultaneously.



VACUUM TUBE VOLT-METER—Potential measuring device featuring push-button ranges from 3 to 3,000 volts a.c. or d.c. Will not disturb circuit under test. Input impedance 24 megohms. Uses co-axial cable. One zero adjustment for all voltage ranges. Covers 30 cycles to 40 megacycles, a.c. operated. Model XM.

CONSOLIDATED—Consolidated Wire and Associated Corps., 514 S. Peoria St., Chicago, Ill., announce a new line of volume and tone controls. Line includes resistances from 5,000 to 1,000,000 ohms in 5 types, without switch or intermediate tap; without switch but with intermediate tap; with single pole, single throw switch without intermediate tap; with single pole single throw switch and intermediate tap; and with double pole single throw switch without intermediate tap.

CORNELL-DUBILIER—Designed primarily for use in amateur transmitters. Type 86 mica condenser has current range including the 10 meter band (30 mc.). Made by Cornell-Dubilier Electric Corp., South Plainfield, N. J. The design is claimed to have eliminated corona and reduce internal heating so that the Q on high frequencies is high. Dielectric loss in the units is low, permitting long periods of heavy-duty operation without change in electrical constants. Available in capacities from 2,000 to 12,500 volts.

PETER GREY—Fashioned from the spines of the Mexican Cactaceae by Peter Grey, Inc., Thirteenth Ave. at 2029, Oakland, Calif. Kacti phonograph needles are softer than the record surface and so are particularly desirable from the standpoint of record wear as well as for fine reproduction. Needles can be repointed, will play 5 to 15 records without repointing.

ONAN—Model W15-M, W15-S; W15-A 1500 watts a.c. water-cooled generating plants equipped to operate on gasoline, natural or manufactured gas are announced by D. W. Onan and Sons, Minneapolis, Minn. Plants are enclosed in metal housing which covers it and its controls and protects it from all weather conditions. Supplied in manual, self-starting or full automatic types. Range from \$99 for a 350 watt unit up to prices for a 5000 watt plant.

PHILSON PHANTOM—Top Cowl Auto Radio Aerial telescopes out of sight between side of cowl and kickpad to show only about 2 in. above car. Made by Philson Mfg. Co., Inc., 156 Chambers St., New York, N. Y., in 3 sections, telescoping brass tubing, chromium plated, top section stainless steel, extended it opens to 50 in. in height. No obstruction inside car, no interference with vision. Shielded loom housing furnished with pigtail for grounding purposes to eliminate motor noise when only partly raised.

THORDARSON—Replacement filter chokes for a.c.-d.c. receivers are designed by Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago with specific resistances of 200, 250, 300 and 350 ohms. The filter chokes produce a minimum voltage drop in circuits where this factor is important.

TRIPLETT

Triplett Electrical Instrument Co.
Bluffton, Ohio

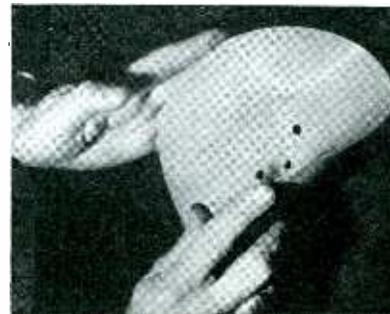


TESTER—Model 327 is a 3-in. milliammeter designed for flush mounting, features extra long scale length and excellent readability. The 0-1 d.c. milliammeter has a net price of \$4.67, 0-10 d.c. milliammeter is \$3.83.

FLEX

Flex Record Co.
9 Rockefeller Plaza, New York, N. Y.

RECORD BLANK—For instantaneous recording Flex is a flexible disc which is very light in weight. Its mirror-like surface is made of patented plastic, shavings are non-inflammable, is not affected by reasonable change in temperature. Available in 6, 8, 10, 12 in. sizes, in prices ranging from \$0.20 to \$0.75 each.

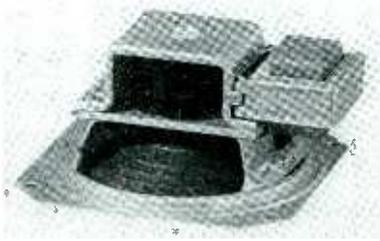


PREVIEW OF NEW RADIO MERCHANDISE

OPERADIO

Operadio Manufacturing Co.
St. Charles, Ill.

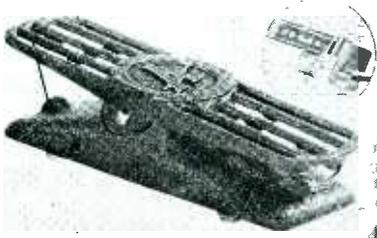
SPEAKER — Model 45Y4T four in. electro dynamic speaker has been designed with particular attention to low or bass response. For use in midget type radio and other compact installations.



AMPERITE

Amperite Company
561 Broadway, New York, N. Y.

FOOT VOLUME CONTROL—Smooth and easily controlled crescendos can be obtained with foot-pedal control. Can be used with high impedance Kontak microphones for musical instruments. Volume can also be set at any point and foot removed. Since control is wired as a "T" pad, any number up to five can be used in parallel and fed into one input. When used in parallel any of the controls can be varied without affecting the others. Model FK, list \$12.00.



RIDER

Service Instruments, Inc.
404 Fourth Ave., New York, N. Y.

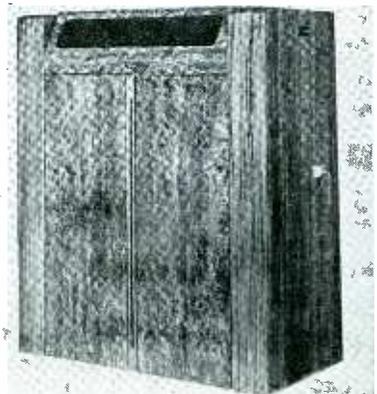
VOLTOHMYST — Multi-range electronic voltmeter—ohmmeter measures .05 to 5000 volts in 9 ranges; .1 to 1,000,000,000 ohms in 7 ranges; accuracy 2 per cent on voltmeter at full scale, ohmmeter 3 per cent at half scale, up to and including ultra-high frequencies regardless of tube or line voltage changes; input resistance constant at 16 megohms measures a.c., a.f.c., a.b.c., a.v.e. voltages; highly stable push-pull circuit; 100-130 volt, 25-60 cycle operation; net to service-men \$57.50.



KAUFFMAN

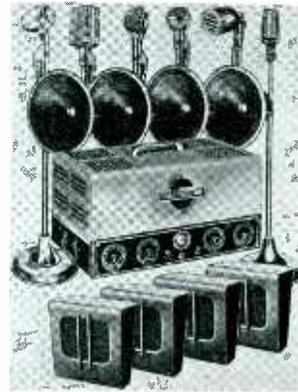
Kauffman Air Conditioning Corp.
St. Louis, Mo.

ROOM COOLER—Type A summer air conditioning unit that cools, dehumidifies, filters and circulates the air. Cooling capacity 10,000 B.T.U. per hr., positive air circulation, 350 cu. ft. air per minute discharged. No drain connections necessary, movable, fresh outside air admitted to room through ventilating damper in any quantity up to 20% of capacity of cooling fan. Unit heavily insulated to deaden noise, condensing unit and motor mounted on spring suspensions for quiet operation.



CLARION

Transformer Corp. of America
69 Wooster St., New York, N. Y.

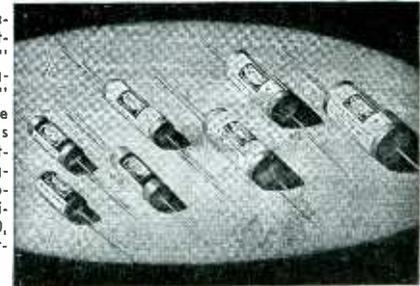


SOUND SYSTEM — Model C-489A, a 70-98 watt amplifier and unified system designed to handle the very largest of sound installations. Translucent control dials, automatic volume control, automatic volume expansion, four input channels, cathode "eye" output indicator. Amplifier employs 14 tubes. Complete range of output impedances from 2 to 500 ohms. System includes 4 heavy duty 12 in. p.m. speakers, choice of 2 microphones, stands, cable, 4 wall baffles. System lists at \$299.50, Amplifier No. C-39-TS is \$139.02 list.

C-D

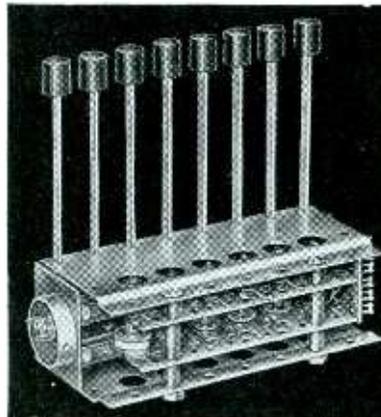
Cornell-Dubilier Electric Corp.
South Plainfield, N. J.

CAPACITOR—Paper tubular capacitor. Supplementing type DT "Dwarf Tiger" the new unit is impregnated in Dykanol "D" which makes possible the production of tubulars with internal series resistance of over 5,000 megohms per microfarad. Approximately fifty capacities are available in 400, 600, 1,000 and 1,600 ratings.



SPRAGUE

Sprague Specialties Company
North Adams, Mass.



PUSH BUTTON TUNER — Single adjustment screw for both antenna and oscillator trimmers on the CX-52 push button tuner gives ease of adjustment and high stability. Available in front or back adjustment types up to 6 buttons. Vernier adjustment screw on antenna condenser to facilitate tracking.

SHORT WAVE CONVERTERS FOR CAR RADIOS

Can be attached to any car radio. Has on and off switch. Does not affect the reception on the standard broadcast bands. MODEL 600—covers 49, 31, 25, 20, 19 and 18 meter bands. Designed for reception of American and Foreign short wave broadcast. Especially adapted to use in tropical countries and the more remote parts of the world. Distance range 5000 to 10000 miles. A very attractive unit. List Price \$24.95

For Use of Police and Other Law Enforcement Officers

MODEL 100-A police converter with fixed condenser. Covers 1500 to 2800 kilocycles. List price \$12.50. MODEL 200 police converter with variable condenser and illuminated dial. Covers 1500 to 5500 kilocycles. List Price \$17.95.

MODEL 500—police converter with two metal tubes, variable condenser and illuminated dial. Very sensitive. Exceptional distance range. List Price \$21.95
MODEL 800—with fixed tubes, variable condenser and illuminated dial. List Price \$15.95

Jobbers and dealers wanted **ABC RADIO LABORATORIES** 3334 N. New Jersey St., Indianapolis, Indiana, U.S.A.



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

COMPLETE ELECTRIC PLANTS

ONAN A.C. ELECTRIC PLANTS supply electricity to operate A.C. RADIO, SHORT WAVE TRANSMITTERS AND RECEIVERS, PUBLIC ADDRESS SYSTEMS, MOVING PICTURE PROJECTORS, SOUND TRUCK APPARATUS, ELECTRIC TOOLS, LIGHTS and ALL APPLIANCES.

THOUSANDS IN USE IN ALL PARTS OF THE WORLD

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

Available in 110 or 220 Volt, AC—12, 32 and 110 Volt, DC—also Dual Voltage, AC-DC Types. Manual, Full-Automatic or Self-Starting. \$99 and up. Shipped READY TO RUN.

WRITE FOR DETAILS AND PRICES
D. W. ONAN & SONS
 446 ROYALSTON AVE. MINNEAPOLIS, MINN.

A GOOD NAME GOES A LONG WAY



KenRad makes a complete line of quality radio receiving tubes, backed by a continuous record of over 40 years in the manufacture of electric lamps.

KenRad Tube & Lamp Corp.
 Owensboro, Ky.

KEN-RAD

DEPENDABLE RADIO TUBES

SERVICING LABORATORY for 1939....



Readrite RANGER

BUILT TO A STANDARD — NOT TO A PRICE! Model 640-740—only \$28.35 net

Reliability Since 1904
 There Are No Readrite Orphans
 Write for Catalog Section 320, College Dr.

- Scale readings: 0-10-50-250-500-1000 AC and DC Volts at 1000 Ohms per volt (DC accuracy guaranteed 2% — A C 5%).
- 0-1-10-50-250 D.C. M.A.; 0-300 low ohms, high ohms to 250,000 at 1½ volts (Rheostat adjustment for 13½ volts for ohms readings to 2½ Megohms. Batteries may be added permitting such readings in 250,000 ohms steps).

READRITE METER WORKS, Bluffton, Ohio

ATR Announces NEW PRODUCTS! MODELS! PRICES!

- Shaverpacks
- Low Power Inverters
- Radio Inverters
- Industrial Inverters
- Vibrapacks
- Polarity Changers
- "A" Battery Eliminators
- Battery Chargers
- Rectifier Packs
- Special Supplies
- "A-B" Power Units
- Inverter Vibrators

NEW DESCRIPTIVE CATALOG NO. 139 NOW READY
 Write today for Your Free Copy

ATR Auto and Farm Radio Vibrators—Fully Guaranteed for 1 year. Featured in the January issue of Radio Retailing. Write for your Free Copy of ATR Vibrator Guide and Equivalent Chart and details of Free offer.

AMERICAN TELEVISION & RADIO CO.

Manufacturer of the Most Complete Line of Vibrators; Vibrator-Operated and Rectifier Power Supplies.
 St. Paul, Minnesota, U.S.A. Cable Address: "Likex" N.Y.



MISS JONES

is married now . . .

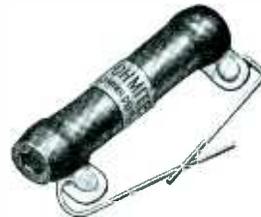
She'll tell her husband how good your service has always been and he too will have you do their radio repairs. That's the way business grows. Use dependable Ward Leonard Replacements. They stand up, thus help make satisfied customers. Send for Price List 507.

WARD LEONARD ELECTRIC CO.
 35 SOUTH STREET, MOUNT VERNON, N. Y.
 Please send me Price List 507.

Name.....
 Firm.....
 Address.....
 City..... State.....

RADIO RETAILING, MARCH, 1939

Way Up North—Way Down South



IT'S OHMITE

In the bitter cold of the Arctic and Antarctic—or in the humid, sweltering heat of the tropics—Ohmite Resistance Units deliver unflinching, trouble-free service day-in and day-out. That's why they are so widely used by Servicemen, as well as Engineers and Manufacturers, in every climate in every part of the world. Ask your Jobber for Ohmite Brown Devils, Dividohms, Chokes, Cordohms Rheostats, etc.

wire-wound replacement resistors. Extra-sturdy all-porcelain construction with the permanent protection of Ohmite Vitreous Enamel just as in the big Ohmite industrial units. Resistances from 1 to 100,000 ohms.

Send Coupon Today for FREE CATALOG 17

OHMITE MANUFACTURING CO.
 4873 Flournoy Street, Chicago.

Please send me free Catalog 17.

Name.....
 Address.....
 City.....
 Occupation.....

OHMITE BROWN DEVILS—The popular 10 watt and 20 watt

Be Right with OHMITE
 RHEOSTATS • RESISTORS • TAP SWITCHES



G. E. CRUISERS—D. W. "Winnie" May (dark coat) and Earle Poorman of G. E., snapped aboard the M. S. Pilsudski, floating hotel that carried 425 General Electric dealers from the metropolitan New York area south to Miami, Havana and Nassau on a 10-day cruise terminating just as this issue closed

Parts Show Breaks 100

Booth space contracts month ahead of last year. RMA and Sales Managers set dates

CHICAGO—More than a hundred manufacturers had contracted for over 130 booths in the 1939 National Radio Parts Trade Show as this issue of *Radio Retailing* went to press. Contracts for space were running nearly a month ahead of last year.

Show hours have been established as follows: Wednesday and Thursday, June 14 and 15 (Jobber Days) 10 a.m. to 6 p.m. Friday, June 16, 2 p.m. to 10 p.m. Saturday, June 17, 2 p.m. to 10 p.m.

The RMA banquet takes place Wednesday evening. The regular annual membership meeting of the Radio Parts Manufacturers National Trade Show will be held at noon, Friday, in the Stevens. The Joint Meeting of the Sales Managers Club, Eastern and Western Divisions, will be held at 10:30 a.m. on this same day.

RSA Convention Planned

Second annual meeting set for June 16-17, during parts show

CHICAGO—Radio Servicemen of America, Inc. plans its second annual convention June 16 and 17 here, coinciding with the two special days set apart by the National Radio Parts Trade Show at the Stevens Hotel for special booth manning by technicians best able to answer questions likely to be asked by servicemen, amateurs, retailers and students.

Included during the session will be a television demonstration, technical lectures. Arrangements are being made to secure reduced bus and railroad fares from RSA Chapter cities to the convention and awards are to be made for best

On the Newsfront

Chapter attendance.

To 19 RSA Chapters late last month went Rider 1X Service Manuals, prizes for outstanding membership building efforts in a drive ending January 31. Winners included: Steubenville, Binghamton, Jamestown, Johnstown, Houston, Alton, Danville, Freeport, Peoria, Rockford, Nashville, Holyoke, Duluth, St. Paul, Ogden, Oklahoma City, Tulsa, Long Island and Lansing Chapters.

Finch Facsimile On

NEW YORK—W. G. H. Finch's facsimile transmitter W2XBF opened up here on the ultra high frequencies March 6, is now on the air daily. Included in the facsimile transmissions are news highlights obtained by arrangement with the International News Service.

Electro-Voice Move

SOUTH BEND—The Electro-Voice Manufacturing Company moved March 1 to its own building at 1239 South Bend Avenue. The new plant provides improved manufacturing facilities, increased floor space for the production of dynamic, velocity and carbon microphones.

Meriden Modernism

MERIDEN, CONN.—James H. McDermott's Uptown Radio Sales & Service blossoms out into a modernistic building complete with radio and appliance showrooms at 271-273 East Main just as we go to press.

Music Merchants to Meet

Gather at New Yorker August 1-3. Exhibits planned

NEW YORK—The annual convention and exhibit of the National Association of Music Merchants is to be held August 1, 2 and 3 at the Hotel New Yorker here. Musical products are to be exhibited during the convention.

Extensive plans for the meeting were made late in February by nine members of the group's board meeting at New Orleans.

New Majestic Setup

Davega directors resign. Norins plans intensive sales campaign

CHICAGO—Substantial increase in working capital is reported by the Majestic Radio & Television Corporation of this city simultaneously with the news that Singer & Friedlander, Ltd., of London and the Allied International Investing Corporation of New York have become financially interested. It is also learned that the Davega Stores Corporation, hitherto heavily interested in the firm, has granted an option on its entire Majestic holdings to the above companies and to William B. E. Norins, with the explanation that Davega no longer wishes to engage in both retailing and manufacturing.

All former officers and directors of



STROMBERG-CARLSON'S PRODUCTION CONTROL BOARD—Every Monday noon Stromberg-Carlson's production control board meets, checks factory, branch and distributor inventory reports, then authorizes production on a safe and sane basis. Left to right around table: F. C. Young, G. E. Eyer, Lee McCanne, L. I. Spencer, G. A. Scoville, E. A. Hanover, W. M. Angle, S. R. Curtis, Dr. R. H. Manson and W. F. Cotter

Majestic have resigned, to be replaced by the following directors: Edward V. Otiss, president, and Curtis Franklin, treasurer of the Allied International Investing Corporation; Walter Glenn Scott, C. N. Thomas and Minor W. Tuttle, of Scrandrett, Tuttle & Chalaire, attorneys.

William B. E. Norins becomes Majestic's general sales manager, informs the press that his program calls for an intensive sales campaign to develop additional jobber and dealer distribution for Majestic products now manufactured in the firm's modern Chicago plant.

Admiral Production Up

Firm adds new rep, many distributors

CHICAGO—From the management of the Continental Radio & Television Corporation comes word that an unexpectedly heavy demand for the new "Admiral" small sets has necessitated the addition of a third production line at the factory. Production has been increased 40 per cent, raising daily output from 2,100 to 3,000 sets.

Warren E. Brennan has been appointed "Admiral" sales rep covering Ohio and Michigan. Recently appointed distributors include: Benton-Bailey of Richmond, H. I. Sackett Electric of Buffalo, Baldwin-Hall of Syracuse, Kemp Equipment of Rochester and W. B. Davis Electric Supply of Memphis.

Fresno Servicemen Organize

FRESNO, CALIF.—Radio servicemen here have formed an association drawing its membership from points within 100 miles. Officers include Jack Schiefer, president; Andy Brown, vice-president and program chairman; George Artman, secretary-treasurer; Ben Heitkotter, sergeant-at-arms and Earle Bancroft, publicity director.

Temporary initiation fee has been set at \$2 and dues will be \$3 per year. Meetings are to be held monthly and will feature talks by prominent technicians and merchandisers.

Philco Shows 450

Distributors reported placing many early orders

PALM BEACH—To 450 distributors and representatives convening here last month (pre-convention report in *Radio Retailing* for February) the Philco Radio & Television Corporation proved that it meant business when the slogan: "Philco All Year 'Round" was adopted.

With Tom Kennally, sales manager, acting as m.c., the top man for each activity paraded his own line of merchandise, policies and program, viz.: Larry E. Gubb, Philco president, launched ten new radio models, talked phonographs and combinations, piloted the crowd to several television demonstrations turned out with the aid of a portable transmitter.

W. Paul Jones, president of the Philco Refrigerator Company, unveiled eight new "Conservador" models. Three new York-Cool Wave portable air-conditioners were shown in full interior settings by Larry Gubb, W. S. Shipley of the York Ice Machine Company and Harry Boyd Brown. Several new auto radios

and the full line of new Philco dry batteries were presented by C. E. Carpenter.

The grand finale of the formal program was staged by Sayre M. Ramsdell,



PHILCOMEN IN PHLORIDA — Snapped at Philco's distributor convention: Factorymen Sayre Ramsdell and Tom Kennally (coatless) welcome their wives



PALM BEACH CONVENTIONEERS—Here hearing the story about "All Year 'Round Philco" (story in last month's news) are this firm's assembled distributors, pictured beneath picturesque medieval meeting hall arches



SUN AND SURF AND TELEVISION—Distributors witnessed the first bathing beauty contest judged via television last month when Philco set up a portable transmitter at the Palm Beach Sun and Surf Club during its convention

vice-president of the company, in the form of a comprehensive presentation of a coordinated advertising program that will aid distributors and dealers to do a year round job.

RCA Ups Four

CAMDEN—Two new RCA Victor district sales managers have been appointed, George Malsed at Dallas and Harold Winters at Kansas City. Malsed succeeds George Ewald, who has been transferred to Camden. Winters replaces Dale Neiswander, who has joined RCA's distributor the Interstate Supply Company of St. Louis as general manager.

Francis H. Engel has just been placed in charge of coordinating and planning development of television receivers. J. A. Milling, formerly manager of parts sales, has been named manager of the small radio division.

MR. RADIO DEALER

*Sound Sales
can be
profitable*



TIE IN WITH THE C.I.S.E. PLAN

**WHAT FREE MEMBERSHIP
IN THE C. I. S. E. GIVES
TO THE RADIO DEALER**



**Factory
Purchasing
Power**

Direct from the factory to you. No middleman to split the profits with.



**Exclusive
Selling
Territory**

Only one C.I.S.E. agent is appointed to a territory. You automatically become the sole representative in your locality.



**Complete Line
Competitively Priced**

A complete line of P.A. equipment, dependably engineered. Clarion is not only competitively priced, but priced to outsell the lowest!



Protected Profits

The C.I.S.E. plan offers factory purchasing power, exclusive territory, a complete line, dependably engineered and competitively priced. You can't fail to profit by being a C.I.S.E. agent! C.I.S.E. gives you real PROFIT PROTECTION!

Our aim is to help you make more money in sound. Take advantage of a real honest-to-goodness opportunity. MAIL COUPON NOW!

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

Clarion Institute of Sound Engineers RR-339
69 Wooster Street, New York City

Please send a C.I.S.E. application immediately.

Name

City State



SETS STOLE THE SPORTS SHOW—Sentinel's new battery portables were the center of all eyes at Chicago's recent Boat and Sports Show. In charge of the exhibit were (left) purchasing agent *Phil Krum* and (right) advertising manager *E. S. May*

Parts Show Exhibitors

List covers booths allotted up to March 4

CHICAGO—Following is a list of companies which, up to March 4, had been allotted booth space at the National Radio Parts Trade Show, to be held at the Stevens Hotel June 14-17, including execs expected to be in attendance:

- Aerovox Corp., Charles Golenpaul.
- Alliance Mfg. Co., R. F. Doyle.
- Alpha Wire Corp., Peter Bercoe.
- American Condenser Corp., Irving Menschik.
- American Emblem Company, Earl Congelton.
- American Micro. Co., Inc., F. A. Yarbrough.
- American Phenolic Corp., A. J. Schmitt.
- American Radio Hardware Co., Inc., D. T. Mitchell.
- American Telev. & Radio Co., Albert Goffstein.
- Amperex Electronic Prod. Inc., S. Norris.
- Amperite Company, 561 Broadway, S. Rutenberg.
- Arcurus Radio Tube Co., J. Geartner.
- Astatic Microphone Lab. Inc., R. T. Schotenberg.
- Audak Company, G. V. Sullivan.
- Belden Mfg. Co., H. W. Clough.
- Birnback Radio Co. Inc., Morris Birnbach.
- Bliley Electric Co., F. D. Bliley.
- Brush Development Co., Will H. St. Clair.
- Bud Radio, Inc., Max L. Haas.
- Carron Mfg. Co., J. Prince.
- Centralab, H. E. Osmun.
- Cinaudagraph Corp., D. P. O'Brien.
- Clarostat Mfg. Co., Inc., Victor Mucher.
- Continental Carbon, Inc., G. F. Benkelman.
- Cornell Dubilier Elec. Corp., L. L. Adelman.
- Crowe Name Plate & Mfg. Co., Winslow Goodwin.
- Drake Electric Works, Inc., Walter Kuehl.
- Earl Webber Co., R. M. Krueger.
- Eastern Mike-Stand Co., S. Sherman.
- Edwin I. Guthman & Co., B. J. Funk.
- E. F. Johnson Co., E. F. Johnson.
- Electric Soldering Iron Co., L. P. Young.
- Electro Voice Mfg. Co., Inc., A. Kahn.
- General Cement Mfg. Co., S. B. Valulis.
- General Industries Co., H. E. Moon.
- Hallcrafters, Inc., W. J. Halligan.
- Hammarlund Mfg. Co., Joseph Lush.
- Hickok Elec. Instr. Co., Robt. Williams.
- Howard Radio Co., R. E. Laycock.
- Hugh H. Eby, Inc., C. N. Wiltbank.
- Hygrade Sylvania Corp., Arthur L. Milk.
- Hytro Corporation, G. J. Hallam.
- Indiana Steel Products Co., A. D. Plamondon, Jr.
- Insuline Corp. of America, S. J. Spector.
- International Resistance Co., Dan Fairbanks.
- Jackson Elec. Instr. Co., P. F. Jackson.
- Jefferson Electric Co., R. J. Horstmann.
- Jensen Radio Mfg. Co., T. A. White.
- J. F. D. Mfg. Co., Julius Finkel.
- John F. Rider, John F. Rider.
- Ken-Rad Tube & Lamp Corp., A. O. Perlitz.
- Lectrohm, Inc., D. C. Wilson.
- Lenz Electric Mfg. Co., R. C. Zender.
- Meissner Mfg. Co., W. P. Marsh.
- Million Radio & Television, J. W. Million, Jr.
- Muter Co., J. E. Scanlan.
- National Company, James Millen.
- National Union Radio Corp., G. E. DeNike.
- Ohmite Mfg. Co., R. M. Hill.
- Oxford Tartak Radio Corp., J. S. Gartner.
- Park Metalware Co., F. B. Farrington.
- Parts Magazine, Glad Henderson.
- Par-Metal Products Corp., A. A. Parmet.
- Philmore Mfg. Co., Inc., Cary Granat.
- Pioneer Gen-E-Motor Corp., D. E. Bright.
- P. R. Mallory & Co., Inc., P. Newton Cook.
- Precision Apparatus Co., M. Mentzer.
- Premax Products, Div., Chisholm Ryder, G. O. Benson.
- Quam Nichols Co., H. A. Staniland.
- Radiart Corp., L. K. Wildberg.
- Radio Jobber News, Max Bauer.
- Radio Mfg. Engineers, Inc., E. G. Shalkhauser.
- Radio Retailing, O. Fred, Rost, W. Mac Donald, Lee Robinson.
- Radiotechnic Laboratory, H. P. Manly.
- Radio Today, O. H. Caldwell.
- Radio Weekly, Cy Kneller.
- Raytheon Production Corp., E. S. Dietrich.
- RCA Mfg. Co., Inc., H. P. Kasner.

*Attend the National
Radio Parts Trade Show*

1939 JUNE 1939			
WED	THU	FRI	SAT
14	15	16	17

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

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

Stevens Hotel, Chicago



A.R.C. ADMAN—*Ralph F. Linder*, just appointed sales promotion and advertising manager of the American Record Corporation. Former managing editor and sales promotion manager for the Butterick Company's trade division

Readrite Meter Works, A. R. Baker.
 Robert M. Hadley Co., R. M. Hadley.
 Rola Co., L. Golder.
 Service Instruments, Inc., John F. Rider.
 Service Magazine, S. R. Cowan.
 Shure Brothers, S. N. Shure.
 Simpson Electric Co., G. H. Kock.
 Solar Mfg. Corp., W. C. Harter.
 Sprague Products Co., Harry Kalker.
 Standard Transformer Corp., J. J. Kahn.
 Star Machine Mfrs., Inc., I. Finkel.
 Supreme Instruments Corp., H. H. Shotwell.
 Thordarson Elec. Mfg. Co., C. P. Cushway.
 Tobe Deutschmann Corp., Tobe Deutschmann.
 Triplett Elec. Instr. Co., N. S. Triplett.
 Triumph Mfg. Co., J. J. McCarthy.
 Tung-Sol Lamp Works, H. F. Cook.

United Catalog Publishers, Inc., P. Freiden.
 United Transformer Corp., S. L. Baraf.
 Utah Radio Products Co., O. F. Jester.
 Ward Leonard Electric Co., A. A. Berard.
 Ward Products Corp., H. R. Wiesenberg.
 Wm. Brand, Co., Wm. Naumburg, Jr.
 Weston Electrical Instr. Corp., C. B. Denton.
 Wincharger Corp., W. F. Herron.
 Wirt Company, Paul G. Duryea.

RCA Ups Two

CAMDEN—Joseph B. Elliott, who has been district sales manager in the New England area for RCA Victor, is now special assistant to Fred D. Wilson, manager of field activities. Arthur G. Kemp, former Cleveland district sales manager, replaces Elliott in New England.

Aerovox Opens N. Y. Office

NEW YORK—To insure the same close contact with the trade which obtained when the plant was located in Brooklyn the Aerovox Corporation, now in New Bedford, Mass., has opened a sales office at 347 Fifth Avenue, New York City. Phone number is Murray Hill 5-3858.

Philco-NY Convenes

NEW YORK—In progress as this issue of *Radio Retailing* goes to press is a March 6-11 convention staged by Philco-New York for the trade at the Savoy Plaza Hotel. Admission is by ticket only, entertainment promised and sales solicitation barred.

Sure you can own a
RIDER CHANALYST!

NATIONAL UNION WILL GIVE YOU ONE IF YOU BUY 80 N. U. TUBES AND/OR ELECTRO CONDENSERS PER MONTH

BUICK '39

Sell CROWE CONTROLS for Increased Profits

CHEVROLET '39

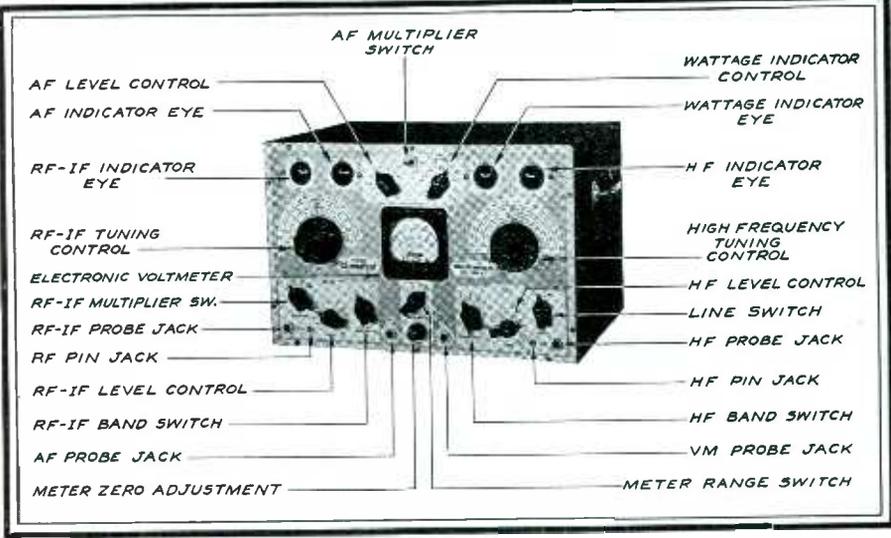
BETTER satisfaction — easier selling — with Crowe interchangeable Custom-Built Controls and Panel Kits — a steadily growing line — more complete than ever! They're different! They exactly match official styling!

Thousands of auto radios in use with Crowe Controls need only new Crowe Kits to fit 1939 cars. Others need Controls and Kits for new cars. A highly profitable, growing market. Cash-in on it!

Ask for Bulletin 230

CROWE NAME PLATE & MFG. CO.
 1745 Grace St., Chicago, Ill.

• FADA • • ARVIN •
 • SPARTON • HORN • DELCO • KARADIO •
 • PHILCO • EMERSON • FIRESTONE •
 • TRAVLER • STEWART • WARNER •
 • PACKARD • BELL • TIFFANY TONE •
 • ADMIRAL • MISSION • BELL • TROY •



ASK YOUR NATIONAL UNION JOBBER HOW TO GET A CHANALYST FREE

The CHANALYST is a great piece of modern high efficiency test equipment . . . an invaluable asset to your service business. It is guaranteed by John F. Rider and approved by National Union Engineers. Now YOU can own one.

Come on!

BUILD CUSTOMER CONFIDENCE WITH NATIONAL UNION TUBES and CONDENSERS!

NATIONAL UNION RADIO CORP.
 Newark, New Jersey RR-339

Who is nearest Nat. Union Jobber?

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

NEW STARS

in the 1939 Line of RADIART AERIALS



NEW
Gorgeous
JEWEL TRIM
Deluxe Cowl Aerials
with Ruby, Sapphire and
Emerald Plastic Jewels

C-9	\$3.95	3-section	24	63 in.
C-10	\$4.95	4-section	24	80 in.



NEW
"SHORTY"
The Short-Short Deluxe Cowl Aerial
COLLAPSES TO 16 INCHES

Type C-11 \$4.45
Deluxe 4-section
16 to 51 inches
JEWEL TRIM and
BALL, Red Only

A FULL YEAR AHEAD of the Style Procession. The Most Beautiful Aerials Ever Built — and TRULY SILENT. THEY CANNOT RATTLE.



NEW
UNDERHOOD
Bracket Mount
TYPE CB-1

2-section
31 51 inches
\$2.45

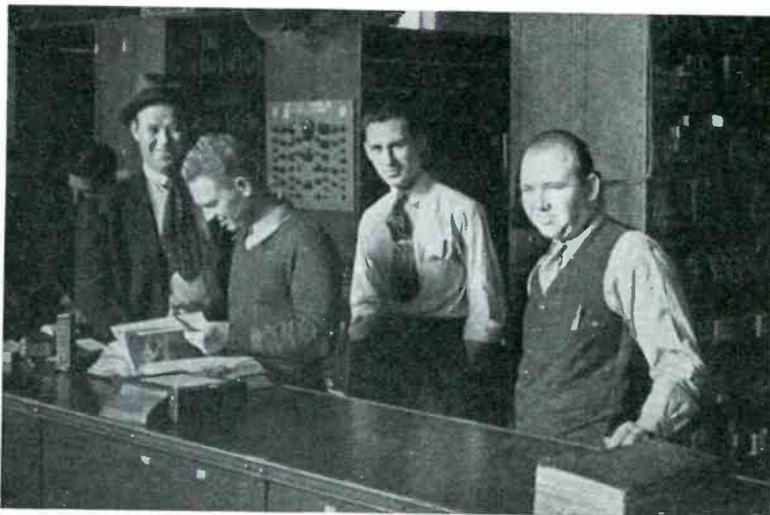
NO DRILLING
of finished body surface.
CB-1 is what every service-
man has been asking for



Get New
BULLETIN 342

THE RADIART CORPORATION
SHAW AVENUE CLEVELAND, OHIO
MANUFACTURERS OF **RADIART**
VIBRATORS

Guaranteed 1 YEAR



HOUSTON HOTSHOTS—Left to right: H. C. Brown, W. H. Edwards, Geo. Grossman and Frank Kutzenberger, all of Straus-Frank, Houston

Motorola Line Details

Both Standard and Specific models equipped with instrument panel-matching escutcheons. "Streamliner" display veritable auto-radio department

CHICAGO—From Victor A. Irvine of the Galvin Manufacturing Corporation comes information amplifying preview news concerning the 1939 "Motorola" auto-radio line appearing on page 17 of the February issue.

Writes Irvine: "It is true that Motorola has two completely separate car radio lines. One consists of five Standard models which will install in any car. These five models have push button-plates or escutcheons which fit 1939 cars and those of earlier years and match the design of the instrument panels. The other is a line of specifically designed sets which not only have escutcheon plates matching 1939 car instrument panels but which also, in many instances, employ chassis which fit snugly behind the instrument panel so that the speaker plays through the grille provided on this



WIEBOLDT WORKERS—Snapped at the well known Wieboldt Store, Chicago: Manager W. A. Kilmer, R. Campbell, Agnes Jones and G. K. Howson. They place a new table model set display near the service department, sell many "Admirals" as a result

panel by the car maker."

Just announced by this same company is a "Streamliner" display board which is virtually a Standard model auto-radio receiver and aerial sales department in itself. Four receivers and four aerials mount in the plywood board, hooked up and ready for demonstration on a battery placed in back by the dealer. Useful features are the attached "Sales Maker" portfolio whose illustrated pages may be turned and ball-bearing casters which permit the board to be readily rolled around.

There Is REAL PROFIT Selling Inter-Communicators That STAY SOLD

Regal TOKFONE inter-communication systems have proven their reliability—thousands of successful installations have been made in the past year netting some nice profit to the LIVE dealers who went after the yet unscratched inter-communicator market—with the right line of reliable products.



MASTER STATION

Illustrated above is TOKFONE master station model 141. A beam power system—two watt output—selector switch for 2 to 11 stations—"on" and "off" switch—volume control and "talk" and "listen" switch—beautiful hand rubbed walnut cabinet.

AS ILLUSTRATED
\$49.50

Complete with one remote station and 50 feet of wire. Extra stations—50 ft. of wire \$10.00 each.



REMOTE STATION

Write for catalog showing complete Tokfone line.

REGAL AMPLIFIER MFG. CORP.
14-16 West 17th St., New York, N. Y.
Cable Address: Ramcomp

New Plant For Ansley

NEW YORK—The Ansley Radio Corporation, maker of Dynaphone radio-phonograph combinations and the new Dynatone electronic piano, has acquired the seven-story plant at Bronx Boulevard and 238th Street once occupied by Cornell-Dubilier. Built originally as a piano factory and later used in the manufacture of radio parts, the building is ideally suited to production of the Ansley products.

Crosley At N. Y. Fair

CINCINNATI—The Crosley Corporation will have its own extensive building at the New York World's Fair 1939. In the building, now being erected, the complete company line including radios, radio-phonograph combinations, Shelyador refrigerators, washers, ironers, gas and electric ranges, Koldrink bottle-coolers and Coolrest bed coolers will be exhibited. In operation will be a "Reado" facsimile printer.



OLDTIMER—One of the best known parts distributors in the St. Louis area is Electric Lamp Supply's Jimmy Broadwell

Kunz Joins Supreme

GREENWOOD, MISS.—Walden H. Kunz, former head of the Indiana Technical College radio engineering department, has joined the engineering staff of Supreme Instruments Corporation, will do research and development work in the high frequency field. He was at one time associated with Grunow and, later, with Electro-Acoustic Products.

Bridgeport Joins RSA

BRIDGEPORT—The Greater Bridgeport Radio Service Men's Association has affiliated with the Radio Servicemen of America, Inc. J. F. Gravlin is chairman, A. H. Stendahl secretary and Herbert C. Eisenman treasurer.

Modern Farver

PORTSMOUTH, OHIO—Farver Radio Supply has just finished modernizing its store at 534 Second Street, says a new catalog for use the rest of the Winter and Spring is just about ready.

RADIO RETAILING, MARCH, 1939

MAKE More On CHANGERS

By Using
Popular
General Industries
Changer Units



Model "M." Plays seven 12" or eight 10" records automatically.

YOU can sell more General Industries record changer units for radio-phonographs and phonographs—can use more in installations—for two reasons. They are made right for high-fidelity playing and dependable operation. They are priced to equip instruments built for popular demand.

Test Out a Model "M" Unit

Each Model "M" unit is complete, ready for installation. Flyer induction type self-starting motor, built for long service with cool operation; turntable is included. Modern tangent tracking high-fidelity pickup with volume control. Simple, deft, silent working and accurate single-shift changer mechanism. All assembled on mounting plate, easy to install with low labor cost. Order a sample for testing. Give frequency of current you use and size of turntable wanted.



The GENERAL INDUSTRIES CO.
3937 Taylor Street
Elyria, Ohio

NEW PORTABLE PRESTO RECORDER



A PROFIT
BUILDER
FOR STUDIOS

PRESTO MODEL M

- Two 12" dual speed turntables.
- Mixer in recording amplifier permits perfect blending of voice, music, sound effects.
- Steady speed gives good synchronization with 8mm. or 16mm. moving pictures—a new market for you.
- High gain amplifier—can be used as a 5-watt public address system.

● Here's a compact dual-turntable recorder you can use in your studio—or pick up and take with you in a hurry for outside jobs. The new Presto Model M is the only dual-table machine light enough to carry—weighs only 62 lbs. complete—yet with it you can make high-quality recordings continuously at either 78 or 33 $\frac{1}{3}$ RPM. That means that you can now record 15 or 30 minute programs on 12" records that artists can play back in their own homes—or dub records in any quantity easily, profitably. Write for complete information today.

PRESTO RECORDING CORPORATION
235 West 55th Street, New York, N. Y.

NEW

BOOK BY RIDER

COMPLETELY EXPLAINS

"SERVICING by SIGNAL TRACING"



A Basic System of Servicing For All Communication Systems

A complete explanation of the system of servicing which many authorities believe will revolutionize present methods of locating defects in communication systems of all frequencies—transmitting or receiving. This system is fundamental, because it operates on the common denominator of all sets regardless of circuit—The SIGNAL! Because of this fact the book is also a veritable text book on radio receiver operation, for it discusses the functions of the various parts of all receivers—the paths of signal currents—the development of control voltages, etc. The book covers all modern receivers including television and facsimile.

300 pages, bound in hard covers. Out in April . . . \$2.00

DID YOU SAY 9?

YOU NEED ALL 9 Rider MANUALS

YES, I SAID 9!

JOHN F. RIDER, Publisher 404 FOURTH AVE. NEW YORK CITY

Dealer Helps

CLOCK DISPLAY—Convenient and striking is a new illuminated "silent salesman" just created by *Emerson* and available through this firm's distributors. Supporting the company's recently announced "multiple sale" promotion, the display embodies an illuminated montage showing the wide variety of uses for various Emerson sets. It is about 5½ feet high by 3½ wide, has shelves to accommodate nine demonstration models including the latest self-powered portable and combination. An electric clock at the top dramatizes the punch-line: "Every fifteen seconds, every day of the year, someone buys an Emerson."

CONTROL GUIDE—Fully revised to date, printed in a new and easy-to-read style, Edition 2 of the *International Resistance Company's* IRC Guide is just off the presses, will be sent free to servicemen writing the factory at 410 North Broad, Philadelphia, on business stationery in the event that local jobbers cannot supply. Covers both standard and special replacement controls.

SOUND—*Atlas Sound Corporation* of 1447-39th St., Brooklyn, N. Y., has just released its spring and summer sound catalog containing full details about "Chandelier" speakers, WX marine horns, parabolic baffles, flared and exponential horns, wall speaker enclosures, microphone stands, P.M. units and trumpets.



COPS COCKTAIL CUPS—*Meissner's* high rep for 1938 sales, *J. Earl Smith*, looks his prize cocktail set in the mouth while *Mrs. Smith* watches and sales manager *Walter F. Marsh* hints delicately by waving a corkscrew that the set is for more than just decoration

TUBE DATA—Just off the presses is *RCA's* extremely complete new catalog 1275B, giving characteristics of 191 receiving tubes in easy-to-use chart form, socket connections of glass, glass-octal, GT and metal types. Sixteen pages overall, available to readers of *Radio Retailing* through *RCA* tube distributors or on request to the Commercial Engineering Section, *RCA Manufacturing Co., Inc.*, Harrison, New Jersey.

Confidence WORKS IN A CIRCLE WHEN YOU standardize on C-D

For confidence in the products you use—standardize on *quality* products. You'll find it pays all around. Pays in fewer free repeat calls, pays in customer goodwill, pays in future business. That's why so many servicemen today are standardizing on *Cornell-Dubilier* capacitors. They're quality-built throughout. And when you have confidence in the products you use, your customers are bound to have confidence in you. Resolve now to standardize on C-Ds—for better business all around!

For details on the complete C-D line of capacitors and Quietone Radio Interference filters, send for Catalog No. 165A.

Products of the World's Largest Manufacturer of Capacitors.



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Scientifically Designed to Insure—

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Wire Wound SUPPRESSORS

The BRACH line is a complete line and every item is priced right. Large stocks on hand at all times insure prompt deliveries. Send for new catalog today!

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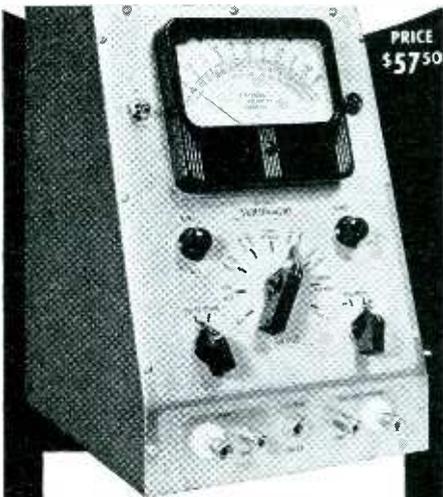
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Established 1906

**A NEW ELECTRONIC
D-C
VOLTMETER-
OHMMETER
WITH EXTREMELY
Wide Ranges**



Unlike anything heretofore available to the servicing industry, it fills a long-existing gap.

THE VOLTMETER

Measures from 0.05 to 5000 volts. Input resistance constant at 16 megohms on all ranges.

"Contact potential" error eliminated. No readjustment of zero when changing ranges.

Measures d-c operating and control voltages under dynamic conditions with r-f and a-f present—input capacitance 1 mmf.

Checks oscillator operation up to and including ultra-high frequencies.

Will indicate plus or minus voltages without switching leads.

THE OHMMETER

Measures from 0.1 ohm to 1 billion ohms.

Low voltage across resistance being checked—from 0.030 volt across 0.1 ohm to a maximum of 3 volts across 1000 megohms.

Convenience of operation—one scale—one zero adjustment—does not require readjustment when range is changed.

7 overlapping ranges for maximum accuracy and ease of reading.

Stable zero.

Finest parts — high safety factors — protected against humidity.

**SEND FOR
COMPLETE
SPECIFICATIONS
AND
LITERATURE**

**The RIDER
VoltOhmyst
SERVICE INSTRUMENTS, INC.**

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

ANTENNA—A classy big broadside by the *Standard Transformer Corporation* of 1500 N. Halstead Street, Chicago, tells all there is to know about this manufacturer's "Intenna" system designed to eliminate the necessity for external radio receiver antennas. Used in many of the new battery portables, this pickup system should be thoroughly understood by servicemen.

TEST EQUIPMENT—A new 20-page, two-color booklet by the *Clough-Brengle Company* of 2815 W. 19th Street, Chicago, describes and pictures this concern's complete line of testing equipment, includes many graphs and detailed technical characteristic specifications in tabular form. Featured is the complete Radio X-Ray Laboratory conducive to appearance and efficiency in the radio service shop.

80-PAGE BOOK—*Service Instruments, Inc.*, of 408 Fourth Avenue, New York, has prepared an 80-page book which gives complete, detailed information about the Rider "Chanalyst." It explains the many uses of the instrument, is heavily illustrated and written in the serviceman's language. An 8½ by 11-inch publication, the book is available at the low cost of 25 cents and is a liberal education in set repair procedure.

INTERFERENCE DATA—Startling flasher displays featuring *Cornell-Dubilier's* line of "Quietone" interference filters are being made available by this Plainfield, N. J. firm to provide point-of-sale tie-in with an ambitious promotional campaign.

VIBRATOR DOPE—From the *American Television & Radio Company* of 300 E. Fourth Street, Saint Paul, Minn., dealers and distributors may obtain a newly issued catalog covering this concern's complete line of vibrators, vibrator operated and rectifier power supplies for all purposes. No charge, ask for catalog 139.

RECORDERS—Complete dope about "Allied" wide frequency-response recorders and "Clean-Cut" recording blanks is given in an illustrated booklet just prepared for distribution by the *Allied Recording Products Company* of 126 West 46th St., New York. Write on business stationery, mentioning *Radio Retailing*.

TRANSFORMERS—*Thordarson Electric Manufacturing Company* of 500 W. Huron, Chicago, has announced its Spring-Summer Transformer Catalog, number 400-CX. Includes data on several new transformers for serviceman, public address engineer and amateur. Free on request to any Thordarson distributor or direct to factory.

THIN MAN—The *Wilcox-Gay Corporation* of Charlotte, Michigan, has a new circular which graphically illustrates the profit to be made when selling sets like the "Thin Man" as against miniature models designed to sell by virtue of price alone. Huskiness of parts and construction is stressed, illustrated. Advantages to the consumer are tabulated impressively.

**ANNOUNCING
The
RIDER CHANALYST
with
RACK AND PANEL
ASSEMBLY**



**Brings All the Leads Out in
Front — Adding Still Further
to Time Saved by Chanalyst.**

**SERVICEMEN
Continue to Praise**

"I find the Chanalyst indispensable. Every time I use it, it seems to become more valuable."—A. Coppotelli, A. C. Radio Service, Chicago Heights.

"Your Chanalyst advertisements express my sentiments exactly. I find the instrument indispensable in my work, and use it constantly."—I. Rosenberg, Custom Radio & Elec. Lab., New York City.

"Wouldn't be without the Chanalyst—INDISPENSABLE!"—Carr & Pheil, Chambersburg, Pa.

"A terrific weapon against those 'hard to isolate' troubles."—Bruce N. Carpenter, New Castle, Del.

"Going through a set with the Chanalyst is almost instantaneous. With . . . (another instrument I have) I took all day and was angry before I was through."—Lester J. Berry, Newark, Ohio.

"I am very pleased with my Chanalyst. It has helped me find the trouble in several tough jobs already and I am learning new uses for it every day."—Carl J. Anderson, Marietta, Ohio.

The rack and panel is sold separately at \$15. The price of the Chanalyst complete with rack and panel is \$122.50 (without, \$107.50)

**SEND 25 c
FOR 80 PAGE
BOOK ON
OPERATION—
PERFORMANCE
of CHANALYST**

**The RIDER
Chanalyst
SERVICE INSTRUMENTS, INC.**

404 Fourth Avenue, New York City
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VIBRATOR TESTER PUSH-BUTTON TYPE

Model 1671 **\$41.67** Dealer Net

- Tests All Standard 6-Volt Vibrators
- Easy to Operate . . . Roll Chart Shows Correct Button Settings
- Uses Approved 5000 Ohms Load
- Tester Fused Against Shorted Vibrators
- Flexible Push-Button Switching Permits Placing Proper Voltages on Each Reed, Guarding Against Possibility of Obsolescence.

Triplet Model 1671 will take the guess out of vibrator testing . . . help you locate trouble quicker . . . sell more vibrators.

This new tester has been developed with the cooperation of leading vibrator engineers, and uses the standardized 5000 ohms-8 mfd. load. It will test all standard makes of six-volt vibrators as used in automotive and home battery receivers. The Model 327-A indicating instrument has three scales: 0-10 volts to show input voltage to vibrator for start or running tests . . . A two-zone, two color merit scale used in conjunction with the load rheostat shows vibrator condition as GOOD or BAD . . . A 0-100 scale permits inter-comparison of vibrator outputs under standardized input conditions. A roll chart incorporated immediately below the push-buttons reduces test settings to utmost simplicity. Tester has tip jack facilities for oscilloscope connections. Like provisions have been made for connecting external buffer condensers if desired.

Model 1671 in Standard Triplet DeLuxe Metal Case, 14½x7½x4½ in. Black Suede Finish . . . Silver and Black Etched Panel . . . Dealer Net . . . \$41.67

Model 1671 in Standard Triplet DeLuxe Leatherette Case with Removable Cover and Compartment for Accessories . . . Dealer Net . . . \$45.67

Also Available . . . Model 1670 with selector switch controls. In DeLuxe Metal Case. . . Dealer Net . . . \$24.00

SEE YOUR JOBBER OR WRITE FOR CATALOG



The Triplet Electrical Instrument Co.
203 Harmon Ave., Bluffton, Ohio
Please send me more information on
 Model 1671; Model 1670.

Name

Address

City

State

Distribution News

WARD-LEONARD—Mark G. Mueller, rep for Colorado, western Nebraska, northern New Mexico and most of Wyoming, has moved to 1644 Blake St., Denver.

DEJUR-AMSCO—Jack Weber of 88 Park Place, New York, has this line. He also has testing equipment made by Radio City Products in the metropolitan area, Pennsylvania, Maryland and the District of Columbia.

STROMBERG-CARLSON—Traveling in the northwest for this firm, handling radio, parts and sound, is Charles Watson. Jack Hoyt, radio sales rep, has been transferred to the Texas territory.

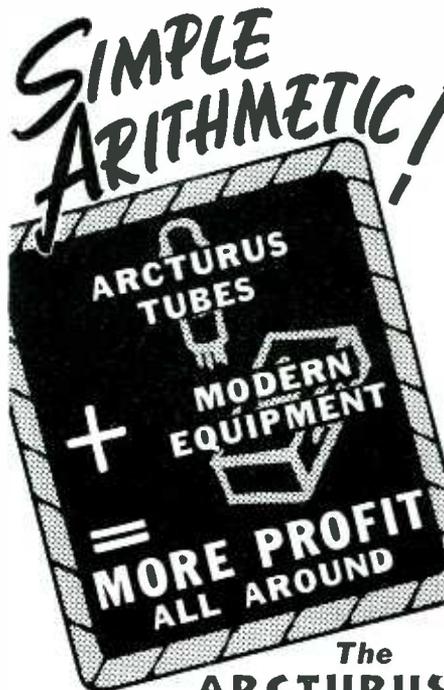


CINCH FOR FINCH—W. G. H. Finch has no trouble getting best results out of the new Crosley "Reado" radio printer. It's licensed under his patents

QUAM-NICHOLS—Irving I. Aaron of 4233 North Nineteenth St., Milwaukee, represents this line, contacting jobbers in Minnesota, Wisconsin and northern Illinois. The B. J. Fitzner Company of Detroit is the firm's new rep with Michigan exclusive.

LEONARD—This refrigeration line has been given to Harry T. Wilson, Inc. of Memphis, covering northern Mississippi, western Tennessee and northeastern Arkansas, and to the United Distributing Corp. of Indianapolis, covering forty counties in central Indiana.

MEISSNER—Erie, Pennsylvania territory has been turned over to factory rep John O. Olsen. Harry B. Segar is now handling northern New York state in addition to his original territory.



The **ARCTURUS EQUIPMENT DEAL*** Gives You the New Equipment You Need . . . Practically FREE!

No doubt about it! With all the new tubes recently introduced, you need modern store and shop equipment to keep up with the demands of present day Radio. You must be geared up to render fast, efficient and accurate service on all types. You've got to have equipment that proves to your customers that you are wide awake—prepared to give them excellent service at a reasonable price.

That's why Arcturus offers you an Equipment Deal.* That's why we've made it the most liberal Deal ever devised. We know you'll sell more tubes, take care of more service work, attract new customers if you are properly equipped. That means we both make more money—and you make a worthwhile EXTRA PROFIT in the form of the equipment you need!



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You Can't Lose!**

Arcturus Equipment Deal DOWN PAYMENTS are much lower than any other! . . . TUBE REQUIREMENTS are kept at a minimum! . . . you get IMMEDIATE DELIVERY of the units you select! . . . and you still pay only STANDARD PRICES for tubes! Get all the facts—get started today!

(*Offer good in U.S.A. only)

ARCTURUS

ARCTURUS RADIO TUBE CO., Newark N. J. R-17
Without cost or obligation, send my copy of the ARCTURUS DEALER HELPS Folder and details of the ARCTURUS EQUIPMENT DEAL.

Name.....

Street.....

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

I am a dealer I am a serviceman. My jobber is.....

For your convenience this coupon can be pasted on a penny postcard

Television Tomorrow



FARNSWORTH'S NICHOLAS—E. A. Nicholas, whose election to the Farnsworth Television & Radio Corp. presidency was publicized last month.

FIRST TELEVISOR DETAILS

"RR" FERRETS OUT FACTS—Hitherto held back by justifiably cautious manufacturers have been actual technical details on televisors soon to be placed on the market. First dope we have seen

appears here, the result of much leg and lung work at the factories:

Andrea is working on a 25-tube job using a 12-inch cathode-ray tube and capable of receiving 7 separate and distinct stations, also a chassis using fewer tubes, a 5-inch cat-ray and designed to receive 2 channels. . . . *DuMont* has a 22-tube chassis equipped with a 14-inch cathode-ray bottle and receiving 4 separate channels, is also working on a model equipped with a 9-inch cathode-ray. . . . *General Electric* has chassis using 27 and 18 tubes, with 5, 9 or 12-inch cathode-rays, receiving 3 or 5 channels. . . . *RCA-Victor* is planning to market a 32-tube chassis using either a 9 or 12-inch cathode-ray, receiving 5 channels, also a 16-tube chassis with a 5-inch cathode-ray and 5 channels, but without audio output tubes or loudspeaker (designed to feed into phonograph pickup jacks of radio receivers).

Video bandwidths accepted by televisors so far equipped with 5-inch cathode-ray tubes vary between 2 and 2.5 mc. while fidelity of televisors using 12-inch cathode-ray tubes will be somewhat superior with between 3.75 and 4 mc. video bandwidth acceptance.

All of the models seen by *Radio Retailing's* editors so far use push-button or switch-point tuning of some kind or other, having oscillator trimmer verniers for fine work in the clinches.

DUMONT ON AIR

HOOR EVERY MORNING—To the Allen B. DuMont Labs at Passaic, New Jersey, February 17 the postman brought long-awaited FCC permission to start television transmissions, call-letters W2XVT. Since that time DuMont's transmitter has been pouring video and audio signals into the ether weekday mornings from 8 to 9 a.m., the first available in the metropolitan New York area since last fall. Frequencies used so far have been 45.25 and 49.75 mc. Power is about 50 watts.

'FRISCO SHOW ET. AL.

12,000 LOOKERS—Of the 150,000 people attending the two day opening celebration of San Francisco's Golden Gate International Exposition 10,000 were televised in the RCA exhibit, passing before camera and receiver at the rate of nearly 15 per minute for 12 hours. . . . **MOVIE MANOEUVERS**—Said Paramount Pictures Stanton Griffis at the recent National Board of Motion Picture Review conference: "Television is not the enemy of motion pictures, and will be the source of great profits to the industry. . . . We of Paramount believe that the development of television will bring into the studios important new departments, both for the adaptation of old films to television programs and the manufacture of new specialty films of an entirely different nature for the television programs."



MILLION VOLT RESISTORS...

Maybe you don't need million volt resistors . . . yet it is worth knowing that the same famous IRC Metallized resistance principle, best known in the little 1/2-, 1- and 2-watt Insulated Resistors for radio use, has now made possible outstanding advances in both high voltage and ultra high frequency resistors for advanced scientific research purposes.

10,000 ohms at 1/2 watt—100,000 volts at 150 watts—1,000 megohms at 150 volts . . . regardless of the need, the IRC Metallized element can supply them all, dependably and economically.

"Metallized" Resistors are made under IRC patents in eight countries. The Metallized type of element is the most adaptable yet produced. No other resistance material holds such an outstanding record of past success. None holds such broad possibilities for future development. Whatever your need—insist on the best!



"They Stay Put"



INSULATED
"Metallized"
RESISTORS

TYPE BT

INTERNATIONAL RESISTANCE CO

401 N. Broad St., Phila., Pa.

JIM QUAM Says

Not that I need a new auto-mobile, but my friend Bill over at the "Whoozis" agency thought I ought to trade the old job in, and he's been after me to take a ride in the new 1939 "Whoozis." I finally succumbed and, man, oh man, he pretty nearly (but not quite) got an order. I was interested in Bill's sales tactics, though. He didn't try to show me the gold plate pistons, or the vanadium, molybdenum, tantalum gears or whatever they are. He just took me for a ride, and was it smooth! I wasn't interested in the machinery any more than most radio buyers are in the chassis of their radios. It's what comes out of the speaker that counts with them, and that's why it's important to have the best speaker you can get in any radio. It's rather significant that so many of the best selling radios are equipped with Quam Speakers.

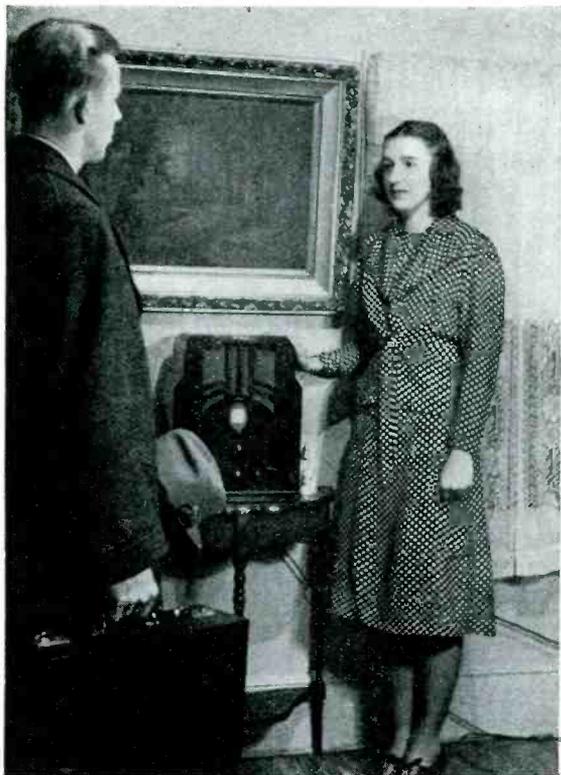
QUAM-NICHOLS CO.
33rd Place & Cottage Grove
CHICAGO

1674 Broadway
NEW YORK

QUAM SPEAKERS

DEVELOPING a Radio Service Technique

By H. D. HOOTON



Question customer for symptoms of the trouble. This aids materially in setting you on the right track in minimum time



Listen for telltale noises, fading or any other peculiarities if the set is working or intermittent



Having obtained a few pointers, check through each stage by tapping tubes, connections and parts carefully

It is a well-known fact that behind the technique of radio servicing are certain natural laws and principles which, if thoroughly understood and practiced, will enable the serviceman to become expert in locating trouble quickly and directly. The ease and rapidity with which a receiver may be analyzed or diagnosed depends largely upon the technical knowledge and practical experience possessed by the individual, as well as the test equipment he has available. The beginner, therefore, who may have the necessary knowledge but lacks the practical application of his radio training, will do well to stick to a systematic service routine right from the start. In this article we shall discuss (1) the correct method of carrying out the "standard" service procedure as practiced by the majority of expert radio servicemen and (2) a number of time-saving "short cuts" which the author personally has found useful in rapid servicing.

Quiz the Owner

Before making any attempt to analyze a receiver, the serviceman should

question the owner briefly in order to acquaint himself with all the information about the receiver that the owner can give. Mr. Jones or Mrs. Brown may know nothing whatever about the technical side of radio but, in a surprisingly large number of instances, the information obtained by a few simple questions will furnish some indication of the probable source of trouble before any testing is done. It is also a good business policy to cure what your customer *thinks* is the trouble, even if you are sure the cause is something else. Upon arriving at the customer's house the following or similar questions should be asked:

1. What *seems* to be wrong with the radio?
2. Did the trouble develop recently?
3. Did the set stop playing suddenly or did it gradually die out?
4. If the set cuts off sharply, can reception be restored by tapping on the cabinet, touching certain tubes, wires or knobs or by tuning the set off and on?
5. Does the tone change before the volume fades? Is there any "popping" or "crackling" noise dur-



Trouble in a dead set may often be localized by removing tubes, stage by stage, beginning with the input, attempting to find the stage that doesn't "click"

ing reception, especially just before the fading takes place?

If the trouble is "noisy reception," these additional questions might be asked:

6. How long has the trouble existed?
7. At what time of the day or evening is it at its worst?
8. Is the noise of an intermittent nature or is it present at all times?

Obviously, the purpose of the first five questions is to get the owner talking about the receiver. If the owner can definitely state his complaint, then that's where you come in. It is quite common for a serviceman to be called, only to find that the owner thinks that something might be wrong, not because he knows definitely that something is wrong. If the trouble developed only recently, then the serviceman may feel reasonably sure that the trouble is not due to some inherent peculiarity in the particular design of the receiver. If the set cut off or stopped suddenly, it is an indication that the trouble is something definite and not one of those elusive "will o' the wisp" symptoms that seem to fly out the back door the moment the serviceman arrives!

It sometimes happens that the trouble, particularly if it is of an intermittent nature, may not show up as soon as the set is turned on. The owner should be questioned to establish this fact, and the serviceman should stay until the trouble appears or remove the set to the shop where it can be placed under observation. If the owner is not questioned, the serviceman might play the set for a short time, pronounce it O.K. and leave. Later on, when the trouble again appeared, the serviceman's reputation would suffer.

The eight questions given here will lead to others and sometimes a fairly good idea as to the nature of the trouble can be obtained before actually turning on the receiver itself. Tact and good common sense should be exercised in the matter of questioning, however, as many set owners resent being questioned, feeling that you are being paid to find the trouble and repair the radio, not to cross-examine them.

Rough Checkup

The next step is to turn on the receiver, making certain that the antenna and ground wires are firmly connected to their respective leads or binding posts and that the power cord is properly plugged into the wall. Listen for unusual noises as the tubes warm up. If everything seems normal, try for a local broadcasting station. Perhaps you will get it, perhaps you will not, but now your mind is working at

top speed. Any noises you hear, you ask yourself: "What could be causing that particular noise?" If the set is completely dead, you look to see if the tubes light up or, if the set has metal tubes, gingerly take the temperature of each one with the tip of a finger. If the tubes light or heat up, disconnect the antenna from its binding post, turn up the volume control to maximum and touch the bare wire to the antenna connection lug or post. If the set is operating, a loud click should be heard when the contact is made and another when it is broken. If no click is heard, beginning with the output stage, quickly pull out and re-insert each tube in turn, listening for the muffled "thud" in the speaker. Right down

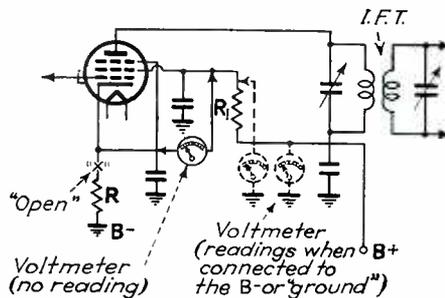


FIG. 1

FIG. 2—Handy substitution tester speeds the importance of making voltage measurements from cathode, not from ground

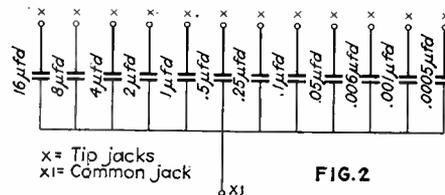


FIG. 2

FIG. 2—Handy substitution tester speeds checking for hum, oscillation, and open-circuited capacities

the line you go—if you find a tube that will not "thud", the chances are ten to one that you have located the trouble-making stage.

By this time, no doubt, the customer is wondering why you have not opened the nice-looking little case that you deposited on the floor—but you know better. Why waste valuable time going over the receiver with instruments, checking it stage by stage, when the little "circuit-disturbance" test will locate the defective stage?

Now you open the analyzer case, lay out your instruments on the floor, check your preliminary tests and thoroughly analyze the suspected stage. Once the defective or trouble-making part is found, a repair or replacement is made or, if the trouble is serious, the set is removed to the shop for major repairs.

The above procedure should be a part of every serviceman's routine and the time required to make these tests is actually only a few minutes at the most. If the trouble is not readily located, it will be necessary to go into a more detailed test.

Check Voltages

When checking over a dead set on the test bench, after making the preliminary tests as outlined above, always check for voltage across the power supply first of all. The usual procedure is to measure the high voltages, both a.c. and d.c., across the rectifier tube and, if this appears to be normal, then check the plate and screen potentials of each r.f., i.f. and a.f. tube in turn. The good man will quickly notice any deviation from normal and learn how to interpret his analyzer readings, reasoning from effect to cause, in terms of defective parts. Always test from the cathode terminal of the tube itself to the plate and screen circuits; if the chassis or "ground" is taken as a negative reference point, abnormal plate or screen voltage readings will be obtained even though there is an actual open-circuit in the cathode lead and no current flowing. An examination of Fig. 1 shows that the readings merely indicate the potential across the power supply and are of no benefit whatever in analyzing the single stage. Although even a beginner should know better, the author has seen a number of experienced service men use the ground as a reference point and check for hours when the trouble would be nothing more than an open cathode bias resistor.

Fig. 2 shows a unique condenser panel arrangement that the author "discovered" in a city radio shop. The various mica, paper and electrolytic condensers indicated are mounted in a small wood cabinet with a bakelite or other insulating material panel, the terminals being brought out to tip jacks as shown. The designer claims that he is able to service receivers with noise, hum, oscillation, etc., at least fifty per cent faster by simply attaching a pair of test leads to the proper jacks and by-passing the screen, plate and cathode circuits until the trouble making stage is located. This instrument is especially useful in the servicing of a.c.-d.c. "midgets" in which hum is usually prevalent and the value of the electrolytic condensers used in the filter circuit quite critical. A resistor panel similarly constructed might also prove helpful.

All servicemen frequently encounter the set that operates perfectly in the shop but will not play satisfactorily when it is installed in the home location. Some servicemen, unfortunately,

are inclined to wash their hands of such cases, taking the attitude that too much time is involved in checking up on all of the probable causes and thereby losing their customer with an irreparable damage to their reputation as a serviceman. In many instances the trouble may be due to a poorly installed antenna system, a partially or completely grounded antenna or lead-in wire or a poor ground.

Test Antenna

A rough test of the effectiveness of the antenna is easily made by tuning the receiver to a broadcast sig-

nal, with the volume control full-on, and then disconnecting the antenna lead-in from its binding post. In a well-shielded, up-to-date set, very little or no signal should be heard when the antenna is removed. If a signal cannot be heard, the lead-in wire should be disconnected and tapped repeatedly against the antenna binding post. A series of loud clicks should be heard. The absence of these clicks is an indication of either an inefficient antenna system or poor overall gain in the receiver.

A more detailed test is to inspect as much of the antenna and ground

wires as is possible. The lead-in insulator or strip should be examined, especially if the window sill or wall is of metal. A quick test of the antenna for a suspected ground or short-circuit may be made by connecting the ohmmeter between the lead-in and ground wires (disconnecting them from the receiver, of course), and measuring the insulation resistance. The lightning arrester should be tested for short-circuits and leakage. The antenna and receiver leads are disconnected from the arrester before making the test; an open circuit reading on the ohmmeter is an indication of a good arrester.

The condition of the receiver ground is checked by first measuring the line voltage directly across the outlet and then measuring it by connecting one side of the voltmeter to the ground lead-in wire and inserting the other voltmeter lead into each terminal of the line outlet in turn until a reading is obtained. The reading, if the ground connection is good, will be substantially the same as when measuring across the outlet; any difference in voltage reading will be caused by resistance in the ground connection. This resistance may be determined as follows: Suppose our line voltage at the outlet reads exactly 110 volts and only 96 volts when it is measured from the ground to one terminal of the outlet. Obviously, the drop through the ground circuit is $110 - 96 \text{ volts} = 14 \text{ volts}$. The current flowing through the ground circuit is the same as that flowing through the meter. If the sensitivity of the voltmeter is 2,000 ohms per volt (a common value in modern test instruments), and if the full-scale deflection of the meter is 150 volts, its resistance is then 300,000 ohms. The voltage across the meter, when connected in the ground circuit, is the reading obtained, or 96 volts. The current flowing through the meter is then $96 \div 300,000$ or 0.00032 amperes. The resistance of the ground is the voltage drop across it divided by the current flowing through it ($14 \div 0.00032$) or approximately 43,700 ohms.

If the receiver is noisy, it will be necessary to determine whether the noise is being produced in the receiver itself or is emanating from some outside source and reaching the input circuits through the antenna and ground or power connections. While the noise is being strongly received, short-circuit the antenna and ground binding posts on the set with a short piece of wire. If the trouble does not disappear or at least diminish in strength, it is quite likely that the noise is being created in the receiver itself or is reaching it through the power lines.

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TIME-SAVER ✓
PROFIT-MAKER ✓**

The New UTAH Service-Pak

More profitable servicing is made possible by the new Utah Service-Pak. Every active service man needs one—should have one. And it's priced so low you can't afford to be without it.

The Utah Service-Pak includes a stock of essentials and accommodations for additional parts which are basic necessities for normal radio servicing. The attractive kit, 17" x 39" x 10", is actually a complete convenient, easy-to-keep-up miniature stock room. It provides important economies—it saves time and space—it reduces costs—it safeguards parts—it permits a perpetual inventory to be kept easily.

Make the savings provided by the new Utah Service-Pak and add them to your profits. Phone or write your jobber today—ask him to show it to you. If your jobber can't supply you, write us for complete information.

Sold only through recognized jobbers

UTAH RADIO PRODUCTS CO., Chicago, Ill.

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DEALERS NET PRICE \$29.95
Including Cabinet



THE NEW UTAH SERVICE-PAK

contains the following high-grade UTAH products: 35 Assorted 10 Watt Vitreous Resistors, 6 Assorted 25-Watt Adjustable Vitreous Resistors, 16 Assorted Volume Controls, 6 Volume Control Switches, 3 Assorted Chokes, 5 Assorted Audio Transformers, 3 Assorted Universal Output Transformers, 4 Assorted Power Transformers, 1 5" Electro-dynamic Speaker. And it will accommodate UTAH vibrators, condensers, etc., to complete the normal service stock.

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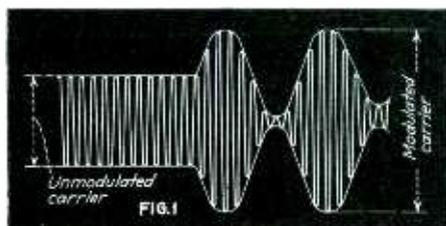
Frequency Modulation

Requests for details of operation of Major Armstrong's frequency-modulation system brings forth the following information.

A brief outline of present-day radio transmission is in order if frequency-modulation is to be properly understood. All transmitters in present commercial use are amplitude-modulated. That is, a signal or voltage of fixed frequency (42.8 mc. in the experimental setup) is made to increase and decrease in intensity in accordance with the impressed modulation. The modulation may be voice, tone, music, or any similar waveform.

Without modulation a signal is, say, 100 volts. With amplitude modulation the signal may increase to any point up to 200 volts, or twice the original value. This is illustrated in Fig. 1.

Frequency modulation on the other hand may be considered more or less the reverse of amplitude modulation. The signal or voltage intensity remains constant; however the frequency varies around a given point in accordance with the impressed modulation. Using the above example, the signal would always be 100 volts, however

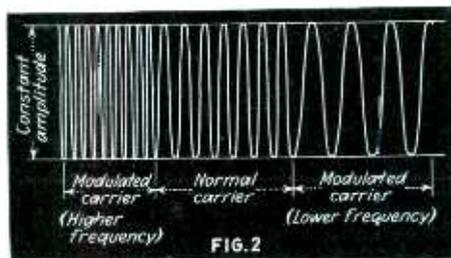


the frequency would vary from 42.7 to 42.9 mc. for a 100 kc. bandwidth (Fig. 2).

The foremost benefit derived from the use of frequency modulation is its ability to discriminate against noise. This is possible since the majority of noise pulses, such as ignition and the like, are almost wholly amplitude modulated signals. Thus, with a receiver designed to receive only frequency-modulated signals, a suitable filter could be employed to prevent any amplitude modulated signals from passing through the receiver. Consequently this would remove amplitude noise pulses.

Referring to the block diagram in Fig. 3, the 7 stages shown at the top are conventional as far as block diagrams go. This section makes up a double superhet with a wider than normal band-pass. The last stage in this group is the third i.f. which couples to the limiter below. The limiter actually is the filter mentioned

above, permitting only frequency-modulated signals to pass, discriminating against all amplitude signals. The



output of this is further amplified by the fourth i.f., passing on to the conversion network which converts frequency modulated signals to amplitude modulation so they may be detected in the usual manner but at a high level point isolated from noise. From here on the audio circuit is conventional.

Experiments are being carried on in the New York City area on 42.8 mc. The transmission band-width is 100

kc. or 10 times the band-width normally used by broadcast stations.

U.H.F. Test Oscillator

The photos herewith show Weston's ultra high frequency test oscillator for police, aircraft, television and other similar uses. Having a continuous tuning frequency coverage from 22.5 to 150 megacycles, made possible by a unique inductive tuning system, the unit is portable and completely self contained.

Full circuit details are not available as we go to press, however, we do know that a 955 acorn triode is the oscillator tube; also a 1A5G serves as modulator and crystal oscillator. Accuracy is stated at 1 per cent.

The tuning system, more commonly

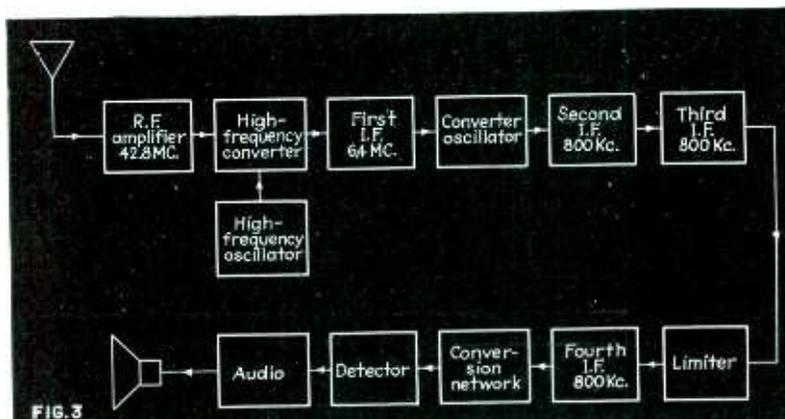
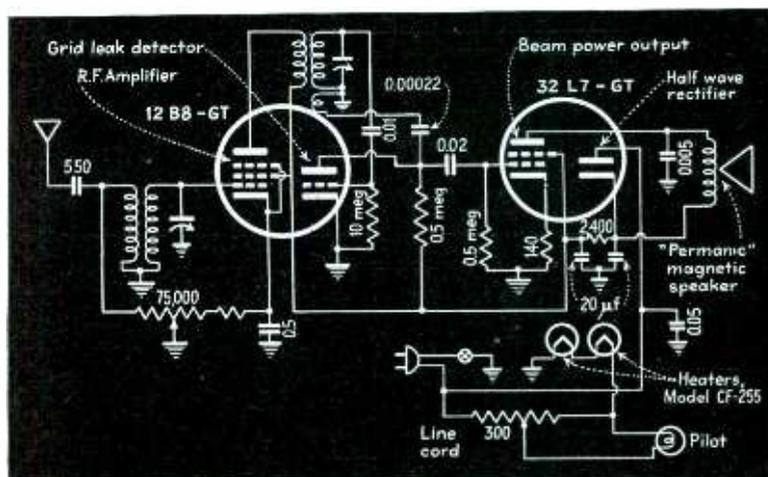


FIG. 3



EMERSONETTE—Unusually compact t.r.f. receiver by Emerson. The 12B8-GT, similar in construction to a 6F7, serves as pentode r.f. amplifier and triode gridleak detector. Combination beam output and halfwave rectifier tube type 32L7-GT may be likened to a 25L6 and a 1v combined in one glass envelope



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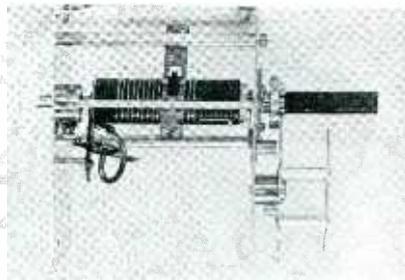
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known as the "tank circuit." is shown. Basically it operates as follows: The inductance, wound on a threaded insulated form rotates on a shaft protruding from each end. The black shaft extending to the right is a continuation of this shaft. On this mounts the tuning knob. By turning this, the entire inductance rotates. Electrical contact to the coil is made by special sliding contacts; one at the left, (hot end) a second shown at the center is mounted on a movable carriage operating in conjunction with an antler spring, sliding on a silver-surfaced rod and a small bakelite trolley wheel. The wheel makes no electrical contact but follows the coil turns, moving the sliding contact assembly simultaneously, thus centering the contactor directly over the particular wire turn being followed. The contactor grounds the coil at the point of contact, therefore the unused portion of the coil as well as the contactor itself become the low potential end of the coil.

Since there are 16 turns on the coil. 16 rotations of the dial are required to make the contactor travel from one end of the coil to the other. A simple counter system comprising a Geneva gear, shown at the lower right, counts these turns. The main dial is divided into 100 divisions and becomes an effective vernier. Thus the total band-spread is equal to 5700 degrees.

Across the coil at all times is a special 17.5 mmf. low-drift fixed capacitor. This is in parallel with the tube capacities and aids in reducing

drift due to changes in tube capacity.

Inductance trimming is used to align the tuned circuit. This consists of a portion of a turn bent closer or further from the coil's field; increasing or decreasing the inductance.

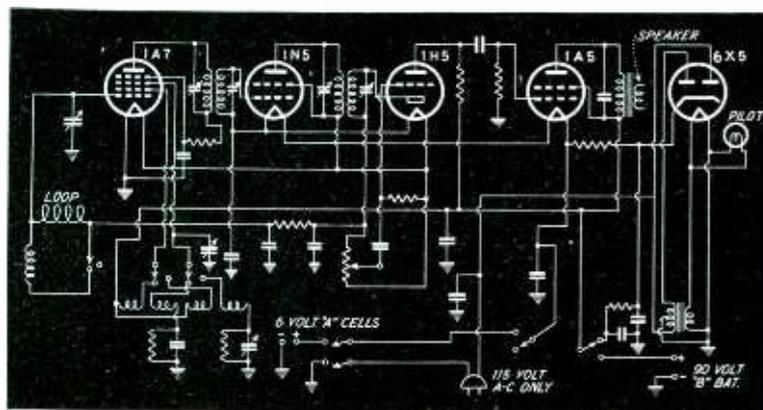
The oscillator provides for straight c.w. output, self contained 400 cycle modulation at 30 per cent and external modulation at audio or video frequency. In addition, the 1A5G modulator may be switched to become a crystal oscillator operating on a harmonic of the desired frequency. Thus a constant source of calibration is always available.



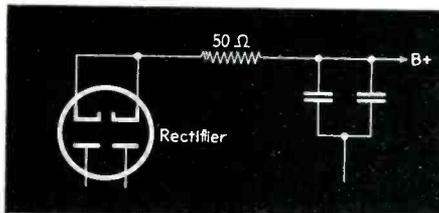
WHAT THIS BUSINESS NEEDS

By Emil Fellredht

WHAT THIS BUSINESS NEEDS IS . . . a standard wire code system indicating grounds, high voltage, medium voltage, low voltage, etc., so that circuits may be more easily traced when servicing.



DC-AC PORTABLE—Provides dry cell operation on 2-45 volt "B's" and 4 flash light cells or on an a.c. power line; the versatile model 55 by Satchell Carlson receives broadcast, foreign, police and amateurs on a self-contained loop or external antenna. Filament and plate power when switched to a.c. is obtained from the 6x5 rectifier since filament current is only 50 milliamperes



AC-DC Bug Curable

The tendency for filter condenser and rectifiers to fail prematurely in ac-dc sets is a common occurrence to most servicemen. Even though the condenser and rectifier are not at fault, and normal live voltages are encountered, the trouble still persists in certain locations. An investigation by Stewart Warner disclosed the following information.

With certain line impedances, it has been found that extremely high surge voltages are developed across the filter condenser. As a result the condenser will puncture and thus cause the rectifier tube to fail. The instantaneous surge voltages developed may be as high as 300 volts, and occur only if the set happens to be turned off on a particular part of the cycle.

The remedy is as simple as the surge action is complicated. Connect a 50 ohm 1 watt resistor in series with the lead from the rectifier cathodes to the filter condensers. This prevents a



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a 21-jewel
movement**

JUST as the small case often holds the finest watch or the finest camera, the Simpson Testing Instruments illustrated here are one more example of "good things coming in small packages." They are the final answer to every need for compact but versatile testers—built for life-time service—moderately priced.

Like the larger Simpson Testers, these smaller instruments reflect the beauty of design, the unerring accuracy, and the downright dollar value that could only have been built into them by Ray Simpson and a group of associates who have made a life study of instrument building.

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MODEL 215 — The first small instrument with big 4 1/2 inch meter. Five A.C. and D.C. voltage ranges—five decibel ranges—0 - 10 - 100 - 500 milliamps; 0-250 microamps; 0-4000 - 400,000 ohms; 0-4 megohms. Your price... **\$25.75**

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**MODEL 240
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A remarkable value in a pocket size (5 1/4 x 2 7/8 x 1 3/4") 3,000 volt, self-contained tester. Four A.C. and five D.C. voltage ranges at 1,000 ohms per volt; 0-15 - 150 - 750 - milliamps; 0-3000 - 300,000 ohms. Your price... **\$14.75**



MODEL 205 — Pocket size, but highest quality. Highest resistance ranges ever made in instrument of this size, 0-2000 - 200,000 ohms - 2 megohms. Volts, 0 - 10 - 50 - 250 - 1,000 D.C. only; milliamps, 0 - 10 - 500. Your price..... **\$13.25**

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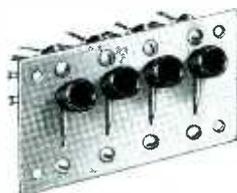


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It's been a "sell out" from the very start . . . the audience composed of set manufacturers, P.A. folks, broadcasting engineers, test instrument makers and industrial technicians have been giving this swell chorus their hearty approval.

Now . . . augmented combinations cover every probable requirement you may have. The program (libretto) now lists the complete line-up. Just write and ask for special Bulletin No. 680 for full details, or see your jobber.

CENTRALAB
 Div. of **GLOBE UNION Inc.**
 MILWAUKEE, WIS.



Contact clips of spring brass heavily plated (silver) treated for easy soldering. Switching combinations available use up to 12 clips per section.

high surge from building up across the condensers since the charging current of the condensers causes a fairly high voltage drop across the resistor.

It is recommended that such a resistor be installed in all ac-dc sets where condensers or rectifiers have failed prematurely.

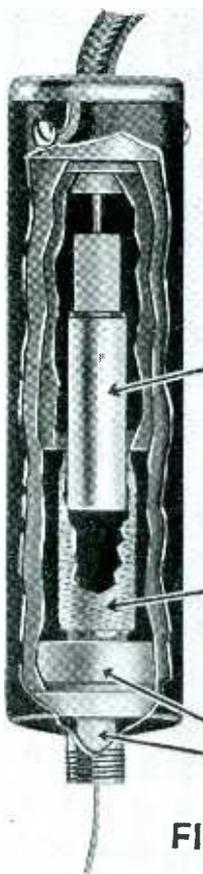


FIG. 1

Boost-O-Matic Antenna Tuner

Giving 15 times normal pickup, the Boost-O-Matic antenna in the Motorola 9-44 is an entirely automatic antenna tuning circuit.

Referring to Fig. 1, the booster unit is inserted in the antenna at a point where the antenna lead-in enters the car. This unit consists of a coil which is tuned across the broadcast

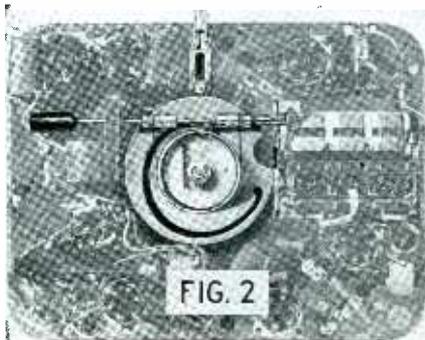
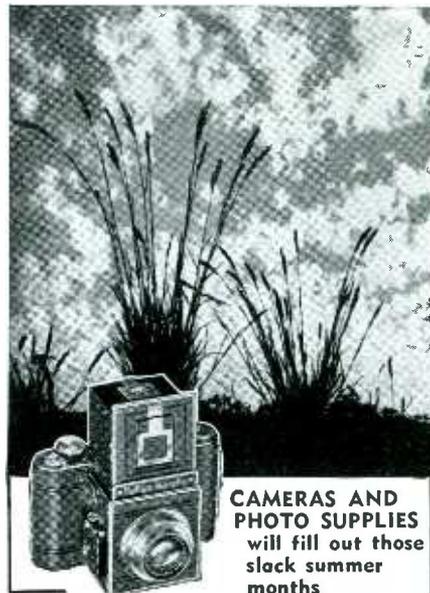


FIG. 2



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- WELTUR, Coupled 1 1/4 x 2 1/4 - 2 1/4 x 3 1/4 in.
- WELTI 35mm. 18 or 36 exp.
- WELTAX 2 1/4 x 2 3/4 - 1 1/2 x 2 1/4 in.
- GARANT 2 1/4 x 3 1/4 - 1 1/2 x 2 1/4 in.
- WATSON Candid 35mm. 18 or 36 exp.

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band simultaneously with the set tuning iron core slides in and out of the coil, changing its inductance and tuning. The sliding is accomplished by mechanical connection to the gang condenser. This is shown in Fig. 2.

Explanation of Fig. 2 is as follows: The black bushing at the left is turned by the remote control cable from the dial. This in turn rotates the gang condenser through a reduction scissor gear. At the same time it also rotates the large spiral-slotted disc at the center of the photo since this is cable connected. The arm above the disc has on its surface a keyway fitting into the spiral slot. Thus, as the disc turns, the spiral slot causes the top arm to move up or down. Since this is connected to the iron core on the booster unit by a stiff length of cable encased in a flexible housing, the tuning of the booster keeps in step with the gang condenser.

Data on Loctals

Characteristics of the loctal tubes announced last month follow, as outlined by Sylvania and Raytheon. All types having a 7 prefix may be operated at filament voltages from 6.3

to 7 volts. Most types draw .15 amp. filament current at 6.3 volts. This becomes .16 amp. at 7 volts.

All are single-ended all-glass construction with a metal base shield. Twelve types are now available; characteristics of these are:

7A8—Pentagrid converter comparable to the 6D8.

Heater current15 amp.
 Plate voltage250 volts
 Screen (Grids 3 and 5) voltage.....100 volts
 Anode (Grid 2) Voltage.....250 volts
 Control (Grid 4) Voltage.....-3 volts
 Cathode Resistor300 ohms
 Plate Resistance26 megohm
 Conversion Transconductance650
 Plate Current3.5 ma.
 Screen Current3 ma.
 Anode Grid Current.....3.6 ma.
 Oscillator Grid Current......35 ma.

7A6—Double-diode similar to the 6H6 electrically.

Heater current15 amp.
 Max. A.C. voltage per plate.....150 volts
 Max. D.C. output current.....10 ma.
 Voltage drop per plate (at 10 ma.) 8 volts

7A7—Remote cutoff pentode similar to the 6K7.

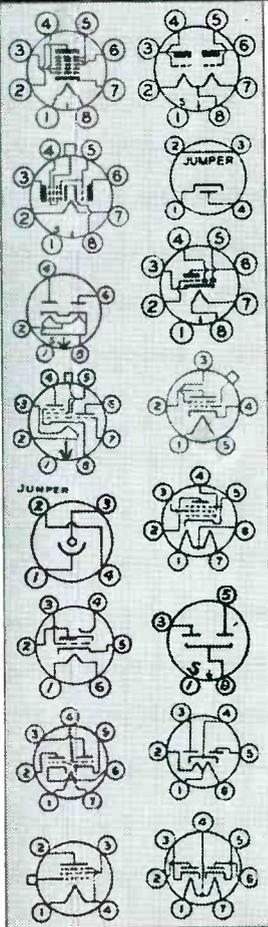
Heater current3 amp.
 Plate voltage250 volts
 Screen voltage100 volts
 Grid voltage3 volts
 Suppressor0
 Amplification factor1600
 Plate resistance8 megohm
 Transconductance2000 umhos
 Plate current8.6 ma.
 Screen current2 ma.

More on Loctal characteristics next month.

CAN YOU TEST THE TUBES

they'll announce

NEXT MONTH?

New filament arrangements just announced and to be announced are obsoleting thousands of tube testers. The demand for a better tube, one which would perform at higher frequencies, necessitated a mechanical change in tube design which resulted in the single-ended tube. This same mechanical change, primarily developed for television, has been incorporated in radio receiving tubes because of its many advantages. In changing the ordinary tube to a single-ended tube, filament termination can not be held constant; the grid gets the most consideration and the filaments have to look out for themselves.

At left are shown a few tube bases with different filament terminations. There are at present fifteen filament arrangements. But remember, there are 143 different filament terminations possible without considering center-tapped type filaments. Center tapped filament combination possibilities would raise this figure to several hundred.

Most tube testers in use today are already obsolete—the oft-bragged about spare socket is of little or no help, and the constant purchase of adapters will soon equal the original cost of the tester. So the average service-man must buy a new tube tester—not just for TODAY'S tubes but for the tubes which will be announced next month or next year.

ONLY SUPREME HAS THE PATENTED "DOUBLE FLOATING" FILAMENT RETURN SELECTOR PUSH BUTTON SYSTEM!

No matter how filament terminations roam—no matter if they are center tapped or not—the SUPREME MODEL 504 "TOMORROW'S TUBE AND SET TESTER" will check them. With SUPREME'S unique and exclusive "Double Floating" Filament Return Circuit, you just press a button and the tube's filament is automatically connected across the filament potential supply, regardless of the tube's base terminations.

The Model 504 is not only the world's most complete tube tester but it is also a complete set tester and a complete condenser analyzer. You need full information on the Model 504 so we urge you to see this remarkable value in tube and set testing equipment at your jobber's TODAY, or, write for full literature on this and many other completely new 1939 models of SUPREME test equipment. Brand new literature just off the press! Model 504 cash price, \$55.50; or \$5.09 cash and 11 monthly payments of \$5.09.

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Net price.....



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Turntable slips . . . replace rubber washer between turntable and motor. This gets oil soaked from motor.

AK 825

Hum, especially with advanced volume control . . . leakage between one section of filter block and case. Replace with triple 8 mfd 200 volt.

CLARION 340

Cuts off abruptly toward 600 kc. end of dial. Replace 8000 ohm bias resistor on 57 oscillator with 6000.

CROSLY 6H2

Cuts out on weak stations . . . lower section of 25,000 ohm bleeder resistor open.

EMERSON H5

Hum, condensers and tubes check o.k. . . . check for leak between line dropping resistor and ground. This is a metal cased unit and very often a leak through the asbestos occurs.

EMERSON U6B

Weak or dead . . . check C7, .1 mfd 6A7 screen bypass. Also .1 mfd 25Z5 plate to cathode bypass.

ESPEY MYSTIC RECORD PLAYER

Microphonic oscillation . . . shift the oscillator to about 900 kc. This action tightens the padder and removes plate vibration.

DETROLA 6W

Weak . . . check 75,000 ohm plate resistor in i.f. stage. Distortion . . . Check 25 mfd electrolytic across 42 bias resistor for short.

DETROLA 191E

Power transformer heats . . . check power transformer leads for short where they pass through hole in chassis.

GE G65

Oscillation and distortion012 mfd condenser from plate of 6K6G too close to yellow automatic tuning lead causing feedback to control grid of 6A8G.

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Telescopes out of sight, between side of cowl and kick-pad. (Only about 2" shows above car.)

No obstruction inside the car.

No interference with vision.

Cannot be stolen or tampered with from outside the car. Single 1/2" hole mounting.

Made in three sections, telescoping brass tubing, chromium plated, top section stainless steel. Fully extended is 50" high.

Shielded loom housing furnished with pigtails for grounding to eliminate motor noise when aerial is only partly raised. The only aerial that has two ground connections.

List Price

\$3.75

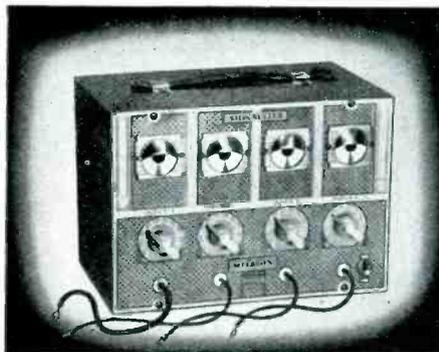
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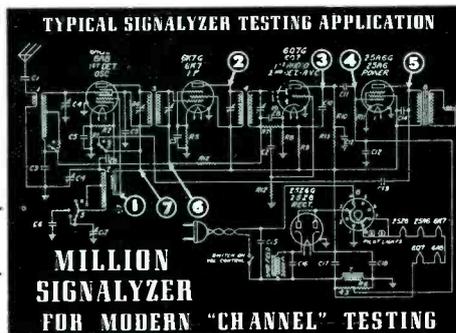
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SIGNALYZER—
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Sensational in Performance and Versatility



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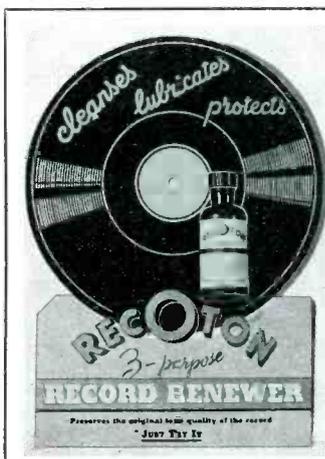
1. Local oscillator plate—check for output over entire tuning range.
2. Plate of intermediate frequency amplifier—check for IF signal and resonance.
3. Plate of second detector—check for audio output.
4. Grid of output tube—check for audio signal.
5. Plate of output tube—check for audio signal.
6. AVC voltage—check for variation with tuning.
7. B+ check for DV voltage from power supply.

ORDER FROM YOUR JOBBER — LITERATURE ON REQUEST

NOTE

All current model Million tube testers test both Local and S series tubes without adapters. All older models can be modernized—write for prices.

MILLION RADIO and TELEVISION LABS
 589 NO. UNION ST. CHICAGO, ILLINOIS



EVERYBODY

wanted it . . . it's HERE!
 Fast-selling and profitable is this great RECORD RENEWER on its brilliant display card! Removes dust and grit, lubricates record grooves, preserves quality and lengthens playing life of records. Big 2 Oz. bottle retails at 50c. Just what your customers are looking for.

Ask for samples of
SUPERIOR and ACOUSTIC
 hi-fidelity needles

RECOTON
 CORPORATION

178 Prince Street New York City

SOLAR
 gives you **MORE** for your money
MINICAP

Catalog upon request
SOLAR MFG. CORP., 599 Broadway, New York

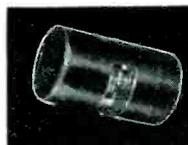
"PINCOR"
DYNAMOTORS * CONVERTERS

SMOOTH . . . QUIET . . . DEPENDABLE

"PINCOR" offers the only complete line of "B" power supply equipment for police units, aircraft and radio broadcast service and sound systems. Frames, sizes and capacities to fit any requirement.

"PINCOR" dynamotors are the last word in efficiency and regulation. Deliver high voltage current for proper operation of your apparatus with a minimum of A.C. ripple. Compact, light weight. With or without filter. Send for catalog.

PIONEER GEN-E-MOTOR CORPORATION
 Dept. R-1C, 466 West Superior Street, Chicago, Illinois



Without obligation kindly send me "PINCOR" Silver Band Dynamotor catalog and data sheets.

Name

Address

City

State

Also send me Converter Catalog.

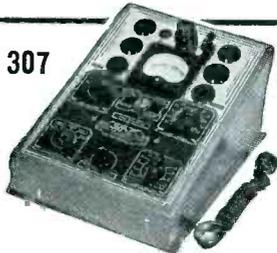
BUY NO INSTRUMENT...

UNTIL YOU HAVE INVESTIGATED THE EXTRA MONEY-MAKING FEATURES OF RCP UNITS.

You can make your "instrument-dollar" go much further by investing in RCP QUALITY instruments. Before you buy—be sure to check RCP's "extra-value" instruments, at prices within the reach of all.

DYNOPTIMUM TUBE TESTER

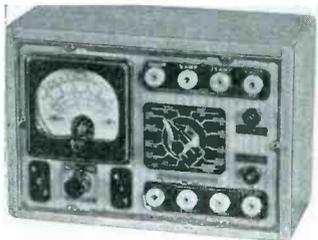
MODEL 307



Here's a tube tester, sky high in performance and way down to earth in price. Just glance over a few of the outstanding features of this remarkable instrument.

Tests all tubes, including Loctals OZ4, cold cathode rectifiers, metal and glass tubes, ballast resistors and pilot lights. Hot interelement short and leakage test. Hot cathode leakage test. Line voltage indicator on meter. Direct reading "good-bad" multi-colored scale. Tests are under RMA voltages and loads. Model 307 complete only \$16.95. Model 307P combination portable and counter type only **\$18.95**

HAVE YOU SEEN THE NEW *Supertester*?



No shop is complete without this remarkable instrument. Some of the features of the Model 411 are: 5 stage AC-DC voltage range to 5,000 v. 3 stage AC-DC current range to 25 amps. 3 stage ohmmeter range to 4 megs. 3" meter with 200 microamps, or 5,000 ohms per volt. Other features in catalog on request. Model 411 complete your cost only \$16.25. Model 411B—same as 411 but with socket and direct reading ballast tube tester **\$17.95**

ALL RCP TUBE TESTERS COMPLETELY EQUIPPED FOR TESTING LOCTAL TUBES.

RADIO CITY Products Co.
88 PARK PLACE NEW YORK CITY

HOW TO ACT ON THE PHONE

(Continued from page 21)

the beginning of fall, electric fans or a special radio for the porch in the summer. Related items are the easiest of all to sell by suggestion. Say you receive a call from a customer who says she is moving to a new address and wants you to connect the radio and install the antenna. After she has given you the order, suggest lamp bulbs, new extension cords for her appliances, or any other items in your stock that might be needed by a person moving into new quarters.

Once you have had some experience in the first two of these points, you can safely consider the next step in building business by telephone—

Cautiously and conservatively increase the number of calls you receive.

DON'T go too fast with this part of your program to build business by telephone. Don't go too fast, because you may get more telephone business than your people and equipment can handle properly, and this will result in poor service. Don't be too impatient. Give each plan you try a fair test.

The first step in increasing the number of telephone calls you receive is to associate your telephone number with the name and address of your business. Include a direct invitation, such as, "For Prompt Service, Call —," with the telephone number in your advertising, on your letterheads, bills and invoices. Letter this same message on your window and stamp or print it on the manufacturer's guarantee, the instruction book and other printed material that you include with every new set. Use every opportunity to let customers who can't come to your store know you appreciate their telephoned business and that you give it the same consideration you give the business of those who call in person.

You probably already have a listing in the Classified Telephone Directory for your community. You may, of course, increase the effectiveness of this representation by making it more prominent, by adding other listings or by contracting for advertising space. Trade-mark listings, associating your name with the leading products you sell, may also be obtained in the Classified Telephone Directory.

Once you have made your tele-



● It isn't often you need a mica capacitor, of course. But when you do, it's mighty important to know you can get it promptly, correctly, economically. That's precisely why the AEROVOX line offers such a choice of micas, along with the widest choice in all other types.

Fifteen standard types—from tiny bake-lite-molded "postage-stamp" unit for receiving circuits, to large porcelain-case unit for high-frequency requirements. Along with other departments, the Mica Department has been expanded and provided with much new equipment in our giant new plant.

Ask about this . . .



● If you're not getting the AEROVOX RESEARCH WORKER each month, you're missing a lot of vitally important information. Ask your jobber about a gift subscription. Or write us direct for sample copy and details.

AEROVOX
CORPORATION
NEW BEDFORD, MASS.
IN CANADA: AEROVOX CANADA, Limited Hamilton, Ont.

phone number easily available to those who may want to call you, try out special forms of advertising. Build a newspaper ad around the "telephone idea," selecting some item or service that is adaptable to telephone merchandising. For instance, you may offer in a small ad in your local newspaper, or in a "throw-away," a radio tube and antenna check-up. "Free Radio Tube and Antenna Check-up" might be the headline, with copy explaining why it is advisable to have this check-up made, and ending with an invitation to "Call 750—Blank Radio Shop."

Many radio dealers have found that it pays to keep a complete card index file of repair jobs, with a card for each customer containing the make of radio, its age, details of repair work done from time to time, and any other items which may be of use in connection with subsequent sales interviews with the customer. One radio dealer we know mails out periodically to his customers a card similar to those used by dentists to remind customers of appointments. The card tells when the set was last repaired and invites the customer to call if

it is not still giving good service. Information for the cards is obtained from a service reference file such as we have described, and the plan has proved very effective in stimulating service calls and in turning up prospects for new sets.

Occasionally you will want to plan a window around the telephone idea. For instance, you might do as the druggists do in advertising prescription service—place in your window various parts and tools used in repairing a radio with cards to identify each. Tie the whole window to the telephone with a window card, "Telephone for Prompt Service," and your telephone number.

Try out these various promotional ideas one at a time. Check the results on each. If, after a fair trial, one doesn't work, discard it and concentrate on those that do produce results.

The next point in the plan is—

Consider the desirability of paying customers' "telephone fares" to your shop as a means of increasing your telephone trade radius.

SO far your plan has included methods of increasing calls

AUTO RADIO PERFORMANCE IMPROVED

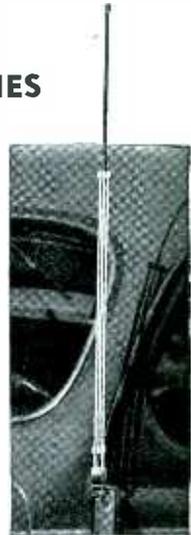
with

CONSOLIDATED

- AERIALS
- ACCESSORIES

All Types of Auto Aerials

- Whip
- Top
- Overhead
- Running board
- Undercar



Two highly efficient types of whip antennae are shown above. Both are built of three rods of stainless steel which attach firmly to the car without injury to the body. The center rod is arranged ingeniously for extension purposes. Full extension gives maximum pick-up efficiency, but for local reception a variable capacity effect may be achieved by the degree of extension. Either model is simple to install.

Cowl Mounting Type—27½ inches closed, 48 inches fully extended\$3.50 List

Hinge Mounting Type—26½ inches closed, 44 inches fully extended\$2.50 List

AUTO RADIO ACCESSORIES

The Consolidated line also includes a full variety of lead-in wires, suppressors, filters, controls, escutcheons and shieldings.

See Your Jobber Today!

CONSOLIDATED
WIRE AND ASSOCIATED
CORPORATIONS

514 South Peoria St. Chicago, Illinois

PRICE IS IMPORTANT, yes—but so is QUALITY!

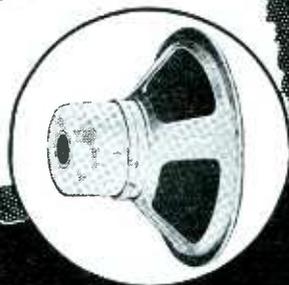
You get both in CINAUDAGRAPH PERMANENT MAGNET and ELECTRO-DYNAMIC SPEAKERS

CONTINUOUS research and product development has enabled Cinaudagraph engineers to manufacture a better speaker. The wide acceptance accorded Cinaudagraph products by manufacturers of radio receivers and public address equipment has made possible the production of permanent magnet and electro-dynamics at prices within the reach of all.

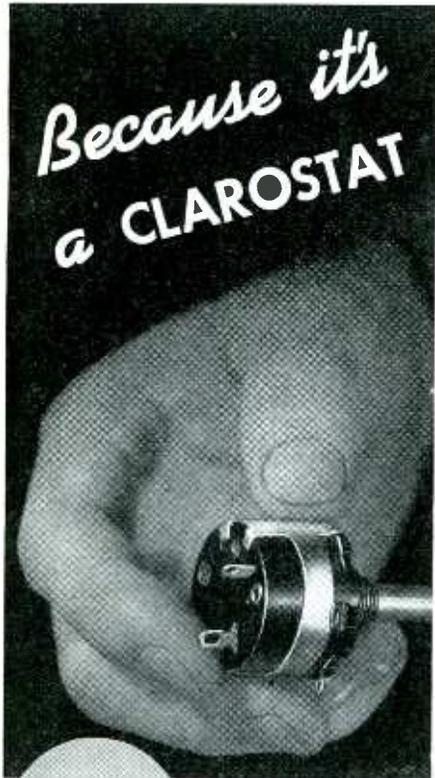
No longer is it necessary to sacrifice quality for price! Cinaudagraph offers a complete line of speakers from 5 to 27" for every "replacement" and "sound" application at competitive prices.

Increase your profit and repeat business by building customer confidence. Cinaudagraph Speakers can show you how.

Complete description of the Cinaudagraph speaker installation at the New York World's Fair on request. Catalog on entire line also available.



CINAUDAGRAPH CORPORATION
STAMFORD, CONNECTICUT



Accurate

Mechanically, the product of tool makers and machinists second to none in industry. Electrically, the experience of two decades of specialization.

One-piece sliding contact of special alloy, working on new composition element under proper pressure. Positive conduction throughout. Smooth resistance changes in tapers. Comparative noise tests invited.

Noiseless

Permanent

Negligible resistance change even after cycling 10,000 times. Antenna and C-bias control still perfect after 28,000 cycles.

New element virtually immune to humidity and climatic changes. Humidity-chamber tests prove it. Heavily cadmium-plated metal parts. Tight-fitting casings.

Impervious

Profitable

All of which, PLUS the CLAROSTAT Service Manual, means picking out the right replacement for a stay-put profitable job. Ask local jobber about it—or write us direct. Manual on request.

See us at Booth 620-622 Hertz Ave., Radio Parts Manufacturers National Trade Show



from those customers willing to pay their own "telephone fares"—namely, those who can call you without an extra charge. Services are available which enable you to reach outside your community for business by offering to customers in nearby towns the privilege of calling you without charge. These plans allow you to list your telephone number in the directories of these communities from which you want to draw business, and to advertise in the directories, newspapers and by direct-by-mail that you have telephone representation there.

And the last point in our telephone plan needs to be stated in the form of a caution—

Use telephone solicitation only when you feel sure it will please the customer.

Of course, you use your telephone every day to call customers. The caution certainly does not apply to this use, but to the indiscriminate use of the telephone in canvassing prospects for business. Before you take up the telephone to carry out any plan of solicitation, ask yourself, "Will the customer consider this a real service?" If the answer is "no", you will probably be a lot better off in the long run if you discard the plan.

Approach these telephone solicitation plans warily. More than likely you'll find, as have other radio dealers, that the best way to build telephone business is to make it easy, pleasant and satisfactory for customers to do business with you by telephone.

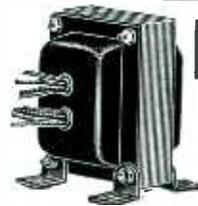
SERVICE BY SYSTEM

(Continued from page 22)

So, he tells the man next door. This is word of mouth advertising at its best. Ethical? More so than if you quote a low price to get the work, then come back with a much higher final figure. Many do just this, to the customers everlasting dissatisfaction.

Paramount in importance is knowing how to collect service charges without resorting to means displeasing to your client. This is, and always will be, a problem. Holding the set at the shop is one extreme. Accepting a promise to pay at a future time, which sometimes just never does come around, is the opposite.

Here are two middle-of-the-road



NEW Three-in-One Mounting

Available on the 20 Leading Power Transformer Numbers



By means of 4 universally adaptable brackets, packed with each transformer, this mounting gives you a choice of any of the three types shown above.

Insist on Halldorson Vacuum Sealed Transformers for more lasting satisfaction. The vacuum sealing is positive in action and insures uniform impregnation of all windings. The result is an effective, skin-tight covering that does not crack, flake off or open up, even in tropical climates. Where servicemen know transformers, you'll find Halldorson.

Write for details!

THE HALLDORSON CO.

4500 Ravenswood Ave. Chicago, Ill.

Halldorson

Vacuum Sealed Transformers

Servicemen— MORE THAN

1,000,000

AUTO RADIO

AERIALS

MUST BE

REPLACED

WE HAVE CREATED
the **RADIART**
Performance
PROVER

to make it EASY for
wide-awake service-
men to get this profit-
able EXTRA BUSINESS

ASK YOUR JOBBER, or WRITE FOR BULLETIN NO. 342

THE RADIART CORPORATION
SHAW AVENUE • CLEVELAND, OHIO

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Although Radio Retailing takes every precaution to insure accuracy, we cannot assume responsibility for an occasional change or omission in the above index.

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SEARCHLIGHT SECTION

POSITION WANTED

FOR SALE: 175 lbs Service knowledge and ability; personably packaged, passably literate, reasonably (29) aged and moderately priced. Present owner needs job badly. Location unimportant. Own equipment if desirable, or consider any bona-fide employment in Radio... W3GTR, Company 218, Branchville, N. J.

DON'T FAIL TO ATTEND

The bigger & better
National Radio Parts Trade Show
 June 14-15-16-17—1939
 Stevens Hotel, Chicago

AND

Don't fail to communicate with me if your products are not used by the Chicago Radio Manufacturers.

AND

Don't fail to let me cooperate with you, if you are not obtaining your share of business from the Chicago Radio Manufacturers.

No remunerations, or obligations on your part.

Nothing to lose—your inquiry is your gain.

If Radio Manufacturers use it—we sell it for you.

Write RA-126, Radio Retailing

520 No. Michigan Ave., Chicago, Ill.

R.M.S. Members and Servicemen

Sell your customers

R.M.S. SUPER COMPACTS (5 tubes)

Attractive Prices—Good Discounts
 Exclusive Radios for the Serviceman

Write for details

Send 10c for Philco Parts Catalog

WILLIAMS PHILCO CO.
 804 S. Adams St. Peoria, Ill.

WRITE FOR OUR NEW 116 PAGE CATALOG

of

WASHING MACHINE AND VACUUM CLEANER PARTS

The Only Complete Catalog of Its Kind in the Country. Can Be Used as a Service and Counter Guide With Retail Prices. Dealers net prices on back pages. Established 10 Years. Reputation for Quality and Service.

MIDWEST APPLIANCE PARTS CO.

Manufacturers-Factory Representatives-Distributors.
 2722 W. Division St. Chicago, Ill.

High Value! Low Prices!

ALL GUARANTEED

FOR THREE MONTHS
SEALED CARTONS



1C7G	\$.45	42 .....	.30
1H4G .....	.35	55 .....	.20
1V .....	.30	6A8 .....	.35
6A7 .....	.35	6C5 .....	.35
6F7 .....	.40	6F5G .....	.35
25Z5 .....	.35	6K7G .....	.35
4I .....	.30	6Q7G .....	.35
25L6G .....	.45		

We have a complete line of Tubes. Write for Prices

NEW YORK RADIO SUPPLY CO.

152 W. 42 ST. R.R. N. Y. C.

DON'T LET TELEVISION CATCH YOU NAPPING!



Train for Your Share
of PROFITS... Now!

Are you awake to the great money-making possibilities that stretch out before you in Television and Facsimile work? Here are two phases of Radio that will literally recruit an army of Servicemen in a new multi-million dollar industry. Will you be prepared to get on this enormous payroll? Competition demands that you know your "stuff". As in all phases of Radio Service and Installation work, you must have a better-than-average technical knowledge to do more jobs quicker and with greater efficiency... with greater profit.

That's why **SPRAYBERRY ADVANCED "MASTER SERVICE TRAINING"** was developed. Includes over 50 new lessons, clear and simply written, on almost every essential Radio repair subject, including latest TELEVISION and FACSIMILE instruction. It's a compact, "all-meat" type of Training in Set Testing, Repairing, Parts Testing, Trouble Shooting, etc.

Do Better Jobs... Quicker

It shows you the easiest ways of doing the hardest jobs. Shows you time-saving short-cuts besides training you in actual business-getting methods. Many Servicemen have easily paid for this practical Course out of increased earnings. Sold on terms as low as \$3.00 down—\$3.00 per month with iron-clad MONEY-BACK Agreement. Don't fall into the rut of being satisfied with your present earnings. Self-improvement is the surest way to greater usefulness and bigger Pay. Let me send you complete information at once. For your own sake, don't put it off.

RUSH Coupon for FREE Facts

SPRAYBERRY ACADEMY OF RADIO
 1300-C University Place, N. W.
 Washington, D. C.

Please send, without obligation, complete details of your MASTER SERVICE COURSE.

Name.....

Address.....

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

(Paste on penny postcard or mail in envelope)

EVERYTHING IN RADIO!

Our immense stock of radio sets, parts and supplies enables you to purchase your entire needs on one order. You will find all your Nationally Known Favorites in the big book which is FREE for the asking. Practically every order is shipped the same day it is received. Write for Catalog

BURSTEIN-APPLEBEE CO.
 1012-15 McGraw St. Kansas City, Mo.



ASTATIC
MODEL T-3

THE MIKE THEY LIKE

Entertaining artists and speakers alike marvel at the performance and flexibility of Astatic Model T-3 Crystal Microphone. Self locking, tilting head adjustable to directional or non-directional position. All chrome finish. Complete with interchangeable socket connector and 25-ft. cable. \$25.00. See your Astatic Jobber or write for literature.

ASTATIC MICROPHONE LABORATORY, Inc.
YOUNGSTOWN, OHIO
Licensed Under Brush Development Co. Patents
Astatic Patents Pending

WARD
AERIALS
ARE
EASY TO SELL
- EASY TO INSTALL
FREE! Write for new catalog of Ward's complete line of low-priced manufacturers' approved aerials for car and home—also get on mailing list for free magazine packed with selling and service tips.

WARD PRODUCTS CORP.
WARD BLDG.
CLEVELAND, O.

methods, which I have induced about fifty servicemen to try. Results have been excellent in both cases. The first is a shipping tag, perforated. The part tied to the chassis identifies the set in the shop. The stub, which is given the owner, is his receipt showing that you have the set in your possession. Actually the tag serves a totally different purpose. You cannot tell him that you expect your money when the set is returned. But the card which you have given him says, in whatever terminology you prefer to use, "We expect you to pay us, when we return the set. If you are not prepared to do this, whenever this time may be, please 'phone us, mentioning a specific time for its return. Our terms are strictly cash." No offense to anyone. And, it works.

The other is a rubber-stamp method to use on statements. This works well on accounts that, in the first place, you feel are good, but know to be slow. Again, an itemized statement cannot very well be used. Merely boost your price 10% or more. If they pay within the specified time, a substantial saving is made, at no actual cost to you.

Ethical? Yes. If you have to wait for your money it is worth more to you. Carrying charges, as it were. Does it work? Perfectly. How do you pay your electric light bill? Most public utilities rely on this method, as the surest way of obtaining prompt payments. And, I'll bet you discount to save that twenty or thirty cents. Always remember that a person having a number of bills to pay will pay *first* the ones that definitely offer a substantial saving if paid promptly.

HOW TO SELL AUTO-RADIO

(Continued from page 28)

gins on cooperative sales should cover investment, depreciation on demonstrators, commissions paid outlets, expense of handling and servicing this business, plus net profit.

Gas stations make many contacts with truck drivers who cover long-haul routes. Radio dealers find they are good prospects, particularly if on night runs. Some drivers buy their own radios. Business concerns owning trucks sometimes have them installed to keep

their drivers alert while driving nights.

Since radio installations in new cars are largely under control of local car dealers, the radio retailer should cultivate their acquaintance to cash in on cooperative sales and service. Cooperating outlets, however, are likely to be lax with demonstrators. Check them periodically to make sure they are working ship-shape. Contact your sub-dealers at least once monthly by 'phone, letter or personally to maintain selling enthusiasm. Experienced radio retailers state that sales from such outside sources are profitable only if consistently followed up. See that demonstrators are hooked up. Dead demonstrators are poor sales producers.

Installation and Service

The service department provides an excellent medium through which to contact potential customers for new sets, one dealer reporting 40 per cent of his sales originated in the service department. Service on new sets is usually 90 days. After that, charge not only for service but for estimating. If the radio must be taken out of the car and tested, \$1.50 is considered a reasonable fee for estimating the cost of repairs. Some dealers allow this fee on the repair job if customer has the work done. Time, materials, overhead plus net profit is the only safe way to charge for service. But first, estimate carefully, do not "guesstimate". Service on new sales is negligible but the millions of sets in use provide a lucrative market for servicing and replacement sales on old models.

Moving Modern Accessories

Visible antennas are no longer sales-stranglers. In fact, fish-pole antennas and other outside-the-car types are popular. Car owners now like to advertise the fact that their cars are radio-equipped. Manufacturers have eliminated old installation headaches, antennas are well designed, easily installed to match any radio.

Few people consider the radio retailer a seller of car radios and this survey disclosed the reason—too few radio dealers sell car radios with gusto. The radio dealer now has his greatest opportunity on car radio since its introduction.