**Radio and Television Today**

**MON.**
- Get the sales floor clean and in order.
- When did you change your window last?

**TUE.**
- Where's the tie-in with national advertising?
- Remember you're competing with clothes and hats this month.

**WED.**
- Get the gang together for a shot of pep!
- The first day of Spring Clean Up. Sell Up.

**THU.**
- How can you sell 'em if you don't ask 'em to buy?
- Who's doing the best job in town? Why?

**FRI.**
- Get store, stock and staff primed for Spring business.
- "Step on" the special—phone, mail, and home.

**SAT.**
- Put more color—more life—into your displays and selling.
- Put in a real window (Mar. 17-24) for Holy Week.

---

**Your biggest competition in March is the ready-to-wear merchant**

**MARCH, 1940**

**FEBRUARY**

---

**Watch the Business Signals!**

**Service Methods and Circuits**
THE 3 R'S OF A VIBRATOR

Reputation of the Maker
Reliable Performance
Repeat Sales for You

When you buy any radio replacement parts you generally measure their value by some standard. When you buy replacement vibrators it is well to consider these three "R's".

1. Reputation of the maker. Because Mallory has been associated with power supply vibrators from the very start, its engineers have the longest experience and broadest background in the industry on which to base soundness of design and quality control of production. That is why Mallory made Vibrators are original equipment in practically 80% of all auto and other battery operated radio receivers built today.

2. Reliable performance. The exceptional long life and trouble-free performance of Mallory Vibrators result from the use of highest-grade tungsten contacts, fine mechanical balance, permanent alignment of component parts, positive starting, absolute freedom from broken reeds and general technical excellence. Long production experience on a few basic designs ... long inspection experience in testing them ... assure you uniform high quality.

3. Repeat sales for you. You are in business to make money ... and Mallory Replacement Vibrators are profitable, even from a single sale viewpoint. But their real value to you lies in their ability to satisfy customers, and to bring them back when their sets need servicing, to enable you to sell them other goods and services.

Remember ... you can rely on Mallory Vibrators for a long life of dependable service. Satisfied customers, and freedom from complaints and expensive no-charge re-servicing will bring you more profits. Be wise ... always use genuine Mallory Vibrators.
Richard Archbold, of the American Museum of Natural History, has recently completed one of the most astounding expeditions of modern times.

With his Consolidated Aircraft seaplane "CUBA," he was the first to follow the equator around the world, spanning the Pacific, Indian, and Atlantic Oceans. The first to fly a seaplane across Australia, Africa and North America. The first to explore the interior of Netherlands New Guinea where he discovered a new tribe estimated at 60,000 people. Hardships, privations, dangers, tests of skill, resourcefulness and courage 24 hours of every day for more than a year!

On such an expedition the equipment MUST be good... the VERY BEST. And so it was inevitable that RAYTHEONS were chosen for the communications system. And they delivered in the most grueling test imaginable.

Yet there was nothing special about these RAYTHEONS. They were the one quality product of RAYTHEON engineers, specializing exclusively on tubes... engineers anticipating fast moving radio circuit developments, and pioneering in tube design and constructions to meet these developments in advance, with the utmost of efficiency.

So today there's a RAYTHEON for every tube requirement, whether for the ordinary or for the most exacting of needs such as the Archbold Expedition demanded.

If you want to be fortified against every tube replacement emergency, remember that Raytheon is the one manufacturer that makes them all. And they cost no more.

RAYTHEON
MAKES
THEM
ALL

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

"WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS"
GET OFF THE TRAFFIC CIRCLE!

ELECTRONIC MUSIC

Take the new "SUPER-HIGHWAY" to PROFIT—

MIESSNER INVENTIONS, INC.
18 MAIN STREET
MILLBURN, N. J.

To Radio Manufacturers:

Nearly a year ago we endeavored to interest you in electronic musical instruments as a sane and logical extension of your operations in the radio field. At that time there was prevalent a wide interest in television as the next big expansion field for radio manufacturers and electronic musical instruments were not given the attention they deserved.

Since then, however, television has had a setback, at least temporarily, but perhaps even more seriously as a major extension of the radio industry. Since its very beginning I have felt that television could never have any appeal and usefulness of existing sound broadcasting — for where near the ear. Many recent perfect pictures, eye strain, etc., there always remains one great and important difference between sight and sound. To see, one must stay in one place and concentrate his visual attention on another; to hear, one may stay in the same time make many other things without being figuratively chained to his sound source.

Electronic musical instruments are a logical extension for the radio industry because they utilize the existing radio technique and apparatus, the existing distribution and service agencies.

The musical instrument industry has fought these developments from the beginning, even worse than they did with radio. A vast new market awaits the exploitation that the radio industry, with its vision and aggressiveness, can give it. Many manufacturers have, in the past few years, sold about fifteen million dollars worth of these electronic instruments without any licensing, far below their true value. The musical instrument industry as a whole is attaining almost boom year proportions.

Our position in this field is that of pioneer invention, development, and licensing. We have over forty issued patents on pianos, organs, and other instruments, and a dozen licensees. Among these is the Story & Clark Piano Co. of Chicago for whom K.C.A. makes the electrical equipment of their "Storytone" Piano, which they are pushing in a moderate way with splendid success.

This is a strategic time to reconsider this subject and we will be glad to aid you in any way you may suggest. With best wishes for a prosperous new season.

MIESSNER INVENTIONS, INC.
18 MAIN STREET
MILLBURN, N. J.

RADIO TODAY
Radio would have kept
Old Roanoke on the Map

Today, if colonists should try to settle in some remote corner of the earth, radio would keep them in constant communication with their homeland. The services of the Radio Corporation of America would do much to prevent a tragedy such as that of early Roanoke.

In the first place, the colonists would take along a radio transmitter, built by the RCA Manufacturing Company, and to operate it skilled radio technicians, trained perhaps by RCA Institutes. Then when troubles beset them, the colonists would get in touch with R.C.A. Communications—an organization that would radio their messages throughout the world. Ships, bringing relief, would be guided by radio equipment designed in RCA Laboratories and built by Radiomarine.

The two great radio networks, and the international short-wave service, of the National Broadcasting Company would be a source of news, education, and entertainment to the isolated colonists. And, they'd listen to programs with RCA Victor Radios and enjoy the delights of Victor Records played on RCA Victrolas.

Whether or not you are planning a colonial enterprise, RCA is prepared to serve you in every field of radio, television, and sound.
THIS FINANCE PLAN

PROTECTS YOUR PROFITS
AND PROMOTES YOUR SALES

1 IT'S THE NEW DEALER RESERVE PLAN
2 IT DOES WHAT MOST PLANS FAIL TO DO—PROTECTS YOUR PROFITS ON TIME SALES
3 IT OFFERS A NEW LOWER RATE
4 IT REQUIRES ONLY ONE RATE SCHEDULE FOR ALL HOME APPLIANCES AND RADIOS
5 IT'S A PLAN YOU SHOULD BACK TO THE LIMIT BECAUSE—

IT'S A SALES-MAKING PROFIT PROTECTION PLAN

A BIG part of your profits should come from your time payment sales.

But will it?
Not if your finance plan is all shell and no meat. Not if it looks good but works badly—for you. Not if it fails to offer liberal terms and low charges to attract the buyer. Not if it fails to protect the dealer during the first six months, the period when most repossessions occur. Not if it leaves you to pay your re-selling costs out of your merchandise profits.

What is there about this new Commercial Credit Plan that makes it a stand-out—the safest plan—the one really practical plan for most dealers? Because it is a profit protection plan.

Compare these features with other plans.

Commercial Credit has again cut appliance finance charges. One simplified rate chart covers all appliances and radios.

The Commercial Credit Dealer Reserve Plan sets aside a cash reserve for the dealer running as high as $5.40 a deal. Here's why—

Finance company experience proves that a certain number of appliances sold on time are afterwards repossessed. After paying repossessing, reconditioning and re-selling expenses, the dealer frequently realizes an amount that is less than the original selling price, thereby establishing a loss.

And why should a dealer lose this large part of his original profit on the merchandise? He shouldn't have to. Under this new plan, the customer charge, low as it is, includes a covering margin to protect the dealer.

* * * *

As optional arrangements, Commercial Credit Financing Service offers at the same low rates the Limited Liability Plan—popular with many dealers—as well as the Purchaser Discount Plan—created to reward the prompt paying purchaser with a discount on each installment paid within three days of coupon date.

Regardless of which plan the dealer may select, Commercial Credit never loses sight of one of its main responsibilities. It provides a sound, adequate, liberal credit and collection service.

The Commercial Credit Plan is a merchandising plan in every respect. Terms are liberal with payments small enough to minimize the price of the appliance. Special plans are offered for short-term financing; for quarterly payments by farmers; for combination and "add on" sales.

The liberal low-cost FHA Plan is offered through Commercial Credit service for the financing of eligible equipment.

* * * *

Commercial Credit Companies offer a Floor Display Plan for financing a single unit or an entire display of new merchandise. Terms are liberal, and the charges extremely low. Dealers may also arrange to demonstrate this merchandise in the prospect's home. Ask your local office for full details.

COMMERCIAL CREDIT COMPANIES
Serving Manufacturers, Distributors and Dealers throughout the United States and Canada
"Parts Distributors have viewed with great concern the rapidly growing number of types of tubes for the replacement market. Up to the present it has been mighty hard for a parts distributor to carry all the necessary numbers to meet the needs of his customers. Any program to reduce the types of tubes employed by set manufacturers should consequently reduce the types in demand in the replacement market. Naturally this will mean to the parts distributor a more representative stock, better turnover, increased service and a more profitable tube business.

"We congratulate RCA for the initiation of the Preferred Types Program and believe a program of this type will prove very beneficial to parts distributors."

ARTHUR MOSS, executive secretary of the National Radio Parts Distributors Association, comments on program to limit tubes to preferred types.

"Until recently, the tube situation has been like the weather... everybody has talked about it but no one has done anything about it. Judging from the favorable reaction RCA has received from manufacturers, distributors, and dealers alike... the RCA Preferred Tube Type Program answers a need long felt by the radio industry.

Arthur Moss voices the widespread approval of Parts Distributors. Manufacturers are saying the plan will lower warehousing and stocking expense... and lower cost of component parts... and should reduce labor costs because it will eliminate stoppages and permit the use of more uniform designs. Dealers, too, are applauding it as a move which will eventually produce better turnover and ease their stocking problems.

No matter from what angle you view the plan... reducing the number of tube types required to service the market is going to mean a better radio business for all."
Our new Tube Plant is 100 percent lighted by the sensational Hygrade Fluorescent Lamps.

**FLUORESCENT** light reduces reflected glare, is easy on the eyes and casts no shadows because it gives a multiplied light that is literally present everywhere!

With Fluorescent* light, the eyes of Sylvania employees are keen to detect any variation from perfection. Not only is working efficiency increased, but precious human eyesight is safeguarded.

That is why the new wing of the Emporium factory boasts Fluorescent* lighting ... why this is just a prelude to the program of transforming all Sylvania factories from yellow incandescent to clear daylight illumination.

Putting in Fluorescent* lighting is only one of the hundreds of special operations that help to make Sylvania Radio Tubes better. To you who sell Sylvania, this care and precision means SATISFIED CUSTOMERS—the kind that give you Profitable, Repeat business!

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

*We are very proud of this installation, which is Hygrade Fluorescent throughout; and is produced in our Salem, Mass., plant.
"NEVER BEFORE $69.95 COULD BUY AT ONLY... SUCH BIG 9-TUBE RADIO CONSOLE"

HERE are the greatest values in Stewart-Warner's whole history of radio super-values! Brand new models—superb in tone, alive with power, outstanding in size and styling—and with price tags that are sensational. Just look, for example, at what you can offer prospects in that huge, 42-inch hand-rubbed $69.95 console!...

10-TUBE PERFORMANCE
✓ 9 Tubes including rectifier and 1 double-purpose tube
✓ Built-in Magic Antenna
✓ Magic Keyboard Automatic Electric Tuning
✓ Covers all bands from 540 to 18,000 Kc.
✓ Connection for record-player and television sound
✓ 12-Inch DeLuxe Dynamic Speaker
✓ AVC and Bass Compensation
✓ 3-Position Tone Control
✓ Massive hand-rubbed cabinet

Also..."6-TUBE CONSOLE
7 PUSH BUTTON $39.95
ELECTRIC TUNING

8-TUBE PERFORMANCE
PLENTY HOT
SEE DISTRIBUTOR
PLENTY QUICK!"

7-Tube Performance! 5 tubes including rectifier and two double-duty tubes • Built-in Magic Antenna • AC-DC Superhet circuit • Covers 540-1725 and 2200-7000 Kc. • Available in choice of 3 highly finished wood and 2 molded cabinets.

STEWART-WARNER RADIOS AND TELEVISION
STEWART-WARNER CORPORATION, 1828 DIVERSEY PARKWAY, CHICAGO
Also Makers of SAV-A-STEP Refrigerators and Electric Ranges

FEBRUARY, 1940
Get in on the Ground Floor of America's Fastest Growing Industry — with PHILCO-YORK AIR CONDITIONERS

Amazing Improvements, Lower Prices Mean Quick, Easy Sales!

Less than two years ago Philco and York brought to the appliance dealers of America a new industry — portable air conditioning ... at prices that opened up an entire new volume and profit market. In that short time Philco-York became the world's biggest-selling portable air conditioner! In fact, more Philco-York Air Conditioners were sold last season than all competitive makes combined!

Now, for 1940, Philco-York brings you a still finer, more complete line of portable air conditioners — a greater variety of models to cover every field and at NEW LOW PRICES. Easily and quickly installed — no plumbing, no wiring. Plug into any electric socket.

A marvelous product backed by the largest direct mail and national magazine advertising program ever staged in the air conditioning industry — plus superbly beautiful window displays, banners, streamers, electric signs and colorful descriptive literature for dealer use.

Now every business or professional office, every home becomes a live prospect for Philco-York Air Conditioners. Never before such an opportunity to make quick, easy sales! No trade-ins ... FULL PROFITS every time! See your Philco-York distributor—or

MAIL COUPON NOW!

PHILCO, Air Conditioning Dept. 501

Please send me full details of your dealer franchise proposition on Philco-York Air Conditioners, together with Discounts and Special Wholesale Credit Terms. Also send big, new Illustrated Book.

NAME ________________________________

STREET ________________________________
COUNTY ________________________________

CITY ________________________________
STATE ________________________________

NOW — Real, Complete, Efficient Portable Air Conditioning at a price the public can pay!

Model 61 shown above. Gives complete air conditioning service! Draws in fresh outside air ... wrings the moisture out of it ... filters out dust and pollen ... COOLS it ... and gently circulates it about the room. Stale inside air is rapidly removed and constantly replaced with fresh, filtered, clean air — brick and energizing. Street noises are shut out. You live and work in peaceful comfort, regardless of outdoor weather! And it's priced amazingly low.

There's a Philco-York Air Conditioner for every size room, now priced as low as ...

$129.50

PHILCO ALL YEAR 'ROUND

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

RADIO TODAY
Sales Move Smoothly Ahead

After a setback due to a wintry freeze-up in most sections of the country, retail sales have hit their stride again and show gains of 3 to 10 per cent over a year ago.

Although production is decreasing in many lines, production rates are well above a year ago. Inventories generally are in better condition than at the same time last year. Spring merchandise has begun to move.

An early Easter, this year, will make the radio man's competition with ready-to-wear goods sharply noticeable at an earlier date. But radio dealers are more than holding their own, so far.

All indications are that radio sales will hold some 10 to 15 per cent above last year, for the first half of 1940.

Retail radio prices have softened, but visible inventories are not unwieldy and buying at the reduced prices is holding up.

Television, FM, Tubes

To the public and to governmental agencies, the radio industry has made a disappointing spectacle of itself these last few weeks.

With important groups pulling against each other, and with recriminations flying back and forth, outsiders begin to wonder whether radio men can really agree among themselves on what they want.

In television, in frequency-modulation, and in the radio-tube situation, forces which should be working together for the common progress, are instead fighting and hurling threats.

In all three of these fields there is need of real constructive effort that will build future prosperity for all.

Instead of running to outside parties and Federal agencies with claims and counter-claims, radio men should right now be presenting a united opinion and a united front on next steps in radio progress.

Outsiders and outside agencies cannot solve our problems or settle our differences. Eventually such settlements must be made on radio principles by radio men.

It will be better to reach such unity by voluntary agreements among members of a free industry, such as we now have—than to invite in governmental umpires (or dictators) to clamp down on us with orders that will settle our rows at the cost of radio's future freedom.

Gentlemen of the radio industry—wake up!

Better Stores

Radio dealers throughout the country are in a doll-up mood. You can see from accounts in this, and other issues of Radio Today. There's a trend toward better-looking stores;

retailers are putting carpenters to work and getting handsome results.

One of the stores in this parade is shown herewith—the H. Bograd & Co. of Paterson, N. J. This house, with its double-aisle floor plan, its eye-catching inset displays, its good lighting and its general streamlining, was appropriately billed as a beautifully modern "Store of Tomorrow."

Single Radio Question in Census

In the Housing Census, which is due to start in April as a part of the government's general census-taking activity during 1940, will appear only one question on radio, "Does this household have a radio receiving set?"

Earlier announcements had indicated that several questions on radio ownership would be asked.

Census officials revealed recently...
that lack of funds and time was the reason for limiting the queries. However, radio men will be able to get a check on other important aspects of the market, through the many general questions which are being asked.

Reallocation of Broadcast Stations

Sometime this Fall, the Federal Communications Commission is expected to reallocate a number of the broadcasting stations of the country—the first general shift since the old Federal Radio Commission set up the present broadcast structure in 1923. The coming 1940 shift is made necessary to conform to the provisions of the North American regional broadcast agreement, now ratified by Canada, Cuba and Mexico, as well as by the United States.

Some 730 stations in the United States may be affected, particularly those above 730 kc. The main purpose is to set up a technical structure to reduce mutual interference between the broadcasting stations of the contracting countries.

The treaty provides considerable flexibility with respect to some 32 channels on which most of the high-power U. S. stations now operate, so that shifts of the more important broadcasters will be minimized.

Industry Tax for Industry Promotion

Radio manufacturers and others who have proposed at various times laying a tax per radio-set to be spent on industry promotion (cf. “Five-point Plan,” etc.), will be interested in the industry-tax about to be levied on electric washing machines. In 1939 half a million washers were sold at an average price of $50 (in contrast with 9 million radios at average price of $39).

This month the American Washer and Ironer Manufacturers Association will meet at Chicago, with the purpose of laying a charge of 20 cents on each unit made and sold during the coming year. The funds thus collected—estimated at nearly $300,000 for 1940—will be used to carry on a joint industry advertising campaign.

Farnsworth Corp. Reports Strong Financial Position

E. A. Nicholas, president of Farnsworth Television & Radio Corporation, Fort Wayne, Ind., told stockholders in a letter mailed Feb. 7, the company's operating loss in the first eight months of the current fiscal year, which ends April 30, “did not exceed $250,000, including non-recurring items of more than $85,000.” The Farnsworth Company which manufactures radio receivers, phonograph combinations and complete television transmission and receiving apparatus, started production last September, following acquisition of its plants in April.

“With the period of preparation substantially behind us and our organization established,” Mr. Nicholas stated, “we believe the company's liquid position is a cause for optimism as to the outlook for the coming year.”

The balance sheet at the end of December, Mr. Nicholas' letter stated, "shows working capital of approximately $2,000,000 more than half of which is represented by cash in banks. The company has no bank loans outstanding, accounts payable are normal."

Mr. Nicholas feels convinced that television, in which this company occupies an outstanding patent position, will make "substantial progress during the present year."

Convention News in Spotlight

Radio men heard some big-scale announcements last month when Philco staged its conventions, with some 800 distributors at the Palm Beach Biltmore in Florida and another big meeting at Hotel del Coronado, Coronado Beach, Calif. Year 'round sales program got a big play, with brand new refrigerators, air conditioners, and radios presented by Philco officials.

Along with regular radio promotions, the company came up with "the heaviest newspaper advertising program in the history of the refrigerator..."
tion industry," an unprecedented full color four-page pull-out ad in Collier's for Mar. 2, a packaged air conditioner for $129.50, an announcement that the public would spend two billion dollars for air conditioning by 1945, and other feature plans.

"MAGIC WAVES"


Weekly Broadcasts by
Dr. O. H. Caldwell
Editor of Radio Today

NBC Blue Network, Saturday Afternoons. "Immediately following the Opera"

NBC Producing Staff
Gerald Holland, Dramatist
Sherman MacGregor, Director
Robert Hicks, Announcer
Jesse Crawford, Electronic Music
Wallace West, Press Representative

Lost Melodies ...............Feb. 17
Crystal Control ..............Feb. 24
Tubes Everywhere ...........March 2
Aids to Advertising ........March 9
Eliminating Noise ..........March 16
Radio in Sports ............March 23
Fighting Fires .............March 30

"Magic Waves," as now scheduled, immediately follows the Saturday afternoon Metropolitan Opera Broadcast, which is officially estimated to have a listening audience of ten million persons. Around 4.30 to 5 p.m., when the "Met" signs off, the opera network of 50 stations coast-to-coast is switched over to "Magic Waves" to bring to this vast audience the latest news of radio, radio tube, and radio equipment, interpreted by the editor of Rando Today.

Editor Caldwell will also broadcast Feb. 29 over WGY and associated General Electric short-wave stations at Schenectady, N. Y., on "Electronic Wonder-workers."

On Feb. 6 at Philadelphia he addressed the Philadelphia Servicemen's Association on "Radio Tomorrow—New Jobs for Servicemen."

On Feb. 20 he will speak before the Young Men's Advertising Club at New York on "Radio's New Aids to Advertising."

Stromberg's McCanne Shows FM Highlights

Demonstrating frequency-modulation reception side by side with amplitude-modulation reproduction, Stromberg-Carlson radio sales manager Lee McCanne explained staticless high-fidelity FM broadcasting at a meeting of the Rochester Society of Engineers, Jan. 22.

Using the New Stromberg-Carlson No. 450-M Labyrinth radio which employs dual concentric carpincheo speakers, Mr. McCanne alternately tuned in programs from AM and FM broadcasts originating in Stromberg-Carlson studios, to give a dramatic comparison of the two types of reception through the audio system of the same radio. He ran an electric razor during the demonstration to show how the same source of noise caused sputtering and crackling on amplitude modulation, but produced no disturbance whatsoever on FM; then explained how natural static, as well as man-made noise and interference is eliminated by the new FM method of broadcasting.

Mr. McCanne also showed how the extra fidelity with which FM programs are broadcast, adds to naturalness of tone when the receiver is capable of reproducing that increased fidelity.

Do You Remember?

A group of radio old-timers was discussing early days in broadcasting, and the question came up which radio firms were in business selling sets in 1922. From the group present the following names were listed:
Andrea, F.A.D.
Cutting & Washington
Clapp-Eastham (Genl. Radio)
DeForest
Fried-Kissmann
Grebe, A. II & Co.
Kennedy, Colin B.
Paragon
Radio Corp. of America
Westinghouse
Zenith

Were any other well-known concerns doing an active radio business in 1922?

Lee McCanne of Stromberg-Carlson, one of the leaders in sales development of frequency-modulation radio.

Joyce Reports on Newburg Tests of Television Selling

Stating that "Practical television is no longer around the corner, but is here," Thomas F. Joyce, vice-president of RCA Mfg. Co., urged the FCC at its recent Washington hearings to "take the brakes off television by giving it the amber light."

Regarding results and conclusions drawn by RCA from its television merchandising tests conducted in Newburg, Poughkeepsie and Middletown, N. Y. Mr. Joyce said:

"Our Newburg, Poughkeepsie and Middletown merchandising experiment conducted during the months of October, November and December proved conclusively these things:

1. The public will buy television receivers in substantial quantity if the price is right. During the test period the public bought an average of 11 sets a week for 12 weeks. The TRK12 was priced at $295 (regular price $600) and the TRK9 was priced at $295 (regular price $450).

BEYOND "DIRECT" AREA

2. Television was submitted to its severest operating test, for this territory is outside the so-called 'line-of-site service area' of the RCA-NBC television transmitter located in New York City. This direct-service area is supposed to be 35 to 40 miles from the transmitter. Newburg is 60 miles, and Middletown and Poughkeepsie are 75 miles from the transmitter. We have a number of television receivers in homes 90 miles from the transmitter and the owners at those locations are entirely satisfied with the day-in-day-out technical performance of the receivers.

3. Frequent check-ins on owners in this area indicate that the purchasers of the receivers are entirely satisfied with their investment."

(Please turn to page 54)
It won’t be long now before you, or your accountants, will be making a report on your business to Uncle Sam. It’s income tax time.

If yours is an average retail radio business, your actual profits will be less than you thought they were; which is just another way of saying that either your business records are inadequate, or you do not use the information they provide to actually control your business.

Every radio dealer should have a simple set of books to furnish him the factual information with which to control his business.

The records should be current and accurate, should present detailed information and a complete picture of where your business is, and where it is going. Comparisons with the previous month, and with the same month last year, will be helpful.

WHAT TO WATCH

To properly guide your business, you should now have the following vital facts, from your books.

1. Your assets and your liabilities—to know whether your business is in a sound financial condition, and to know whether this condition is getting better, or worse, and why.

2. Your accounts receivable, by age—to know how much money is owing to you, whether month by month it rises or falls, and by a monthly comparison of the amounts by age, to know whether the old accounts are actively paying. Even “slow” accounts may be good, but when they stop paying, you have to do something about it—if you want your money.

3. Your accounts payable, by age—to know how much money you owe others, how much of it is longStanding, and whether your past due indebtedness is increasing or decreasing. Past due obligations always reflect on your credit and if you do not keep them in hand you may have to go on a cash basis.

TWO-FISTED CHECK-UP

4. Your classified sales—to know just what “class” of merchandise is selling, and to avoid buying-increase-ments on merchandise which is not selling. Then you’ll be able to buy better on the fast-moving stuff.

5. Your classified inventory, by age—to know what your stock is, what is not moving in time to mark it down, and keep it going out. By comparison with previous figures, whether your stock-to-sales ratio, and your “old” stock, is more or less.

6. Your “cost of merchandise sold”—to have a definite check on whether your margin is going up or down.

PLANNING FOR PROFIT

7. Your “gross margin”—to know how much you have to pay your expense and make a profit with, and by comparison with previous months and last year, whether this is up or down.

8. Your classified expense, in dollars and per cent of sales—to know just how much of your sales dollar goes for expense, and precisely where it goes. This ratio of expense to sales, and how it moves, together with your gross margin, and how it varies, are vital factors in the control of your business.

9. Your “net profit”—this is what you have left of your margin, after paying your expense, and is the “pay off” on your entire operation. It’s nice to know.

There are other important bits of information which a simple set of books will give a dealer to help him run his business, such as:


b. Repossessions, repossession costs and losses.

c. Reserve with finance companies.

d. Service Dept. operating costs, profits or losses.

e. Your cash, received, disbursed, on hand, and in the bank.

HOW ONE DEALER DID THE TRICK

Let’s take an actual case, of a retailer who found business good. We’ll see how he used information from his books to conduct his business.

This dealer was buying his radio on a 40/10 basis. His credit was good. His sales were $25,000 in 1938, and his inventory was $3,000 at cost. He allowed 10 to 20 per cent from list for trade-ins.

A mail order outfit opened a store only a block or two away. His prices were higher, and he found many of his customers going to his new competitor.
He decided to meet their prices, to hold his trade. He cut his prices 10 per cent and allowed another 20 per cent for trade-in.

His sales picked up—10, 20, 30 per cent and more over the previous year, and he was sure he had this competition licked.

But his monthly reports told him that his cost of merchandise had increased from 59 to 70 per cent of sales as he reduced prices. Margin declined from 41 to 30 per cent. Expense went down from 35 to 30 per cent. But his profit of 6 per cent had vanished.

REMEDY FOUND

In two months he knew what the condition was, and what to do about it.

If he could further increase his sales, he knew his expense would go down more, and leave a little margin for profit.

He decided to advertise; spent 3 per cent of sales on direct mail, and pushed his sales up another 10, 15 or 20 per cent.

His next monthly report showed that his expense, including his advertising had gone down to 27 per cent. That left him a net profit of 3 per cent, on sales up 50 per cent. It looked okay.

But he also saw on his reports that his inventory had doubled, and his "accounts payable" were three times what they had been.

His "cash on hand" had almost vanished. What had happened?

Sales stepped up too fast. Inventory had to go up faster to give prompt delivery. The operation had expanded beyond the safe limits of its working capital.

But this dealer knew his condition, and promptly took steps to correct it.

HE CAME BACK

First, he went to his bank, explained the situation, showed his books, which proved he knew what he was talking about, and asked to borrow $3,000 on his $6,000 inventory.

He got $1,500 on his personal note for 120 days. Then, he arranged with his distributors to take 3 notes, due in 30, 60 and 90 days for the amounts due them.

Then, he put special effort on his slow moving stock, thawed out some of this frozen capital, stopped buying until he got his inventory in line.

Because this dealer knew, and could prove he knew, what was happening in his business, he saw the danger as soon as it developed, and got help quickly when he needed it badly.

He controlled his business even when it tried to run away from him.

And so too can any retailer, if he has the figures, and knows how to get guidance from them.

Up-to-Date Figures To Be Compiled

In the big survey of radio's retail costs and profits, in which Radio Today has set out to get a new series of guidance figures for the benefit of dealers, the following letter has been (Please turn to page 41)

RADIO TODAY'S SURVEY TO SUPPLY NEW SET OF SIGNALS

In order to give U.S. radio dealers a brand new set of guidance figures, at a time when retail costs of doing business are on the upswing, Radio Today has started a study of thousands of retail operations.

For the first time in several years, the retail costs will be collected and analyzed and presented as yardsticks for radio men. It is a vigorous effort to help dealers along the way to more profit.

The questionnaire which was mailed to retailers, inviting them to send their cost-of-doing-business figures in confidence to Radio Today, appears on page 40 of this issue.
PROSPECT BE PLEASED

Six dealers win the buyers' eyes with a well-styled store, a handsome display.

Sales Add Up—In Magna, Utah, N. E. Papanikolas and the new quarters of the Central Appliance Co. testify to importance of "proper display." Ten years of good business in the heart of the milling and smelting area.

Pyramid Business—New radios form an impressive "peak" in the window of Zagel Furniture, Chicago. A splash of greenery and war news adds interest.

Wisconsin Pay-Off—Jack Goodwin of Milwaukee modernized his store, using exploded wood fibre in colors, for walls. Now he has indirect lights, personal studios, and four times the business.
A Customer Sings—In the recording studio of dealer E. F. Hammonds, Bryn Mawr, Pa., the making of personal records is a flourishing business. Scores of singers, speakers, etc., use the RCA Victor Deluxe Recorder.

Radio Room—Brown-Bricker, of East Liberty, Pa., thinks that display can be overdone, but puts the customer at ease with pleasant drapes of light green, in this display section.

Pulling Power—The trim, modern lines of this setup at Ott's Radio & Elec. Service, Portland, Ore., give customers the impression of neat efficiency and up-to-the-minute methods.
Admiral model 21-A6

Knight console

Philco auto radio

Sonora "Serenade"

Majestic 3C70
Lola Lane, Warner Bros. star, focuses attention on the program coming from her 1940 set. Cabinet of 3C70 is of hand-rubbed sliced walnut. 3-band, 7-tube super with loop antenna.

S-W 1940 receiver

Motorola auto radio
NEW-CUSTOMER BAIT!

Latest models to win business. Eye-appeal in auto, compact, console and combination radios.

Westinghouse portable combination

Philco Chippendale model

Stewart-Warner compact

Motorola "Golden Voice"

Arvin radio-phono
* Model 302A, ivory finished radio-phono with 4 tubes, P.M. speaker. Plays 10 and 12 in. records. Ivory model, $76.95; deep brown, $71.95. Carrying case for the set and records, $2.95 extra. Noblitt-Sparks, Inc., Columbus, Ind.—Radio Today.

Farnsworth console
Model BC-81 is a streamlined set in the 1940 line. Rounded-front cabinet is of matched American walnut, with band and grille bars overlaid with simulated Brazilian rosewood. 8-tube, 3-band super.
"CHANGE THE SCENERY"

Radio trade divided on question of new models to replace consoles.
Enthusiastic support for proposal, countered by indifference.

Radio Today's editorial "It's Time to Change the Scenery," in the January issue, has started a flood of comment and discussion on the subject of new styles in radio sets to replace present consoles.

Some industry leaders agree that a new form of radio receiver is needed, and have suggestions to propose. Others see the need for new models but ask what can be done to place the console in public acceptance. Still others flatly stand pat on present cabinet and form, and refuse to be parties to efforts to introduce anything new.

WILL INDUSTRY AGREE?

Other commentators see industry difficulties in uniting on a preferred new model. "It has been so difficult to get the industry together on even the barest fundamentals," writes one, "that I question our ability to bring about unanimity of thinking in a matter as important as this one. It is therefore my opinion that a move of this kind will come about by the ability of individual organizations to hit upon designs or styles that will succeed in captivating the public taste."

"The move you have started is a worthy one," writes another reader. "It is stimulating in the extreme, and you can count on us to be a party to anything constructive for the industry."

Here are other comments:

PERIOD FURNITURE RETURNING

It is far more likely that the industry could be brought to a common viewpoint about cabinet styling than that the public could be brought to that same frame of mind. Certain changes are obvious to us as they are to the other industry members. We seem to be riding the crest of another cycle bringing us back rapidly into more refined consoles with more period or furniture effect. This will be less felt in the medium priced but, undoubtedly, be very evident in the high priced radio merchandise and in the radio combination class.

Strictly furniture designs, based on our experience this last season, will be a definite factor. In our opinion, it will be difficult to find a model representing any radical departure from current trend which would find any immediate and large acceptance. J. S. KNOWLSEW

Stewart-Warner Corporation
Chicago

PAST EFFORTS HAVEN'T CLICKED

In your editorial "It's Time to Change the Scenery," you have posed a very neat question—one which Philco tried to solve in 1937 with its famous slant front and in 1938 with its spinet styling. Zenith also tried to answer the same question with its end-table or chairside designs. Frankly, I wonder whether a change in design is the answer. Considering the above instances, it apparently isn't, because they were three radically different designs which I think everyone will agree, did not click sufficiently with the public to set a new trend.

It seems to me that a radio cabinet is after all, a piece of furniture—berax, Bronx Renaissance, or what have you. It still has to measure up to the mass market's idea of something that goes in a home.

The automobile has a different problem and even there, the changes in outward appearance, except for details, are not tremendous from year to year and a totally different factor accounts for continued automobile volume. The refrigerator people haven't changed the outward appearance of their boxes materially in the past several years. They can all be described as a vertical, rectangular box, finished in white.

But the problem of radio styling is one which every manufacturer has been working at for these many years. Efforts have been made to create a new style which would be instantly recognizable and "dated." Perhaps some designer or designers will stumble on the answer but I am inclined to think that the answer lies in better radio performance.

Galvin Manufacturing Corp.
W. H. STELLNER

SURVEY OF TRADE OPINION

WELCOMED

Radio Today's editorial about striking a firm style note in radio to develop obsolescence and tone up the product is very interesting to me. I like your thinking and know that every manufacturer has a major problem in attempting to design style products that will sell and accomplish the many purposes intended.

I think a survey of trade opinions such as you suggest would be very interesting, and would like to know what the dealers' opinions are.

R. C. COSGROVE
Vice President & Gen'l. Mgr.
Crosley Corporation
Cincinnati, O.

EFFECTIVE STYLING

WILL INCREASE SALES

Relative to your editorial inquiry as to whether we feel that a new type of large set is needed, I might say, "Yes we do."

We definitely feel there should be more styling in a console radio, making a set of such design that it will fit into the average living room of today, and if the proper approach is made the console sales will increase materially.

If such new styling could be made effective, it would, we feel, interest the woman in the home today.

The Sparks-Withington Co.
Harry G. Sparks
Vice President and General Manager

NEW TRENDS IN STYLING

Unquestionably a "change in scenery" would be desirable providing it would be accepted by the buying public. I think I can safely say that the industry is almost 100 per cent ener-
WHEN Farnsworth Radios were first introduced last Fall, radio distributors and dealers expected big things from this alert new organization. They were not disappointed.

The set-up was right! Key men of the radio industry had teamed up to form the Farnsworth organization. Their combined experience created the fast-selling Farnsworth Line. Tremendous manufacturing and financial resources backed their efforts — assured success.

Of even greater importance, Farnsworth established sound and sensible policies of protecting the distributors' and dealers' interests that have become the basis of all Farnsworth activity.

The Farnsworth organization plans to continue these policies and to institute an even broader program for Farnsworth dealers during the next few months. Get the complete story from your Farnsworth distributor. You will find his name among the outstanding radio distributors listed on this page.

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

When Farnsworth Radios were first introduced last Fall, radio distributors and dealers expected big things from this alert new organization. They were not disappointed. The set-up was right! Key men of the radio industry had teamed up to form the Farnsworth organization. Their combined experience created the fast-selling Farnsworth Line. Tremendous manufacturing and financial resources backed their efforts — assured success.

Of even greater importance, Farnsworth established sound and sensible policies of protecting the distributors' and dealers' interests that have become the basis of all Farnsworth activity.

The Farnsworth organization plans to continue these policies and to institute an even broader program for Farnsworth dealers during the next few months. Get the complete story from your Farnsworth distributor. You will find his name among the outstanding radio distributors listed on this page.

FARNSWORTH TELEVISION & RADIO CORPORATION... FORT WAYNE AND MARION, INDIANA
RECORDS OUT IN FRONT

Ten practical ways for dealers to keep their new labels neatly in view of the customers.

While the sale of records continues to reach new heights, and to pile up new profits for radio men, dealers have been asking for ideas on the display of the discs.

A survey of the active retailers of records shows that there are at least ten ways in which the platters themselves may be shown off. These may be used in connection with displays of radios, phonograph radio combinations, or record accessories, and they may be shown in windows or at various spots inside the store.

In each case, if the record is displayed without its wrapper, the dealer should be sure that its surface is glisteningly free of dust. Wrappers should have that "brand new" appearance—none of that much-folded, dog-eared stuff.

PLATTERS IN PANELS

One of the most popular methods of exhibiting records is to fasten them to panels, stand the strip at the sides of windows, or use them on the walls near the record department. The discs are placed against some background of paper which contrasts pleasantly with the shiny black of the records.

Many dealers use a "free" effect, which requires the use of a fixture with arms that extend like branches. These extensions have small pegs on them which fit into the center hole of the record.

MONSTER BACKGROUND

Another one of the common styles of display involves the use of a "jumbo" reproduction of a record as a background for a ring of the discs themselves. A large circular cardboard, smartly covered with decorative paper or fabric, will get attention for the likewise-circular merchandise attached to it.

In cases where records are to be displayed on flat surfaces, whether on the counter, the floor of a window, or on a series of glass display shelves, it is often convenient to use some wire holders. These are about the same as the wire gadgets used for the display of dishes, and they hold the records in a nearly vertical position.

Another customer is drawn to the "Record Bar," in the Davega store, Bronx, N. Y., showing how the "complete record dept," made by the A. Bitter Construction Co. is getting results in the sale of this popular merchandise.

An enterprising New York City dealer, Haynes-Griffin, ties in with current interest in the big movie "Pinocchio." The colorful display features the new Victor record series made from the film sound track. There are three discs in the album, for $2.75.

If record players are used in the displays, a good many dealers turn them on and let the records whirl. This attempt to get some action into the set-up will often catch the attention of passers-by, even though the music is not actually being played.

Albums which represent a pretty colorful and fast-selling kind of merchandise these days, offer another chance to get records into view. The trick is to slip one or two of the feature recordings part way out of the book, so that the package will look like something to be used for convenient enjoyment.

The new labels may be also shown in the nifty new record racks. Many of these are inexpensive items and they have a price appeal. By using them in displays, dealers have a chance to get larger groups of records into the public eye.

Still another display idea is found in the use of the lists of current releases which are sent out by manufacturers. Many dealers have adopted the practice of thumb-tacking these to some kind of bulletin board that the customers can readily get at. To

(Please turn to page 52)
AGAIN RCA VICTOR GIVES YOU A PROFIT-WINNER!

HERE'S a radio set that bids fair to set the country aflame—that's how hot it is!

Called "The Opera Box" because it's a distinguished little big radio, this sensational new RCA Victor model will prove to be the feature attraction in your store. It will create new business for you, not only because its beauty, its performance and its features set it apart from usual small type models, but also because RCA Victor is backing it up with a powerful radio and newspaper advertising campaign.

Tie in with this campaign. Use the newspaper mats on "The Opera Box" that are available to you. Big profits will be your reward!

The Opera Box
Master Voice Quality in a New Type Radio
Big in Performance...Generous in Size...Low in Cost

"The Opera Box, a big radio in convenient size, is RCA Victor engineers' answer to the problem of finding the right way to put the quality characteristics of a big radio into a compact set. It has 5 preferred type RCA Victor tubes, plus plug-in ballast resistor, which provide 7-tube performance. It also has built-in Magic Loop Antenna; operates on AC-DC; receives standard broadcasts, police calls. Its walnut and mahogany cabinet, 8½" high, 14½" wide and 7½" deep, is finished front and back, may be viewed in all its beauty from any side. This radio is Model 46X3.

For finer radio performance—RCA Victor Radio Tubes.

TOMMY DORSEY
Victor Recording Artist

Tommy Dorsey is one of the world's greatest artists whose performances are on Victor Records. And because Victor offers your customers such top-notch talent, it is the leading name in the recording field—just as RCA Victor Radios and RCA Victrolas, too, are leaders. An important selling feature of all AC-operated RCA Victor Radios is the Victrola Plug-in. This makes possible the attachment of an RCA Victor Record Player with which your customers may enjoy all the great artists on Victor and Bluebird Records.

FEBRUARY, 1940
Auto Radio Sales—
SHIFT INTO HIGH!

Early Spring opens a greener field for the sale of car receivers

Now that the frost and the ice of winter are beginning to melt away, the drivers of the country are planning for more time to be spent in the car. Warmer weather means a faster sales pace for the dealer in auto radio.

"This is the time of year when you can sell 'em a radio check-up, and edge your way into more sales," declares one radio dealer, who has some very aggressive plans for the promotion of new Spring lines of car sets. Another retailer exclaims that for his part, he's going to do a new kind of a promotion job on the improvements in auto receivers as recently introduced by manufacturers. His plan is to blow up the announcements for use in promotion throughout his trade area. He intends to use only general terms in such a way that people will come to his shop and ask for details.

This radio man has never bothered to do this, on any such scale, during previous seasons, but he believes that the interest in news broadcasts, and the demand for short wave in car listening, makes the move appropriate.

PROMOTION IDEAS

Among the promotion ideas appropriate for the season are the following stunts, for use in display and demonstration of the new car receivers.

1. Extra interest can be garnered for this merchandise by surrounding it with a profusion of colorful road maps. Get one for each state in the union.

2. In advertising which promotes the "matched controls" feature, the copy may start with the phrase "What Kind of Car Do You Drive?", or some lively version of the same idea.

3. Among dealers and distributors who stock the Crosley car, descriptions and features of auto radio may as well be included in the advertising fanfare. The car often attracts large crowds and dealers will find it profitable to draw some attention to the car set.

At the left, upper photo, Motorola's new 7-tube "400" model with push-button tone control, at $39.95. Below is the "450" with automatic variable sensitivity unit matched to "booster" aerial, priced at $49.95. Other models are described in "New Things" section.

At the upper right is a new Philco with 6 Loktal tubes, single push-button tuning, at $39.95. Below is the featured Short Wave model, a two-unit superhet job with 6 Loktal tubes, $49.95. Other new Philcos also on "New Things" pages.

4. The new 1940 auto radios are now being advertised in national magazines, and retailers will get good results by using reproductions of the ads as display pieces in their stores.

Auto-radio Traffic Signals May Require Set in Every Car

A novel plan to bring traffic signals into cars in the form of distinctive tones corresponding to the "stop" and "go" lights, may in time make an auto-radio a legal requirement on every one of the nation's 30,000,000 cars, according to the men behind the plan.

(Please turn to page 24)
Preference FOR UTAH SPEAKERS CONTINUES TO RISE RAPIDLY

The balanced line of Utah Speakers has won a continually increasing preference from every branch of the radio and sound equipment industries. It is a preference earned by time-proven dependability, uniformity and consistent high quality.

Last year 1,676,622 Utah Speakers were selected to meet the specific requirements of engineers and service men in every part of the country. Ruggedness and adequate power handling capacity are built-in characteristics of service-free Utah Speakers.

Utah engineering keeps abreast of the developments and improvements in both industries. Outstanding tone quality is obtained by the careful selection of high quality materials and the precision manufacturing and treatment of each individual part—a special plasticizing process insures voice coils against mechanical failure or heavy overloads—cones are treated to give minimum absorption—heavier gauge metal assures ample overall rigidity—they are completely dustproof throughout—these and many other features assure "audience approval."

There is a Utah Speaker to meet every requirement. Wherever speakers are used, you are assured of complete satisfaction with a Utah. Utah engineers will be glad to help you solve your speaker problems. Utah Radio Products Co., 814 Orleans St., Chicago, Ill. Canadian Sales Office: 414 Bay St., Toronto, Canada. Cable Address: Utahradio, Chicago.
ROOM-COOLERS NEXT

For the alert dealer there is always something new to sell, something more to make a profit on.

Air conditioning is growing fast, because it is something most every one wants.

Room coolers are air conditioners for everyone's summer time comfort.

Homes, large and small, bedroom, living room, dining room, nursery, executive's, lawyer's, doctors' and dentists' offices, small stores and beauty-parlors, hotel and hospital rooms, all are appropriate for the use of room coolers.

SUBSTANTIAL DEMAND

Of all the fundamental urges to buy, none are stronger than those of health and comfort, which room coolers provide, within the reach of all. These coolers are naturals for the radio dealers summer sales and profits.

Room coolers are not traffic items. They are specialty items, and have to be sold as such. What the customer wants, and so what you should really sell, is relief from summer discomfort.

It is a mistake of selling temperature reduction, with the thermometer as the yardstick. Room coolers do not maintain a predetermined temperature by heat extraction, as an oil burner does by heat addition. They achieve relief from summer discomfort by reducing the temperature, by extracting moisture, and by circulating the air.

Naturally, they can best be sold by demonstration.

First, by demonstration in your own store. One dealer last year used room coolers in his record demonstration booths, to help him sell records. His record customers bought 50 room coolers.

Second, by demonstrations on the customer's premises.

Third, by rentals in hotel and hospital rooms.

The actual selling season is short—June, July and August.

New air conditioners give dealers chance to merchandise health

But for best results, much of your actual selling should be planned, and done in advance, with your hot weather demonstrations as the "clincher."

That is, the missionary work of telling your prospects that room coolers will banish summer discomfort, that you sell them, that they can afford them, can all be done in advance of the actual hot weather selling season.

PUT THEM TO WORK

Demonstrations should be scheduled in advance, and a carefully planned direct mail campaign started not later than May.

Your direct mail plans, too, might well include two or three appropriate pieces, all addressed and ready to go, to be mailed when the first heat wave strikes town.

It's true that not many dealers have done any real room cooler merchandising, but no alert dealer will pass them up without mighty serious consideration.

That's a pretty good reason why you should go after them.

THE FIELD HAS THAT UNSOLD QUALITY

Enough fine jobs have been done to prove conclusively that it can be done, and how to do it. As in every example of specialty selling, the largest profits go to the early birds who have vision, initiative, and the selling "ability to follow through."

That's the case with room coolers now.

Newly installed in this window is the Philco Model 41 room cooler, now offered at feature price of $129.50.

But for best results, much of your actual selling should be planned, and done in advance, with your hot weather demonstrations as the "clincher."

That is, the missionary work of telling your prospects that room coolers will banish summer discomfort, that you sell them, that they can afford them, can all be done in advance of the actual hot weather selling season.

PUT THEM TO WORK

Demonstrations should be scheduled in advance, and a carefully planned direct mail campaign started not later than May.

Your direct mail plans, too, might well include two or three appropriate pieces, all addressed and ready to go, to be mailed when the first heat wave strikes town.

It's true that not many dealers have done any real room cooler merchandising, but no alert dealer will pass them up without mighty serious consideration.

That's a pretty good reason why you should go after them.

THE FIELD HAS THAT UNSOLD QUALITY

Enough fine jobs have been done to prove conclusively that it can be done, and how to do it. As in every example of specialty selling, the largest profits go to the early birds who have vision, initiative, and the selling "ability to follow through."

That's the case with room coolers now.
Here’s the refrigerator in which

From top to floor—
There’s space galore

To the women looking for today’s best buy, Norge dealers can say: “Help yourself to an extra shelf . . . at no extra cost.” By offering extra food capacity without extra size, Norge dealers have a buying appeal that registers immediately with women.

And, then, the

Rollator Cold-Maker
Sells Still More

To refrigerate this extra capacity, Norge provides the famous Rollator Cold-Maker . . . so widely imitated . . . but only in part, because here is the only Rollator unit permanently oiled and sealed for long, trouble-free life . . . the only domestic unit refrigerant cooled for easy going under heaviest loads in hottest weather.

A Norge for every Customer . . .

There’s a Rollator-powered Norge for every home . . . the right size at the right price. Yet, the Norge line is a simple one to stock . . . and its new appeals make it a fast one to move. Because of all the great features Norge has combined to create unusual salability, many new dealers are taking the Royal Road to Profits with Norge in 1940. You, too, are invited to join with Norge . . . provided, of course, there is still an opening in your community. Why not write today for complete information while there is still time to get lined up for a profitable new season?

NORGE DIVISION BORG-WARNER CORPORATION, DETROIT, MICH.

In Canada: CANADIAN RADIO CORPORATION, FLEET STREET, TORONTO

Write today for details!

NORGE DIVISION BORG-WARNER CORP.
670 E. WOODBRIDGE, DETROIT, MICH.
Please give me details of the new Norge line, the merchandising and financing plans and the greater advertising support given Norge dealers.

Name:
Firm:
Address:
City________________State________________

The GREATER NORGE 1940
Teach Your Men—

TO SELL 'EM UP

Retail salesman must push "features"; "sell" higher priced units. Training vital to salvaging dealer profits from declining price levels.

The whole success of the dealer's refrigerator merchandising this year, focuses on the retail salesman. He will make—or break—any retail operation.

Enthusiasm is almost as vital a factor in a salesman's selling as is his knowledge of a product.

Enthusiasm, the spirit of competition, must be kept alive, to hold the salesman keyed up to his best capabilities.

A weekly bonus, on a series of monthly contests, will help to do this. And weekly meetings at least, are an absolute necessity.

Bonuses should be calculated on the total dollar margin, on the highest average unit sale, or a combination of the two, to place competitive emphasis on selling up—all the time.

Displays, and the whole "selling-up" story, must place emphasis on the features of the higher priced boxes, in relation to the customer's use, and without apparent pressure.

SELL 'EM THE BETTER BOXES

Use price as the "come-on" to bring your prospects in, but sell the features of the better boxes, before you let 'em go out.

Sounds simple. But it involves much, including careful training, compensation plans, sales, contests, vision, enthusiasm and courage.

First, dealer and salesman must know their box, what it does, how it does it—in terms of customer health, comfort, and convenience of use.

That means training, and more training.

Distributors must train their dealers and dealers' salesmen. Dealers must train their own men. At regular, frequent meetings which forget the fancy and get right down to the brass tacks of selling the better boxes. And each dealer must recognize that the vital factor in selling the higher-priced jobs is to make the customer want to buy it for what it will do for her.

INCENTIVES FOR SALESMEN

Second, the proper incentive must be maintained to make salesmen constantly put forth their best effort.

An all-important factor in doing this, is a basis for compensation which really rewards a salesman for a job well done.

One very effective method of accomplishing this is to pay the salesman 25 per cent of gross profit after the trade-in allowance has been deducted.

Another plan that will produce the desired results is to pay commission on the basis of:

1. per cent on sales of $125 or less
2. per cent on sales of $126 to $150
3. per cent on sales of $150 to $180
4. per cent on sales of $180 to $250
5. per cent on sales over $250.

Still another method is to calculate the commission on the basis of 10 per cent and a $175 base sale. Then deduct 20 per cent of the amount by which the sale is less than $175 and add 20 per cent of the amount by which the sale exceeds $175.

REPLACEMENTS: "COST PER DAY"

With the replacement market bulking larger than ever before, a comparison of a modern box with a 1930 box—feature by feature, value by value, appearance, operating cost, construction, food preservation, will make replacement selling much easier.

TO GET HER TO BUY A "BETTER" REFRIGERATOR...

Tell the prospect about—

1. The need for different temperatures and degrees of humidity for proper food preservation.
2. The economy of buying a large enough box to make bulk buying practical.
3. The convenience of the frozen food and non-refrigerated storage space, and the other gadgets your line features.
4. The satisfaction in owning a better box.
5. The small difference in cost when the long life, and the easy payments, on the higher priced box are considered.
Another point to remember in selling the higher priced boxes, is to break prices down to a “cost per day” basis, on your best time payment plan.

The difference between your best box and your leader on such a “daily cost” comparison may be only the price of a pack of cigarettes, and when so expressed will meet with almost no resistance, if you sell the features.

Just because prices and margins are looking around for a deeper hole to drop into, doesn’t mean the business has gone to the dogs.

Smart dealers will sell more boxes, make more money, than before.

Poor dealers may lose their shirts a little faster.

Signs, with ribbons leading to each feature, should indicate what the features are in the better boxes, in each case emphasizing those which did not exist in the lower priced models, or in competitive lines.

Every line has some features; play them up, but be sure the customer can quickly grasp what they mean in use—tricky names aren’t worth a dime a dozen in actual selling.

If your salesman’s training, your incentive compensation plans, and your morale contests are to pay real dividends, you’ve got to provide the prospects for your men to sell.

That means you’ve got to tell the public you have a fine, big, modern refrigerator that costs less than ice.

**OF COURSE, THE LOW-PRICED BOX HASN’T THESE IMPORTANT FEATURES!**

---

**Offer the Long-range Benefits of a Better Refrigerator**

Point out the features, one by one, in terms of her needs as related to food preservation, economy of operation, convenience, satisfaction, and pride of ownership. Clearly associate the important features with the higher priced boxes.

**SELLING WILL COUNT**

The pay-off this year will be much more directly related to merchandising ability and to selling ability.

Merchandising ability to locate more prospects than ever before, bring them in to the store through price appeal.

Selling ability to make them buy the features, pay a better price for very much better boxes.

That’s the job that every dealer has to do. And he can’t do it waiting, or hoping, for something to happen.

**CONTRAST BOXES; SHOW FEATURES**

Price leaders should invariably be shown empty, and that means empty.

In contrast, alongside one of the higher-priced larger boxes, put a table with all the food on it which can be stored in that box. Such a display will focus attention on the higher-priced refrigerator.

Take this message to your new lower-income market, by repeated direct mail, phone, window display, billboards, and any other means you can. Make your appeal enthusiastic, emphatic, and repeated.

**DIRECT APPEAL**

Go after your replacement market with a comparison of the features of the better boxes, and compare prices with those of 7 to 10 years ago.

Make this appeal with personal letters, personal phone calls, personal calls at the homes of the users. Drive home the values and features of these better boxes, remembering that though users know the advantages of mechanical refrigeration, they don’t know how much the new features mean to them.

This year we have the greatest values ever, and if we do a sound merchandising and selling job, 1940 will be the “tops” in refrigeration sales and profits.
Gale is built to SELL. Styled ahead of the trend, built to out-perform, kitchen-designed for greatest utility and convenience!

And more! Gale offers dealers direct-from-factory advantages plus the sensational merchandising plan that solves dealers' problems—the Gale "Kit Plan".

No restriction on ANY Gale models—you sell whatever YOUR prospects prefer—and you get FULL MARGIN on EVERY Gale.
With the Gale 'Kit Plan,' you cut your inventory, yet show more models you take the gamble out of buying. You keep inventory flexible, you eliminate loss leaders. You build volume and profits while you become the TOUGhest competition! Hundreds of dealers have already enthusiastically endorsed the 'Kit Plan'—it will solve serious problems for them. No restrictions on ANY Gale models—FULL MARGIN on every one! We’d like to tell YOU all about Gale for 1940. You NEED Gale! Mail the coupon today—we’ll send you complete facts.

Clip this coupon to your letterhead!

GALE, Products
1651 Monmouth Blvd., Galesburg, Illinois

Gentlemen: Without obligation, send me full details of the GALE line, the sensational KIT PLAN and your dealer proposition.

FIRM:
ADDRESS:
CITY: STATE:
BY: TITLE:

EBRuary, 1940
A DYNAMIC 1940 LINE
SENSATIONAL ‘KIT PLAN’
DIRECT-TO-DEALER POLICY

Make it easy and
profitable for you to

GET VOLUME WITH

Gale

Che 1940 Gale De Luxe b

Gale "Mechanical Iceberg" units
plus the exclusively new Gale Equalizer
give you a powerful new sales
presentation on efficiency and economy.
Conventional or hermetically sealed "Mechanical Ice-
berg" super-power units are available.

THE GALE ‘KIT PLAN’ SELLs MORE FOR ME,"
says DEALER C

"For salesmen in small stores. But now I can really sell refrigerators. I show prospects a complete line, instead of just one size. Now I can show FOUR refrigerators for
only ONE more than ONE usually cost! The Gale "Kit Plan" is the best program to really consider ever!"

"THERE'S REAL MONEY IN
THIS 'KIT PLAN'." says DEALER A

"I buy in unheard lots and earn[gross] dis-
coups NOW! I can make $500 a week with
the 'Kit Plan'! Now I can buy what I want and
sell what I can sell! The 'Kit Plan' solves all my
problems."

"THE GALE 'KIT PLAN' LOOKS
GOOD TO ME!" says DEALER B

"I sell 30 to 100 refrigerators a year. Now I
can safely buy in large quantities and
sell what I want and make extra-
profits! The 'Kit Plan' solves all my
problems!"

Clip this coupon to your letterhead!

GALIA PRODUCTS
Downtown Tool Works
Chicago, Illinois

DEALER

ADDRESS

FEBRUARY, 1940

28

29
"CLEAR THE AIR!"

How to sell in Radio Today's big campaign.
How to turn noise prospects into profits.

Government penny post cards are okay for this job. They are inexpensive, and your message will be seen. Your message should be very short. Preferably a picture, cartoon, or other graphic indication of noise on the radio. Your manufacturer friends can help. The card must "grab the eye" and "leave a thought." The quicker it does those two things the better.

Repetition will finish the selling job, if your name is easily and surely related to noise on the radio, and you mail the whole series at regular intervals.

Start mailing these cards at the rate of 25 a day. Arrange your mailing so that your entire list receives the entire series of cards at 10-day intervals. But be sure and stop the mailings to those who buy.

Your mailing list should start with your own customers and can be expanded as your budget and plans allow, to include:

- automobile registrations, by city, or county.
- telephone subscribers by address.
- tax payers by address, any of which lists you can buy for a penny or two a name.

STATIONS PLAY BALL

Try also to work out a deal with your local radio station, whereby you give the station publicity in your windows, and in turn the station refers complaints to you.

Several servicemen can buy spot announcements on the local station, and divide the inquiries on some equitable basis. Broadcast stations do cooperate in improving the reception of their listeners.

A small reverse plate 1 column 4 inch ad in your local paper, run regularly, is inexpensive and will round out your advertising nicely.

Customer's word of mouth recommendation is probably the most valuable publicity.

This you must merit, on the basis of favorably impressing your customers with your personality and thoroughly satisfying them with the results of your work.

This, of course, is no different than in your regular service work, except that in noise elimination much, if not most, of your work is done under the eyes of the customer. That puts a premium on your neatness, your manner, and how you go about your work.

If you work haphazardly, "by guess and by God," you certainly won't convey the impression that you know what it's all about.

But if you check the source of the noise systematically, locate it methodically, and correct it certainly, no one can miss the fact that you know your business, and will talk about it too.

EQUIP YOURSELF

Equipment plays its part, but the use of it is more important.

A battery operated loop portable, with an output meter built in, can locate air-borne noise, and indicate a quiet spot for the aerial, much more certainly, and a lot faster than "cut and try" methods.

In selling other customers your noise elimination service, the state-
ments and testimonials of your satisfied customers will help a lot.
When you sell a noise-elimination service you should charge for noise-elimination. Not a time-and-material basis alone, but for knowing what to do, as well as doing it.
Your charges must be reasonable on your own, and if you don’t eliminate the noise you should make no charge.
On the basis of no noise, or no charge, you will only sell a lot more customers, but you will also pave the way for a higher price, when you have satisfied your customer.

RESULTS GOVERN REWARD
This is an important factor in selling noise elimination, because in the past many servicemen have charged plenty and failed to correct the noise condition. Listeners who have had noisy reception for some time, and who have had servicemen who did not correct it, naturally think the noise in their radio can’t be removed, and are not particularly receptive of the idea of spending more money for nothing.
You can sell such customers on a “satisfaction guaranteed” basis, and when you have cleared the air of noise, those same “hard to sell” customers become your greatest boosters.
That’s the pay-off on a job well done, and it makes your selling a continuous, and a progressively easier, matter.
Some servicemen, and dealers, too, have built up a fine profitable business in just this way, and found it also paid dividends in other service work and sales, as well.
It’s all in how you tackle the job and follow through.

“CAP” SAYS—
Stop, Read, and Think a Bit.
When a retail business in 1938 can show sales—
14 per cent greater than its previous peak year,
56 per cent greater than 1929,
908 per cent greater than 1914—you’ll agree the record “shouts out loud.”

That’s the combined record of Sears-Roebuck, and Montgomery-Ward, with 1938 sales in excess of one billion dollars.

Looks like they have what the public wants. For no business, or form of distribution can long succeed if the public doesn’t want it, and patronize it.
I know what you’re thinking, but look at the facts a minute.
These businesses weren’t always big. Less than 70 years ago, Richard Sears and A. C. Roebuck opened a tiny mail order watch and watch-repair service in a “hole in the wall.”
A. Montgomery Ward, with about $2,000 capital and one clerk, had a tiny business, and an idea. Yes, today these are the retailing giants. Yesterday they had only a revolutionary idea.

What made these little outfits of 50 years ago the giants of today? Manufacturers and dealers alike should ponder well.
First, they offered the public, what the public wanted, at a price they wanted to pay.
Second, they bucked their merchandise with a money back guarantee. The customer be pleased.
No dealer is too small to learn a real lesson, and take honest inspiration, from this example of what can be done, if he has the vision and courage to do it.
No manufacturer is too large to study this record of rapid growth, of ever increasing radio and appliance market penetration, and check the reasons therefore against his own merchandising policies and practices.

ACT—DON’T YAP
The small independent retailer is the backbone of our national distribution of the products of our mass producing industry.
If he is to be so maintained, there must be more thought, more help given, to protect him and to help him recover his lost ground.
You can’t whistle the “big boys” down by yapping at them, but you can build the little fellows up with some sustaining merchandising diet.
I think it’s time we gave damned serious thought to the independent dealer.
What do you think?
I’ll welcome your comments, good, bad, or otherwise, from dealers, manufacturers, or distributors, for publication or in confidence.

TAX TIME IS HERE
Your income tax is due.
It is the obligation, as it should be the privilege, of every business to pay the taxes for which it is legally liable.
The tax laws are precise, yet complex. They state in detail what may and what may not be done.
They do not contemplate that a business or an individual shall not take advantage of every authorized deduction, or exemption, from tax to the end that the tax which is paid may be the minimum amount for which legal liability exists.

A STRICT COUNT
Inventories must be taken and valued at the beginning and end of each year, before you can properly determine your profits.
Inventory rules cannot be uniform, but should follow trade customs, and must be consistent from year to year.
The methods of inventory valuation in most common use in the retail trade are:
1. “Cost or market, which ever is lower”—in which the inventory is valued at original actual cost, or current replacement cost, whichever is the lower.
2. “First in—first out,” in which the value of the closing inventory is assumed to include, at actual cost, first, the most recently acquired stock and the balance, if any, is valued at the opening inventory figure.
3. The Retail Method, in which the inventory books record all stock and purchases, at both cost and retail, and the difference between the two expressed in per cent of retail price.
Inventory is then taken at retail and reduced to cost by this cumulative mark-on, corrected for any reductions from original retail.
4. The “last-in, first-out” method—authorized by the Revenue Set of 1938, and available for use for the first time on your 1939 tax return.
In this method, inventory is evaluated on the basis that it covers first, the opening inventory at actual cost, and the excess is considered to have been acquired during the current year.

CHECK YOUR METHOD
Each of these methods offers certain advantages under certain conditions, but the selected method can be changed only with the approval of the Treasury Department. It is advisable then, to consider all methods carefully, and consult competent tax authority to aid in making your choice.
There are hundreds of items and taxes which are properly deductible from your gross income, and plenty on which you pay.
A handy guide, which will answer most of your income tax questions in understandable language is entitled “Your Income Tax—How to Keep It Down” by J. K. Lasser, and can be bought in any stationery store. Your curiosity, to say nothing of your peace of mind is worth more than its cost.
DURING the past few weeks, appliance dealers from coast to coast have flocked to see the sensational new 1940 Philco Refrigerator... to get the full story of the most profitable franchise in the entire industry. And what a reception they have given it! Never before such interest... such enthusiasm... such wholehearted endorsement of any refrigerator!

Everyone agrees that Philco has “done it again”! At last, a product that offers conveniences and economies never before combined in a single refrigerator... at prices that give a new meaning to the word value! A complete line of models, with the greatest selling features in the industry. A complete merchandising program that includes tremendous national advertising, plus every kind of local advertising and promotion to bring you quick, profitable sales. And... a dealer contract that means a permanent All Year 'Round source of profits!

If you haven’t yet seen the thrilling new 1940 Philco Refrigerator line, by all means get in touch with your Philco Refrigerator distributor at once! Philco is out to “go places” in refrigeration... and by getting on the bandwagon now you will travel farthest and fastest!
Value and Price, the Refrigerator SENSATION of 1940!

Only PHILCO gives you the Conservador... plus Dry, Moist and Frozen Food Compartments

THE FAMOUS CONSERVADOR
This patented shelf-lined Inner Door gives you 26½% more quickly usable space. 3½ of all food at your finger-tips without opening main compartment. No crowding in front, no wasted areas in back. That's why the Philco Refrigerator holds more food! Acts as a "storm door"—cuts electric bills.

DRY COLD COMPARTMENT
Some foods must have dry cold to preserve their purity. That's why no modern refrigerator is completely safe and healthful unless it offers dry cold. The Philco Refrigerator has this complete, separate Dry Cold Compartment that furnishes the one best single kind of food protection.

MOIST COLD COMPARTMENT
Now, you don't have to cover foods to keep them from drying out! This Moist Cold Compartment preserves the flavor and color of cooked "left-over" meats and vegetables... without the bother of covers and wasted space of special dishes. Cooled by the Freshener Shelf—only Philco has it!

FROZEN FOOD COMPARTMENT
A huge separate chamber, specially designed for frozen storage. Yes, a giant-size space, as large as 13½" wide, 11" deep and 7½" high, in addition to the regular ice-cube chamber. Plenty of room in this Frozen Food Compartment for packaged frozen foods, ice cream and delicious frozen desserts.

There's a Philco Refrigerator to fit every need and purse... 12 models from $119.95 to $257.50 (F. O. B. Factory, Including 5-Year Protection Plan)

And, in addition, every other worthwhile feature you need to make quick sales, more sales and greater profits!
DURING the past few weeks, appliance dealers from coast to coast have flocked to see the sensational new 1940 Philco Refrigerator ... to get the full story of the most profitable franchise in the entire industry. And what a reception they have given it! Never before such interest ... such enthusiasm ... such wholehearted endorsement of any refrigerator!

Everyone agrees that Philco has "done it again"! At last, a product that offers conveniences and economies never before combined in a single refrigerator ... at prices that give a new meaning to the word value!

A complete line of models, with the greatest selling features in the industry. A complete merchandising program that includes tremendous national advertising, plus every kind of local advertising and promotion to bring you quick, profitable sales. And ... a dealer'stractor that means a permanent All Year Round source of profits!

If you haven't yet seen the thrilling new 1940 Philco Refrigerator line, by all means get in touch with your Philco Refrigerator distributor at once! Philco has "go places" in refrigeration ... and by getting on the bandwagon now you will travel farthest and fastest.

THE FAMOUS CONSERVADOR

This patented shelf-lined Inner Door gives you 26% more quickly usable space. 1/3 of all food at your finger-tips without opening main compartment. No crowding in front, no wasted areas in back. That's why the Philco Refrigerator holds more food! Acts as a "storm door"—cuts electric bills.

DRY COLD COMPARTMENT

Some foods must have dry cold to preserve their purity. That's why no modern refrigerator completely safe and beautiful unless it offers dry cold. The Philco Refrigerator has this complete, separate Dry Cold Compartment that furnishes the one best single kind of food protection.

MOIST COLD COMPARTMENT

Now, you don't have to cover foods to keep them from drying out! This Moist Cold Compartment preserves the flavor and color of cooked "left-over" meats and vegetables ... without the bother of covers and wasted space of special dishes. Cooled by the Freshener Shelf—only Philco has it!

FROZEN FOOD COMPARTMENT

A huge separate chamber, specially designed for frozen storage. Yes, a giant-size space, as large as 13½" wide, 17½" deep and 17½" high, re-adjustable, the regular ice-cube chamber. Plenty of room in this Frozen Food Compartment for packaged frozen foods, ice cream and delicious frozen desserts.

If you haven't seen the thrilling new 1940 Philco Refrigerator line, by all means get in touch with your Philco Refrigerator distributor at once! Philco has "gone places" in refrigeration ... and by getting on the bandwagon now you will travel farthest and fastest.

Only PHILCO gives you the Conservador ... plus Dry, Moist and Frozen Food Compartments

And, in addition, every other worthwhile feature you need to make quick sales, more sales and greater profits!

Philco All Year 'Round for Profits All Year 'Round

In Sales Features, Value and Price, the PHILCO Refrigerator is the SENSATION of 1940!
NEW THINGS

Stewart-Warner table model


Plug tip soldering irons

* Four sizes 105, 150, 200, 350 watts of new electric soldering irons, with inexpensive plug tips that fit into barrel of irons. Plugs, which are available in copper or Armor Clad, are held by screw, permitting easy adjustment and removal. Heating unit hermetically sealed. Hardwood handles with adjusting sleeves. Cord strain relief, and tool rest stand. Stanley Tools, New Britain, Conn.—Radio Today.

Philco air conditioning unit


Stromberg-Carlson FM antenna


Ray-alarm electric eye

* Compact single unit photoelectric eye uses reflecting mirror to return beam to photo cell. Color filters may be used to make beam invisible. Adjustable sensitivity. Cord connects to bell or chime alarm. Ray-Alarm Co., 225 Fifth St., Des Moines, Iowa.—Radio Today.

H-K beam pentode

* New Gammatron 257 beam pentode will deliver 230 watts with 2,000 volts on plate and 500 on screen. The filament operates at 5 volts, 7.5 amps. Grids and plate are made of tantalum. 6 1/2 inches high and 2 1/2 inches in diameter. Giant 7-pin base. Heintz & Kaufman Ltd., South San Francisco, Calif.—Radio Today.

Bell Re-Cord-o-fone

* Recorder and playback phonograph in portable case may be attached to any radio. Will record voice, radio programs, etc. Model RC-1 records radio programs only, and RC-1M is equipped with mike to record voice, music. Wireless oscillator used in RC-1M to put voice through radio and its amplifier. Bell Sound Systems, Inc., 1183 Essex Ave., Columbus, Ohio.—Radio Today.

Philco 1940 refrigs

Philco's new 1940 line includes 11 models, 5 with Conservador feature (shelf-lined inner door). Features 3 kinds of cold protection in a dry cold, a moist cold, a frozen food compartment, and refrigerated aluminum Freshener shelf. Six of the models have a non-refrigerated storage bin. Meat storage compartment, sliding crisper drawer are also included. Philco Radio & Telev. Corp., Tioga & C Sts, Philadelphia, Pa.—Radio Today.
A Complete New Line of Jensen Products of Commanding Character and Magnitude

NEW • High Frequency Speakers • Low Frequency Speakers • Multicellular Horns
Dividing Networks . . . and accessories
Combined into 3 Basic Systems:

Type B . . . For largest audiences.
Type G and E . . . For smaller audiences.

NEW CATALOG
A Technical Catalog describing these new developments is now available. Ask your Jensen Distributor or write for your copy.

FEBRUARY, 1940
TYPICAL SOUND INSTALLATIONS

No. 5—Theatres. Re-inforcing stage sounds for audience. Special effects. Directional sounds. Bright future for this theatre art.

No actor who has stepped onto the stage in the last few years has played such varied and important roles as have the electronic amplifier and loud speaker. "Cast" in a dozen different ways, as aid to producer, playwright, performers and musicians, the tube and its amplifying circuits have become indispensable equipment of the modern stage show, whether drama, musical comedy or opera.

First of all, is the tube's service as amplifier of the sounds on the stage so that they may be heard clearly in all parts of the auditorium. In this respect, the legitimate stage formerly suffered severe competition from the talking pictures, because while the celluloid actors' voices can invariably be heard with clarity in every part of most movie houses—most of the old-time "legitimate" theatres had only a few front rows in which hearing was comfortably clear.

FOOTLIGHT MIKES

But now with footlight mikes and other microphones concealed in the scenery and in stage properties around the "action" of the play, every voice tone before the footlights can be brought distinctly to the back rows, without the actors raising their voices to unnatural shouts. Indeed today in many metropolitan houses, be it known, no tender love scene is played without benefit of a mike concealed in the old trysting tree or other stage prop, to convey the soft passages clearly throughout the house, so that 600 or 6,000 may eavesdrop!

In New York City, for example, more than half the theaters are completely sound-equipped. In such theatre work, different loudspeakers cover each part of the auditorium and if any sections prove particularly difficult to hear in, special amplification can be directed at those seats. Provision is also made for special listening aids for the hard-of-hearing.

Taps from the auditorium circuits are also carried to the dressing rooms of the actors, so that people making costume changes can follow closely the progress of the play, and be ready for their cues. Orders from the stage director can also be broadcast to the dressing rooms over these same circuits, so that the whole backstage area can be kept in continuous communication with its otherwise isolated parts.

"BUILDING UP" THE CHORUS

Mikes, tubes and amplifiers are also useful in "building up" voices of certain sections of the cast or chorus. In musical comedies and operas, where economy is the watchword, the front-row girls can be chosen only for their good looks, without regard to their voices. For they need only to open and close their mouths to the cadence of the music while their less-attractive but better-vocalizing sisters in the back rows sing into microphones which build up the total sound output of the chorus into over-admirable volume!

Musical accompaniments can also be provided for stage shows with the aid of records. Vaudeville acts have thus been given a new lease on road-life, because the vaudeville person or team can now carry a couple of records and a portable amplifier, to replace the musicians who are no longer on tap at local stands, or are too costly for the act to pay for.

BEAUTIFUL VOICES, BEAUTIFUL FIGURES!

A new concept of opera realism has also been proposed by those sound experts whose sense of the fitness of things is slightly taxed by watching a 260-pound middle-aged songbird in the white robes of a maiden of 18.

It is therefore proposed that with sound amplification the mature and hefty artists be kept out of sight in an invisible studio from which they would sing through microphones. Meanwhile the visible action of the opera on the stage before the audience will be carried on by good-looking young persons who will go through all the movements of the piece, opening and closing their mouths but singing not!

Where the stages are large, or outdoors, additional realism is obtained.

Unique car calling system recently added to the Chicago Civic opera Building halves time required to empty the 3600-seat house. The doorman can quickly call any car, by its identifying number, from a nearby parking lot as it is required. One 60 and two 25-watt speakers are used in the sound system installed by the RCA Victor Distributing Corp. under the direction of B. J. Sullivan.
by “acoustic perspective” sometimes called stereophonic reproduction. In this system, a microphone on the right side of the stage picks up the sound of the action on that side, and reproduces it through a right-side loudspeaker, and so on with the middle and left sides. This makes the re-inforced sound seem to come from the part of the stage where it would naturally be expected to originate, and so renders the stage presentation more realistic than ever, while concealing any artificuality of the sound reinforcement.

**OFF-STAGE SOUND EFFECTS**

In stage production sound is now being used for a wealth of off-stage effects—such as the chimes of great church bells, amplified from small steel rods, or reproduced from records.

Or suppose the director is presenting Hamlet. He can make a very effective ghost by proper tone adjustments—that is subtracting the middle frequencies from the voice of an unseen actor, as the latter intones:

“...I am thy father's ghost, doomed for a certain time to walk the night, etc.”

Now if our play requires that a train rush across backstage, we can today get all the reality of 4,000 tons of locomotive and cars by using a 4-ounce phonograph record. One can even notice that difference in pitch as the train approaches and recedes.

Modern stage directors are such sticklers for realism that they insist on reproducing even the so-called Doeppler effect, which causes the pitch of an approaching sound source to appear higher than it is, changing to a considerably lower note as it recedes.

Every reader has probably noticed this effect when riding in a train, as the crossing signals swept by.

**OVERHEAD SOUND SOURCES**

If the modern stage director wants to reproduce an airplane’s roar, he does it much as the sound men in broadcast studios do—with a record. But the theatre realist needn’t let the airplane sound come just from the stage. By an arrangement of loudspeakers, he can make the plane seem to roar around **over** the audience’s heads, so that they unconsciously duck as the plane swoops to a landing.

If the play requires a storm, the sound effects man can also turn it on right **over** the audience’s heads, so that some impressionable persons may hold out their hands to feel if raindrops are falling and if they are going to get wet.

**CONTROL ALL SOUND IN THEATRE**

But while the stage producers have been utilizing such tube-amplified sound effects, in various ways as aids. during recent years, there is one pioneer who feels that all the sound the audience hears during a play should be under the close control of the director, so that moods of the audience can be definitely built up or dispelled at will.

This means, of course, that all sounds of the production, the voices of the actors as well as the incidental sounds and music of the play, shall be first picked up by microphones, then mixed and controlled as the director wills, and finally delivered to the audience by loudspeakers as a finished product—compelling in emotional effect, and reaching every seat with adequate intensity.

The pioneer in this revolutionary art of stagecraft is Professor Harold Burris-Meyer of Stevens Institute, Hoboken, N. J., who has introduced his novel sound methods in a number of recent plays.

“Theatre makes its appeal to the audience through the two senses of sight and hearing,” explains Prof. Burris-Meyer. “What the audience sees, is controlled and conditioned by light. Controlled light provides visibility, and also creates mood and atmosphere and stimulates emotional response.

**MOODS THROUGH HEARING**

“What the audience hears, has, up to the present, depended for its control and therefore its artistic effectiveness, on the cadence of the line, the lung power of the actor, the guess of the architect, the musical instrument, and the eleventh century sound machine. The potentialities of sound as a device for stimulating audience reaction have been little exploited because of the control limitations inherent in the sources of sound.”

Prof. Burris-Meyer has therefore undertaken to develop a technique for making sound as controllable and as dramatically useful as light.

**INCREASING EFFECTIVENESS**

He says, “By the dramatic use of controlled sound we mean increasing the effectiveness of the play: first, through the control of the intensity of any sound which may be used in the theatre; second, through the control of pitch; third, through the control of quality; fourth, by controlling the apparent direction from which sound comes; fifth, by controlling the apparent distance from which the sound comes; sixth, by controlling the form of sound, that is, making it reverberant or non-reverberant as the play may demand.

“In a word, our aim has been to produce any sound or group of sounds, with any predetermined characteris—

(Continued on page 43)

Theatre sound equipment layout includes separate amplifiers for sound movie, actor call system, car call system, hearing aid phones, and main stage equipment. Stage manager’s system has push button control through relay to cut dressing room speakers from main amplifier. Mikes cover stage action and dual amplifiers deliver sound to auditorium and offices.
that between Philco president, J. T. Buckley, left, and vice-president Sayre Ramsdell.

Larry E. Gubb, Philco exec. vp., and B. Olivier, Reading, Pa., jobber.

General sales mgr. T. J. Kennally, right, with A. W. Griffin, Danville, Ill., jobber.

JOBBERS UNDER PALMS

Riding to the convention in Florida style, Walter Eichelberg, left, of Philco Distributors, Inc., Detroit, and Fred Ogilbie, distributor head in Philadelphia.

In the sunny chair at left is Chester Gaylord (left), Pittsburgh distributor, and Jack Allison, southern mgr. Other chair represents Boston, with Tom Burke, right.

Herb Schieele, left, of Artophone Corp., St. Louis; Frank Beaucaire of Rochester.

Convention talk here includes, 1 to r., D. J. McKillop, southern exec.; Mark Hayes, Chattanooga; and A. K. Sutton, Charlotte, N. C.
Motorola Plans Biggest Ad Drive on New Line

In order to blanket the U.S. with dramatic announcements of the new 1940 Motorola auto radio models, the Calvin Mfg. Corp. has made plans for advertisements to appear in 11 of the leading national magazines. The ads will run in such publications as Life, Time, Esquire, Saturday Evening Post, American Weekly, Collier's, Fortune, Look, This Week, and 47 Motor Club magazines.

It is estimated that Motorola ads will be read by 24,000,000 subscribers of these magazines, and at least two and a half times as many readers.

When the company held its annual convention at the Edgewater Beach Hotel, Chicago, the advertising campaign announcement was greeted by special applause from jobbers and dealers.

The new line, which includes seven new models, priced from $24.95 to $69.95 (described elsewhere in this issue) will be credited with extra amounts of "eye appeal," "ear appeal," and "oral appeal."

Motorola has geared its factory to a higher production rate, in anticipation of its biggest year of radio sales.

Sales Managers Club Committees Named

Members of the new committees for the Western Group of the Sales Managers Club of the Radio Parts Industry have been named by the group chairman, W. W. Coughlin, general sales manager for Belden Mfg. Co.

On the Catalog Committee are Ralph M. Hill (chairman), W. S. Hartford, and Howard Wilson. The Jobber Relations Committee includes S. N. Shure (chairman), Ralph M. Hill and J. J. Kahn. John Robinson is chairman of the Manufacturers Club Distribution Statistics Committee.

Mr. Kahn is chairman of the Service men's Advisory Committee and other members are W. A. Kuehl, P. H. Tartak and C. J. Peterson. Mr. Hill and E. J. Stanland were named for the Sales Managers Club.

Barriette Opens New Service

S. L. Barriette, who for the past 12 years has been service manager for Bruno-New York, Inc., RCA Jobbers, has resigned from that post and has formed his own organization, to specialize in "the installation and servicing of all makes of radio and television receivers for the trade."

Mr. Barriette has a feature plan to offer dealers on the installation of television receivers, which is said to involve only very nominal fees. His headquarters are at 200 W. 34th St., New York City.

Guild Flies for Norge

Now on a 4-month airplane trip through the West Indies, Central and South America, is E. N. Guild, of the export department of Norge. He will check new sales possibilities, offer organization aid to new outlets, and supply merchandising counsel to established Norge firms.

February, 1940
QUESTIONNAIRE WHICH WAS MAILED TO DEALERS IN

RADIO TODAY'S Survey of

RADIO SELLING COSTS AND PROFITS

<table>
<thead>
<tr>
<th>Dollar Sales (for the year)</th>
<th>Purchases at Cost (for the year)</th>
<th>Inventory at Cost Dec. 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938</td>
<td>1939</td>
<td>1938</td>
</tr>
<tr>
<td>Radio</td>
<td>$__________________</td>
<td>$__________________</td>
</tr>
<tr>
<td>Records</td>
<td>$__________________</td>
<td>$__________________</td>
</tr>
<tr>
<td>Appliances</td>
<td>$__________________</td>
<td>$__________________</td>
</tr>
<tr>
<td>Service</td>
<td>$__________________</td>
<td>$__________________</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$__________________</td>
<td>$__________________</td>
</tr>
</tbody>
</table>

EXPENSE OF HANDLING SALES
(If 1938 figures are not available, please send 1939 anyway)

<table>
<thead>
<tr>
<th>SALARIES</th>
<th>1938</th>
<th>1939</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner and officers</td>
<td>$____</td>
<td></td>
</tr>
<tr>
<td>Office and delivery</td>
<td>$____</td>
<td></td>
</tr>
<tr>
<td>Salesmen</td>
<td>$____</td>
<td></td>
</tr>
<tr>
<td>Servicemen</td>
<td>$____</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCCUPANCY</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent</td>
<td>$____</td>
<td></td>
</tr>
<tr>
<td>Heat—Light—Power</td>
<td>$____</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADMINISTRATION</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest—Insurance—Taxes</td>
<td>$____</td>
<td></td>
</tr>
<tr>
<td>Phone—Postage—Stationery</td>
<td>$____</td>
<td></td>
</tr>
<tr>
<td>Advertising and Sales Promotion</td>
<td>$____</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GENERAL</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery—Installation—Free Service</td>
<td>$____</td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>$____</td>
<td></td>
</tr>
<tr>
<td>All other expense</td>
<td>$____</td>
<td></td>
</tr>
<tr>
<td>TOTAL EXPENSE</td>
<td>$____</td>
<td></td>
</tr>
</tbody>
</table>

MY RADIO SALES IN 1939 WERE DIVIDED AS FOLLOWS

<table>
<thead>
<tr>
<th>Consoles</th>
<th>Compacts</th>
<th>Combinations</th>
<th>Portables</th>
<th>Auto Radios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Value</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
</tbody>
</table>

I SELL THE FOLLOWING APPLIANCES (please check) Refrigerators____Washers____ Ironers____ Room Coolers____ Fans____

Oil Burners____Space Heaters____Stokers____Gas Ranges____Electric Ranges____Dry Shavers____Table Appliances____

What brand of Radio Sets do you prefer to sell?

What brand of Refrigeration do you prefer to sell?

All figures are confidential to RADIO TODAY, 480 Lexington Ave., New York City. Averages will be used as guidance figures.
UP-TO-DATE FIGURES TO BE COMPILED
(Continued from page 13)
addressed to retailers throughout the U. S.:)

Dear Subscriber:
Retail costs of doing business are rising.
Rising costs eat into profits, particularly when you don’t know just where, or just how much, or just why, they are moving upward.
Radio dealers need a study of the “cost of doing business” which is complete and accurate enough to be used as a standard by which to measure the own operation.

Responsive to the need, Radio Today is making such a survey and study, for you.
We are therefore asking thousands of dealers in every state in the union to give us their figures in confidence, so that we may tabulate them, analyze them, and report to you what we find.
This we believe is our obligation to the industry of which we are proud to be a part.
You are invited to cooperate with this nationwide study of costs.
We know it will take some effort on your part, but just one idea you get from the results will compensate for this effort many times over.
Information you contribute will be kept strictly confidential, (your report need not even be signed if you do not wish to).
The composite results will be available to you for comparison with your own figures.
We ask you to help us so that we may help all dealers make more money.
Thanks a lot for your help.
Cordially yours,
D. H. CALDWELL
Editor, Radio Today

"CHANGE THE SCENERY" COMMENTS
(Continued from page 18)
getically following out thoughts such as yours in an effort to create new and novel pieces of merchandise, some of which over a period of time have been moderately successful and have served to establish new trends in styling. The successful innovations in the past few years have been confined to real small midget sets, portables, the reintro-duction of combinations. Other vari-a-ions from standard have, to a great extent, been at the best just moderately successful. In this latter group can be included chairsides, which definitely were promoted by the majority of the manufacturers, period furniture, and various types of remote control de-vices. Practically every manufacturer has at some time or other offered table cabinets or console models that de-viated from standard design and typi-cally the sales of these unusual models was far from satisfactory.

In spite of the somewhat pessimistic comments we are, as an organiza-tion, wholly in accord with any thoughts that will be of benefit to this industry and those in it. Individ-ually and collectively we are willing to contribute toward any plan or program that will accomplish an improve-ment.

Electrical Research Laboratories, Inc.
E. G. MAY
Chicago, Ill.

Sylvania Promotes Executives
News from M. F. Balcom, the Hy-grade Sylvania Corp. vice-president who is general manager of the radio division, reveals a series of personnel changes at the Sylvania offices in Em-porium, Pa.
Bernard J. Erskine, son of the firm’s president, R. G. Erskine, has been moved up to the post of assistant to the vice-president. Arthur L. Milk is promoted to an administrative posi-tion, also assistant to the vice-presi-dent. Both men will work directly under Mr. Balcom.
R. P. Almy now becomes sales supervi-sor of the Renewal section. E. T. Reid has been given complete charge of the order department for Sylvania tubes.

NEWA to Meet
The National Electrical Wholesalers Association will meet for its 32nd An-nual Convention at The Homestead, Hot Springs, Va., May 19-23, 1940.
NEW SOUND PRODUCTS

Equipment for every sound job

Erwood amplifier
★ Model 3428 is rated at 28 watts with less than 5 per cent distortion. Input provision for two microphones, and phonograph. High and low frequency controls are provided. Controls are mounted on edge illuminated dial of plastic. Output impedances are variable by tapped switch on rear. Provision for remote control. Housed in steel case with maroon wrinkle finish, chrome trim. Erwood Sound Equipment Co., 224 W. Huron St., Chicago, Ill. —Radio Today.

 Clarion portable PA
★ Model C-412, 10 to 15 watt amplifier comes complete with 10-inch PM speaker, record player, crystal mike, stand, and cables. All equipment fits into one carrying case. Two channel inputs for mike and phone. 110 db gain in mike channel. 40 to 5,500 cps. Lists $90.57. Transformer Corp. of America, 69 Wooster St., New York, N. Y.—Radio Today.

Atlas speaker enclosure
★ New line of walnut speaker housings designed for general public address, extension speakers. Music Boxes are modernly designed, and are complete with all mounting hardware. AE-8 and AE-12 take 8 and 12-inch speakers respectively. AE-12 lists at $7.50. Atlas Sound Corp., 1449 39th St., Brooklyn, N. Y.—Radio Today.

Brown "Magna" pickup

Lafayette sound system

Kenyon amplifier-modulator
★ One of three new basic kits is the 60-watt push-pull amplifier and voltage regulated power supply illustrated. Amplifiers may be used with interchangeable output transformers for PA work or modulation by either plate or cathode systems. Diode limiter circuit prevents blasting. 600 series. Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.—Radio Today.

Webster Electric communicators
★ Deluxe series 500 intercommunicators features “busy signal” light; automatic two-way conversation. Separate mike eliminates “talk-listen” switch. Private conversations carried on with handset which automatically disconnects mike and speaker. Webster Electric Co., Racine, Wis.—Radio Today.

Universal Mike handset
★ Two new hand phones, 875 and 820, for use with compact portable transmitting equipment will match 500 ohms and tube plate respectively. Moulded plastic case, screw caps, and four conductor cable. Universal Microphone Co., Ltd., Inglewood, Calif.—Radio Today.

RADIO TODAY
SOUND INSTALLATIONS
(Continued from page 37)

Volume control or intensity of sound is an effective method of increasing emotional response. The louder the sound, the more intense its emotional effect. If with the varying sound intensity, variations in frequency or tone are produced, the audience can be put almost into a frenzy, as Prof. Burris-Meyer and his associates succeeded in doing recently in a play called "The Adding Machine," where the principal character was depicted during the process of losing his reason. The sound accompaniment which had such effect on the audience, was a pure tone warbled and raised in frequency and intensity for about 32 seconds.

In plays like "Strange Interlude," where the actor is indicated as expressing his unspoken thoughts, this effect has been accomplished by projecting the sound of a voice seemingly from the actor's exact position on the stage, while his own lips are tightly closed. Similarly, a dancer engaged in a breath-taking routine, has been made to sound as if singing a melody all the while.

Sounds can also be made to come from no apparent source, but from all directions. In one play the sound of knocking was heard apparently inside the head of each member of the audience, accompanying the similar sound motivated the chief actor's lines.

SOUND IS DIRECTOR'S GREATEST ALLY

In short, Dr. Burris-Meyer envisages a new day in the theatre when all sound will be distributed and given the necessary reverberation by radio-tube amplification.

"When that day comes," says he, "the limitations will be removed from the auditory component of the stage show. Then players may speak with the voices of men and of angels."

With sound amplification, he declares, one can compel the audience to laugh or to weep. "You can knock 'em off their seats, you can lay them in the aisles. You can make them believe what you will. When the radio tube thus acquires the central role it deserves, we shall then see a produc-
tion of 'The Tempest' such as Shakespeare envisioned and a 'Gotterdammerung' which would have satisfied Wagner."

Three-Purpose Amplifiers in Kenyon Line

A trio of foundation amplifier kits, recently announced by Kenyon Transformer Co., 840 Barry St., New York, serve triple purpose to the public address specialist and the ham interested in "phone."

When equipped with a universal output transformer, these amplifiers can form the foundation of a high quality PA system.

Rated at 5, 15 and 60 watts, these three units will deliver sufficient audio power to fully cathode modulate a 50, 150 and 600 watt RF amplifier respectively. With the plate modulation transformers that are quickly interchangeable in the universal output position, these amplifiers may be used to plate modulate low and medium power stages.

The 5-watt amplifier is a straight forward Class A resistance coupled unit with a 6F6 in the output. A well filtered power supply uses dual chokes and three filter capacitors with the final result of a very quiet, low hum level, amplifier.

REGULATED POWER

The Kenyon "150," 15-watt amplifier has push-pull 6V6's in the output that are transformer coupled from the driver stage. A high gain 63J7 serves as the input tube. The same three-section filter is used in the integral power supply.

The 60-watt amplifier is shown in the circuit diagram. It is quite similar to the other units in the group with the exception of a separate power supply chassis. The separate power supply has an interesting voltage regulator for the screens of the 6L6 output tubes. A 6N7 has its two triode sections paralleled to function as a

(Continued on page 49)

CARDDIOIDS
solve tough P.A. problem

46 WESTERN ELECTRIC MIKES USED IN LOUDSPEAKER AREA

Like many similar halls, the Chamber of the Connecticut House of Representatives had undesirable acoustic characteristics. The normal speaking voice couldn't cover the large area. Raising the voice resulted in echoes so bad that only those nearest the speaker could hear.

Then Western Electric Cardioids came to the rescue.

Now legislators speak in normal tones—are heard clearly. Though there are 46 microphones in the loudspeaker area, feedback is successfully reduced to the minimum.

This is just one example of the many ways Western Electric's 639-A can solve your tough problems. It's three-mikes-in-one—a Cardioid, a ribbon, a dynamic—directional, bi-directional, non-directional.

Get full details. Send the coupon for details now.

[Western Electric advertisement]

FEBRUARY, 1940
PRACTICAL SERVICING

Put your 5 sources of income to work by observing these simple rules. Making more money by saving time.

As a general rule, the better service technician you are, the poorer "business man" you are.

Technical thinking and merchandising seldom go together to a marked degree, but running a service business requires both.

Let's forget engineering theory for a while, and concentrate on the practical end of our business: making more money.

In any service business you have just 5 things to sell:
1. Tubes, parts, etc.
2. Your time
3. Your technical knowledge and skill
4. Your own personality
5. Satisfactory radio reception for the customer.

It is your constant job to so combine these factors that you satisfy your customers and get more of them, that you keep busy and make a profit.

SELL SATISFACTION

In every community there are some who know they are not real service men, who know they can't build their reputation on the basis of satisfied customers. These men try to lure customers to them by cut-price methods. But here are the practical things they forget.

First, that most people quickly forget what they paid, but they long remember what they get. If you want your customers to come back for more you must satisfy them.

Second, when you cut your prices, you cut your profits by exactly the same amount.

Any serviceman who knows his business can lick this kind of competition easily.

POINT TO PROFITS

Guarantee your work for 6 months. Sell customer satisfaction.

Of course, when you refuse to meet the cut-price and gyp artist, you have really got to do a kind of job which is better, and which the customer can see is better.

When you go to the customer's home to inspect the set, call the customer's attention to the dirt in the chassis, scratches on the cabinet, etc.

When you return the set, be sure it has been thoroughly cleaned, the cabinet polished, any scratches burnt in. The customer will see the difference.

When you service a set, guarantee your work.

Don't be satisfied with just fixing the one thing which may be wrong. Check the set from aerial to speaker. Thoroughly clean the chassis, the tuning condenser plates and the speaker. Check and adjust the oscillator padder and the tuning condenser tracking trimmers. Realign the I.F. and center the speaker voice coil.

When you return the set, be sure it is as good as you can make it.

Any parts which have failed, or are failing, replace, and return the old parts for the customer to see, and throw in the ash can.

It is also a very practical plan to have your invoice or bill, with all of these inspection points printed on it. Check the tubes and parts which are OK, indicate the work done. The customer will readily pay more for the work you charge for, when he sees all the things you did free.

It is much easier to build confidence, to justify your charge for service, when the customer can see what you have done, and can see and hear the results of your work, the thing she is actually paying for.

TIME IS LIMITED

The one thing you have to sell which is limited is your time. There are only 24 hours in a day, there are no "hour stretchers," and you do have to eat, sleep and play, too.

And so from a practical viewpoint you do have to conserve your time, make every hour, every minute count in income.

Not by cutting the corners, or doing a sloppy job. But knowing what you're doing, and doing it.

In the average service job it takes 2 to 5 times as long to find what and where the trouble is as it does to fix it.

Here is a point where much time can be saved, and time is money.

Most servicemen "jump to conclusions" in "trouble shooting" and sometimes hit it right, the first time. But in the long run you will save a lot of time if you test every set systematically, and record what you find on a printed test form. You will be surprised how quickly the things which are wrong will stand out when they are tabulated, and how much more is not entirely right than appears at the time of the actual test.

If you test systematically, not only will you locate the trouble quicker, but you will do a more thorough job,
and a better job than you will on a "catch-as-catch-can" basis.

Most servicemen have a lot of equipment, or hope to have, which they do not thoroughly understand, do not begin to use as effectively as it could be used.

Equipment can save you time and money, only when you use it the way it was designed to be used.

If you have bought equipment which stands idle most of the time, the trouble is probably with you, rather than the equipment. Take time to study—and really learn—how to use your equipment to best advantage.

Most servicemen will find time spent in really learning their equipment pays big dividends, just as they expected when they bought it.

Then again, when you bring every set to your shop for repair, you go out to get it, bring it in, take it back, and go home. Four trips for a single job. As much as half your time can be spent going back and forth. That costs money.

SERVICE IN THE HOME

Many servicemen have found they can save a lot of time, do more work, make more money when they service every possible job in the customer's home.

Sure, we all know reasons why it's better to take the set to the shop. But just think about it, honestly, and then if you would rather waste all this travel time you will at least do it after thinking of both sides of the story.

And don't forget that the real payoff is the money you make without overcharging your customer.

There is a matter of viewpoint, which is important in many ways.

When you consult a doctor, or a lawyer, you are not charged for what he does, but for what he knows.

That's the difference between a profession and a trade.

When you look upon servicing as a profession several things will happen.

Metal particles and dust in the voice coil can cause plenty of noise. Clean with a small brush and air-jet, being careful of connections.

Your self-respect will go up, and your customers will respect you more. You will look and act like a professional, not a mechanic or a "digger of ditches." You will take more pride in your work, do a better job, and find your customers more willing to pay more, for getting more.

Not so long ago, in a large plant, a speed regulator was sticking, and production was all snarled up. After several attempts by shop mechanics to regulate the job, a young engineering student volunteered to do the job. In 10 minutes production was restored.

His bill was for $25.00.
The superintendent yelled, "$25 for ten minutes?—It's ridiculous."

But when the student itemized his bill—
4 contact points @ 25c.............$1.00
10 minutes with screw driver and hammer............. .50

RCA Battery-Operated Model BK-41 and BT-41

The circuit diagram for this four-tube, single band home receiver is given below. This receiver is equipped with 14-volt tubes and may be operated from a 15-volt dry cell and 90-volt B source for districts not equipped with commercial power. Also available is the CV-40 power supply to operate the receiver from AC lines.

The circuit is that of a straightforward superhet with a combination oscillator-mixer stage, and combination second detector, AVC, and first audio. A pentode output tube is used to operate the FM speaker. A blinder lamp is employed in this circuit to indicate that the set is in operation and at the same time use very little battery current. The circuit for this blinder light is a simple neon oscillator system that flashes the glow tube each time the .1 mfd. capacitor is fully charged. The frequency of oscillation depends upon the values of resistance and capacitance. The permeability tuned IF transformers should be aligned in the following manner: Connect oscillator to 1N5G grid, tune receiver to dead spot between 550 and 750 kc, adjust second IF to resonance at 455 kc. (Feed oscillator signal through 0.01 mfd. capacitor.) Connect oscillator to grid cap on 1A7G and repeat alignment for first IF transformer.

To align the RF sections, connect the oscillator to the antenna through a 200 mfd. capacitor and adjust oscillator and antenna cores for maximum response at 500 kc. Set oscillator at 1500 kc and adjust oscillator and antenna trimmer for peak response. The

(Continued on page 51)
SERVICE NOTES

GE Radio Phono Combination H-639

Models H-639AC and H-639DC are 6-tube radio-phonograph combinations in table style cabinets. Manual and mechanical push-button tuning for 6 stations are incorporated in both models.

The circuit diagram shows the connections for both the AC and DC models. H-639AC does not have the vibrator-inverter unit and the leads to the phono motor go directly to the switch and AC line.

The voltages marked on the electrodes of the various tubes are for the 115-volt AC operation. When the DC model is checked, the voltages will be about 15 per cent lower. All measurements are made with a 1,000 ohm per volt meter. The plate voltage of the second detector and the first audio stage is measured on the 500 volt scale. The cathodes of the first detector, IF tube, and second detector are at zero potential DC. Grid bias for the mixer and IF tubes is supplied from the AVC bus only.

Inverse feedback is employed in the 6J5GT driver tube to improve overall frequency response. Some of the output voltage obtained from a separate winding on the output transformer, is put in series with the cathode circuit. The varying AC voltage placed in the cathode circuit changes the grid bias, thus "de-generating" all audio frequencies.

ALIGNMENT

To align the IF transformers, connect an output meter across the voice coil and turn the volume control to maximum position. Set the test oscillator at 455 kc. and apply lowest signal voltage possible to grid of the 6SK7GT through a 0.05 mfd. capacitor and align 2nd IF transformer. Apply 455 kc. signal to the control grid of the 6SA7GT through the 0.05 mfd. capacitor and align the first IF transformer. Touch-up both transformers for final alignment.

The RF end of the receiver is aligned as follows. Fully mesh the gang condenser plates and set the pointer to the first mark on the left end of the tuning scale. Apply a 1,500 kc. signal either through a standard IRE dummy to the antenna terminal or through an additional loop connected to the generator output. This loop may be magnetically coupled to the loop antenna. Adjust the parallel oscillator padder at 1,500 kc. and peak the first detector parallel padder for maximum output. Adjust the series trimmer in the oscillator circuit while rocking the gang condenser at 580 kc. Retrim at 1,500 kc.

The glass tubes may be replaced with metal if the set is re-aligned.

Stage gains may be checked with a vacuum tube voltmeter. From the antenna post to the converter grid, a gain of 4 at 1,000 kc. is normal; from the converter grid to the 6SK7GT grid, 30 at 455 kc.; from the 6SK7GT grid to the 6Q7GT detector plate, 100 at 455 kc. Variations of +10% and -20% are permissible. For audio gains, 0.04 volts signal across the volume control at 400 cycles will give approximately 1/2 watt in the speaker. The DC voltage developed across oscillator grid resistor averages 12 volts.

New RCA Tubes Announced

Two new receiving tubes in the 12-volt class are the 12K8 and 12SR7. These tubes have electrical characteristics similar to the 6K8 triode-pentode mixer and the 6R7 diode-triode. Both are metal and the 12SR7 is the single ended type of construction.

The 928 gas phototube has a non-directional feature. The cathode is a caesium coated mesh entirely surrounding the anode. Peak anode voltage is 90 and light sensitivity is 65 microamperes per lumen.

Two television camera tubes, the 1840 Orthicon, and 1848 Iconoscope were announced by the RCA Mfg. Co., Harrison, N. J.
Every REPLACEMENT TYPE FOR Every RADIO NEED

- SILENT SPIRAL CONNECTOR: Positive "clockspring" connection—no slide—no friction—no noise.
- 5-FINGER "KNEE ACTION" CONTACTOR: Amazingly uniform—permanently quiet.
- METALLIZED ELEMENT: Moisture-proof—durable—outstandingly smooth.
- COIL SPRING: Assures smooth rotation prevents end play of shaft.

4 EXTRA FEATURES . . . NO EXTRA COST!

Only in IRC Volume Controls do you get the exclusive features illustrated above—and an important thing to remember is that you get them at not one cent of extra cost. They mean more for your money. They are your assurance of the smoothest-acting volume controls you ever tried. They mean IRC Controls are quiet—and built to stay quiet.

Every one of these features is included in IRC Midget Controls as well as in the standard and special replacement types. One standard of quality only! Each and every IRC Control is made to the same high standard that has made them tops in performance and dependability throughout the world.

FREE! 1940 SUPPLEMENT TO THE IRC GUIDE IS OUT . . . Most complete, up-to-the-minute listing available. Covers control replacements for practically every receiver made since Edition No. 2 of the IRC Guide was issued. The new Supplement—and the Guide if you need it—free upon request from your jobber or direct from IRC.

INTERNATIONAL RESISTANCE COMPANY
401 North Broad Street, Philadelphia, Pa.
(In Canada, 187 Duchess Street, Toronto)

VOLUME CONTROLS

Makers of Resistance Units in More Types, More Shapes and More Sizes for More Applications Than Any Other Manufacturer in the World
NEW SERVICE EQUIPMENT

RCA signal generator

Rimco Dynalyzer

Million multimeter
* Model VV, 1,000 ohm per volt meter with ranges of AC and DC volts, milli, ohms and decibels. Self-contained battery permits resistance measurements to 2.5 mgs. 4-inch meter, built in test leads. Million Radio and Television, 685 W. Ohio St., Chicago, Ill.—Radio Today.

Walco utility kit
* A radio cabinet and chassis repair kit consists of polish remover, stain, friction powder for dial cables, dial oil, cement, and contact cleaner. Liquids have either brush or glass rod applicator. All items come in neat leather case. Walter L. Schott Co., 5264½ W. Pico Blvd., Los Angeles, Calif.—Radio Today.

Triplett battery tester
* Model 656 checks all dry batteries under proper load conditions. "Good" sections are in contrasting colors for different types of batteries. The 3-inch meter also has voltage ranges to 150 at 1,000 ohms per volt. Case is pocket-size molded plastic. Triplett Electrical Instrument Co., Bluffton, Ohio.—Radio Today.

Hickok Jumbo multi-meter
* Wide range volt-ohm-milli-ampere uses giant ¾-in. meter, AC and DC volts to 2,500. DC current from ½ mill to ½ amp. Resistance ranges from 0.05 ohm to 10 mgs. Decibel ranges from —10 to —4.5 and 29.43. Output meter range same as AC volts. Hickok Electrical Instrument Co., 10614 Dupont Ave., Cleveland, Ohio.—Radio Today.
RCA Receiving Tube Manual Issued

A new 224-page manual of receiving tube types and characteristics has just been released by the RCA Mfg. Co., Harrison, N. J. A forty page section covers the basic functions of tubes in various circuits. Each tube is presented with its socket connections, electrode voltages, characteristic curves, and circuit applications. Other sections of the new manual, priced at 25c include radio tube testing, a chart of circuit constants for resistance coupled amplifiers, a tube classification chart by use and filament voltage, and several pages of circuits for receivers, amplifiers, and a vacuum tube voltmeter.

KENYON AMPLIFIERS
(Continued from page 43)

series current limiter for the screens of the 6L6 tubes. An 82 half wave rectifier is used to supply fixed bias for the output tubes thus permitting greater power capabilities.

PEAK LIMITER

Incorporated in each of the amplifiers is an output limiter circuit which prevents overloading and blasting in PA work and over-modulation in phone work. The circuit uses a 6H6 diode rectifier transformer coupled to the plates of the 6L6's. When the peak limiter switch is closed, a portion of the output audio voltage is rectified and is used as a negative bias on the suppressor grid of the 6SJ7. This negative bias reduces the overall gain of the amplifier. A variable control in the cathode of the 6H6 determines the operating point at which the diode will rectify.

These new amplifiers may be easily constructed from the instructions furnished with the transformers. All parts including the punched chassis are readily obtainable.

MEISSNER BOOK READY

The 1939-1940 issue of the Meissner book, "How to Build Radio Receivers," priced at fifty cents is now available. Eighteen pages of television data, complete instructions on 28 different models, formula and data, and electrical theory on coils, self and mutual induction, are included in this 168-page book.

Triumph 1940 Economy Equipment

This new modern TUBE TESTER
Costs less than "modernizing gadgets"!

Model 443. Universal Tube Tester. Triumph's latest economy design, checks all tubes from a WX12 and 01A to date! Uses the famous "400" series, interelectron leakage test—the hottest and most sensitive leakage tester ever offered. Uses the electronic condactance test for tube performance. Checks ballast tubes and all types of pilot lights. Quick automatic push-buttons may be set one at a time and all simultaneously released for the next test. Cuts testing time in half. Why spend more than this tube tester costs for an adapter for your old tester? Don't modernize—be modern. Immediate delivery.

Write for your free 1940 catalog of Triumph Test instruments—complete laboratory equipment!
NEW PRODUCTS

Triumph multimeter
* Model 333 Multi-Quantum meter has 33 ranges of voltage, current, decibels, and resistance. 4½ inch meter has a mirror anti-parallax strip. AC and DC voltage to 3,000 at 1,000 ohms per volt. DC millis to 300 and amps to 15. Decibel ranges from -20 to 64 in five ranges. Resistance to 10 megohms. Price $21.95. Triumph Mfg. Co., 4017 W. Lake St., Chicago. - RADIO TODAY.

Cornell-Dubilier dry electros

Finch facsimile unit
* Compact facsimile printer and sender unit for use with police, aviation or similar transmitting and receiving equipment. Mobile unit weighs 25 lbs., and reproduces 8" x 11½" of copy at 8 sq. ins. per minute. Finch Telecommunications, Inc., 1819 Broadway, New York, N. Y. - RADIO TODAY.

Jensen full range speaker
* Type B system illustrated is one of new line of wide frequency range speakers. Two high frequency speaker units operate through multicellular horn. Two low frequency speakers deliver sound from "folded" horn. Jensen Radio Mfg. Co., 6601 S. Laramie Ave., Chicago. - RADIO TODAY.

Aerovox meter capacitors
* Molded bakelite mica capacitors for by-passing meters at radio frequencies. They have slotted lugs for universal mounting on terminals. Aerovox Corp., New Bedford, Mass. - RADIO TODAY.

Philco Transitone
**SERVICE NOTES**

**Filter Network Reduces Hum**

Excessive hum noticed in model 6326 Silvertone may be traced to one or more of the following causes. A 60-cycle hum in the output may be caused by cathode to filament leakage in the 12J6GT second detector, or the 12FS6GT audio driver. These tubes should be checked with a tube tester having a leakage indicator and should be replaced if such leakage is present.

If the tubes show up “good” on the leakage test, the hum may be traced to a ripple in the power supply. In the circuit diagram shown, a simple resistance-capacity filter is connected between the plates of the 12J6GT and 12FS6GT and the B+. The by-pass capacitor is rated at 400 volts and the 10M resistor is 1/4 watt.

A number of sets of this model are without a shield for the 12FS6GT audio amplifier. A shield should be used around this tube as it will aid in reducing hum.

**RCA BK-41, BT-41**

(Continued from page 45)

second trimmer on the oscillator gang condenser should be turned one turn from tight before adjusting the other trimmer at 1500 kc.

**AC POWER PACK**

The voltages indicated on the circuit diagram are for battery operation. When the AC power pack is used, the higher voltages are increased by about 10 volts. The grid bias on the pentode output tube increases from 6.3 to 6.8 volts.

The power supply unit, CV-40 may be operated from 110 or 220-volt current, 50/60 cycle frequency. The filament supply for the receiver is obtained from the main rectifier tube. The total filament drain of 250 ma is pulled through the pair of 230 ohm resistors and the 30 ohm resistor in the WW-48 plug in resistor. Be sure to have all tubes in the socket when connecting the power supply to the set. The order of connection of the many wires on the power transformer is very important. If the windings are incorrectly connected, the magnetic fields will buck each other and the result will be a short across the AC line and the primary destroyed.

---

**Giants in everything but price**

Here is Simpson beauty, quality, and uncompromising accuracy in man-size proportions. No shop is complete without these impressive instruments. When you see the handsome panels and the big illuminated dials you will know why we say they are giants in everything but price.

From these shop instruments with their nine-inch dials down to pocket-size testers, all Simpson Instruments have the same unrivalled beauty of design and unerring accuracy that could only have been built into them by Ray Simpson and a group of associates who have made a life study of instrument design and production.

Ask for new catalog of remarkable Simpson values.

**SIMPSON ELECTRIC CO.**

5216-18 Kinsie Street, Chicago

**FEBRUARY, 1940**
make the new releases more buyable. These lists are often surrounded by tacked-up samples of the records themselves.

PROMOTING THE ARTISTS

Pictures of the star recording artists are additional material for the record exhibits. It has been noted that many very catchy windows have been built around the use of these photos attached to the center of new platters. These are particularly timely in the display of recorded hits taken from the currently popular movies.

Dealers who have record cabinets to sell find it a good idea to put them in the window, fill them up with crisp new releases, and leave the doors open. In such cases, the cabinets can be placed on small rugs and topped with a decorative lamp.

Dealer Uses "Back-to-School" Motive

Making an extra season at the beginning of radio's best selling period, G. Schirmer, 3 E. 33rd St., New York City, featured records, portable radios and combinations, in an advertisement timed to reach the parents of children now going back to boarding schools and colleges. Concise and well-worded, the ad read: "If you're off to school—remember music is the cure for overwork (upperclassmen) and homesickness (freshmen). So why don't you drop in at the Schirmer Record Shop where you'll find a complete selection of swing, sweet and serious records—as well as the latest in portable radios and phonographs."

Schirmers also use the Christmas season to promote music for school since many parents buy records and radios for students returning home after the holidays.

Here's the new director of sales promotion for Columbia Recording Corp., of Bridgeport, Patrick Dolan.

Wax Worth Watching

RAYMOND SCOTT and his new orchestra playing "Summertime"—Columbia 35236.

ABE LYMAN and his Californians playing Princess for You by Ray Eberle—Rhubert B10354.

DIAG NO 2 and his orchestra playing "The Smoothe"—Norton 36429.

DICK JUROWSKI and his orchestra playing "An Old Dutch Garden" with Eddie Howard—Vocals 5205.

EDDY DUCHIN and his orchestra playing "The Croaking Old Milly" with the Creek with VC by "The Ephemerals"—Columbia 50552.

HAPPY HAMLIN and his orchestra playing "Just A Red Apple" with vocal by Mr. Fenton—Vocals 3575.

DICK TODD with orchestra singing "The Gargoyle Serenade"—Rhubert B10056.

DICK ROBERTSON and his orchestra playing "A Central Park Serenade" with vocal by Mr. Robertson—Vocals 35325.

AL DONAHUE and his orchestra playing in the Mood with VC by Paul Kelly—Vocals 35726.

GLEN MILLER and his orchestra playing "Carolina Shanty" with VC by Ray Eberle—Rhubert B10356.

BOB CROSBY and his orchestra playing "That Little Red Fox" with VC by Donnie Brice—Vocals 35231.

OBOIN TUCKER and his orchestra playing "You'd Be Surprised" with VC by Bob Crosby—Columbia 35314.

Radiobar Has New Factory Reps

From Radiobar Co. of America, New York, comes news of the appointment of four factory representatives, named by C. T. Hillman, general manager.

The newcomers to the Radiobar sales organization are R. H. Campbell, 53 W. Jackson Boulevard, Chicago, who will cover Illinois, Indiana and Wisconsin; Albert Rapfogel, 700 Prospect Ave., Cleveland, to cover Ohio, West Virginia and western Pennsylvania; Harry Richards, 503 Cherry St. S.W., Grand Rapids, Mich., to cover western Michigan, and Robert Howard Co., 965 Broad St. Newark, for northern New Jersey.

The company's new line is now being sold direct to retail radio and furniture dealers on an exclusive franchise basis. A big promotional campaign, including newspaper and magazine advertising, is under way.

Dolan to Head Columbia Record Promotion

Patrick Dolan, who has had extensive experience in advertising and promotion both here and abroad, has been named as sales promotion director for Columbia Recording Corp. He has recently worked with the parent firm, Columbia Broadcasting System. Mr. Dolan's office will be at Columbia Record headquarters in Bridgeport, Conn.

U.S. Records in Expansion

At the United States Record Corp., 1780 Broadway, New York City, J. H. Bergman has been appointed manager of a newly formed Record Accessory Division, according to news from U.S. vice-president Eli E. Oberstein. The company will shortly start a national advertising drive on a complete new line of record accessories and supplies.

Inter-State Radio & Supply Co., 1639 Tremont Place, Denver, Colo., has been announced as distributor for Royale and Varsity records, by Eli E. Oberstein, vice-president of United States Record Corp., 1780 Broadway, New York City.
To be issued in MARCH
as a section of RADIO TODAY

The Radio Year Book and Trade Directory is the only complete Buyer's Guide listing all manufacturers and all products in the radio and electronic field.

Used by every branch of the industry and trade—for a whole year—it is radio's largest and strongest medium of trade promotion.

While many of the leading manufacturers have already ordered space (alongside their directory listings), it is not too late to get a choice position if you place your order, or ask for further information, AT ONCE.

25,000 CIRCULATION GUARANTEED
Covering All Worthwhile Radio Markets

Send in Your Order Today

FEBRUARY, 1940
LEVER ACTION

A flip of the Centralab Switch tells all . . . whether to read the tell-tale meter . . . to test a reluctant tube, or to solve the inner mysteries of some intricate testing apparatus.

Just a habit with Centralab . . . to turn out a better mousetrap so that a world of service men can make a beaten path to our jobbers.

Switches, controls, resistors, ceramic capacitors . . . in each field of endeavor . . . like Abou Ben Adam . . . "our name leads all the rest."

-- with the CENTRALAB LEVER ACTION SWITCH

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

Centralab
Div. of Globe-Union Inc.
MILWAUKEE, WISC.

A "First" in Refrigerator Advertising

A record-breaking advertising stunt will be staged by Philco March 2 in Collier's magazine, when the company will run a unique four-page full color "pull-out" ad, to launch "the most comprehensive advertising and promotion campaign in the history of home refrigeration."

More than 12,000 copies of the magazine will be delivered by Western Union to Philco dealers and distributors throughout the U. S. Collier's itself, to call attention to the unprecedented ad, will run ads in New York, Philadelphia, Chicago and Detroit.

Following this event, ads will also appear in Saturday Evening Post, Good Housekeeping, and Liberty, and Philco has also scheduled a series in 195 key newspapers.

Joyce Reports on Newburg Television Sales Tests

(Continued from page 11)

"The satisfaction which television-set owners have reported with their purchases, seems to me most significant of all. All of the engineering arguments about television, pro and con, take second place, in my opinion, to the verdict of the buyers. The answer to the question: Is television technically perfected to the point where it should be allowed to develop as a commercial service? is to be found with the present-day owners of television receivers. What do these people say? Are they satisfied with the picture quality?"

"The answer is an emphatic—YES. The owners of television receivers do not experience all of the imaginary troubles that have been painted for television by those who, for reasons best known to themselves, are opposing progress. Television has had its baptism of fire and has proved itself ready to go."

PERHAPS 50,000 IN 1940

"Our merchandising test clearly and unmistakably indicated that there is a market for from 25,000 to 50,000 television receivers during the next 12 months. With the announcement by Mr. Sarnoff of RCA's successful development of the 'missing link,' namely a low-cost automatic radio relay system for television, thereby making possible a television network, it is conceivable that if the FCC gives television the amber or green light, sales for 1941 will exceed 150,000 units and sales for 1942 300,000 units."

"This is on the assumption that the FCC will grant now the applications that are before it for television licenses and that these stations would be on the air the early part of 1941. RCA is all set to provide the first step in a radio relay link, by connecting stations in the area extending from Washington, D. C. to Boston, Mass., thus making television programs available to 20,000,000 people.

"There is no better time to start television on its way to becoming a nation-wide service than right now. For nine months, the industry has demonstrated a system of television that has worked day in and day out.

Dependable, Inexpensive CRYSTAL PICKUP

Model AB-8

List Price
$10.00

Model AB-8 is a new, high-performance crystal pickup, ultra modern in styling and available in standard statutory brown and other finishes. Spring-axial cushioning, Astatic's famous Type B Cartridge with electro-proof coated crystal element, Tru-Tan offset head, Threaded stud base for single hole mounting. Massive new die-cast arm. Eight inch mounting centers. Effective reduction of noise and feedback from motor board vibration. Dependable as well as inexpensive. An ideal pickup for better phonographs or radio phonograph combinations. Complete Astatic Catalog No. 12 available.

ASTATIC MICROPHONE LABORATORY, Inc.
Astatic Crystal Products Licenced Under Brush Development Co. Patents YOUNGSTOWN, OHIO

ASTATIC MICROPHONE LABORATORY, Inc.
Astatic Crystal Products Licenced Under Brush Development Co. Patents YOUNGSTOWN, OHIO

RADIO TODAY
and has given the public what the owners of television receivers have decided is excellent technical performance.

**SHOULD'T DELAY NOW**

There are those who argue that the commercialization of television should be delayed pending the outcome of tests on several untried ideas that are still in the laboratory. This type of reasoning should apply equally as well a year from now, five years from now or at any date in the future one might name. There will always be new ideas in the laboratory which need to be tested before their value can be established. That's what laboratories are for. People could argue at any future date, just as sincerely as those who are arguing now, that a regular commercial television service should be delayed until the ideas then in the laboratory have been fully explored. With that kind of reasoning we never could have any industrial progress.

The present industry standards are satisfactory. Not only have outstanding engineers testified on that point, but the owners of television receivers have given their approval. Competent witnesses have testified that there is room for growth and development within the industry standards. They have testified that using present industry standards pictures can eventually be 100 per cent or more better than they are today—with tremendous improvement in picture contrast, picture detail and picture brightness. Who is there to say that, using the present industry standards, the picture quality which has already been proven to be commercially acceptable, cannot be improved even beyond that indicated by the experts?

“The price that the public will pay for television is a relative matter. Last year the American public spent more than one and a quarter billion dollars for smoking tobacco. It has all gone up in smoke and might be called an economic waste. A billion two hundred fifty million dollars would put 4,000,000 television receivers in American homes at an average price of $300 and leave enough over to build 400 television transmitters. Last year the American public spent $400,000,000 for cosmetics, $500,000,000 for soft drinks and $50,000,000 for chewing gum—enough to put almost another 4,000,000 television receivers into American homes.

Television is here. There are those in the radio manufacturing industry and the radio broadcasting industry who are eager, willing and ready to give the American people that which they have been asking for—right as well as sound by radio. The most progress can be made by letting those who are able and willing to serve the public go forward. With encouragement television will take its place within the next five to ten years as a great industry serving the public.”

---

**New Sales Manager at Shure Bros.**

Jack Berman, boosted to post of sales manager for Shure Bros. of Chicago.

Jack Berman is now the sales manager for Shure Bros., Chicago. He was promoted to the post to succeed his brother, Gene Berman, who resigned to form his own company in the camera field. Jack has been with Shure for the past six years, and enjoys wide experience in sales promotion and research in the sound field.

The new sales manager plans to spend a good part of his time out in the field, where he has many acquaintances, and where he will assist Shure jobbers and sound men with selling ideas.

---

**MILLION CALL SYSTEM**

Complete 10 watt call system, including tubes, shield, microphone, table stand and six P.M. speakers in cases. Call any one or all stations at will. No. 510-3.

$79.95

Complete system with six 6-inch speakers in cases. No. CS10-6.

$99.95

**SOUND JOBBERS**

If sound is an important part of your activities let us show you how to increase your VOLUME AND PROFIT. If you are passing up sound let us show you how to get PROFITABLE SOUND BUSINESS IMMEDIATELY. We have the answer on sound distribution.

**LABORATORY MULTIMETERS**

You get more for your money in Million test equipment. Just look at these features:

- Built-in test leads, C-30-V, 0-6-120-300-1,200.
- DC Milliamperes 0-1-30-300-600.
- OHM meter 0-1,000 (50 ohms at mid scale), 0-25 megohms with self-contained batteries.
- Decibels minus 10 to plus 12.
- Large 4-inch meter.
- Size 8 x 34 x 3¼ inches. Shipping weight 4 lbs.

MODEL VV - 1,000 ohms per volt. Complete with handle, rubber feet, batteries and instructions.$14.95

MODEL OM - Supersensitive meter with 20,000 ohms per volt. 50 microamperes and 40 microampere scales. Size ranges and appearance similar to Model VV.$24.95

MODEL VQA - 5,000 ohms per volt. Same scales as Model VV but reads to 100 microamps and has 200 microamperes. Dealers Cash Price.$17.45

---

**FEBRUARY, 1940**

**MILLION RADIO and TELEVISION**

697 W. OHIO STREET

CHICAGO, ILLINOIS
Abrams Heads Radio Group in Benefit Event

Ben Abrams, president of Emerson Radio & Phonograph Corp., is the leader of a large group of radio manufacturers, distributors, dealers who will cooperate in a big-scale philanthropic at the Hotel Astor on Feb. 25th. The dinner, dance and reception will honor Paul Felix Warburg, and will commemorate the 40th anniversary of the National Jewish Hospital at Denver, a non-sectarian institution for the benefit of the tuberculosis poor in the U.S.

To serve under Mr. Abrams, who is co-chairman of the dinner, are Jules M. Smith of Davega City Radio Corp. and Max Jr. of the Radio & Sporting Goods Stores. Mr. Abrams is planning a series of luncheons for radio men to take place regularly between now and Feb. 25th.

Mannheims is IRC Export Head

Hans Mannheims has been named manager of the Foreign Sales Dept. of the International Resistance Co., 401 N. Broad St., Philadelphia, Pa. He succeeds Robert E. Kelser who has entered another line of work. Mr. Mannheims was formerly Mr. Kelser's assistant and has many years of experience in foreign sales and export shipments. The company's export policies will continue unchanged under his supervision.

Winney Gets New Post At Thordarson

From Thordarson Electric Mfg. Co., comes the announcement that the company's Directors have elected L. G. Winney treasurer of the firm. He was given the post after serving as credit manager for Thordarson since joining the company in 1934.

L. G. Winney gets a new position at Thordarson, Chicago.

Previous to his five-year period with this firm, Mr. Winney was an executive of the Marshall Field organization. He has a widely recognized familiarity with the problems of dealers and jobbers and thus is "in thorough accord with the Thordarson policy of helpful cooperation with the trade."

West Coast Raytheon Expansion

The West Coast offices and warehouse of Raytheon Production Corp. have been moved to new and larger quarters at 1045 Bryant St., San Francisco. The improved facilities are needed as a result of increased sales in the area, according to the company's announcement.

Emerson to Omaha

Recently named as distributor for Emerson in the entire state of Nebraska is the Omaha Appliance Co., with offices and showrooms located at 1720 Jackson St., Omaha. In charge of Emerson promotion there is Paul W. Jacobus.

M. G. O'Harra, left, Norge vice-pres., in charge of sales, and James A. Sterling, general merchandise manager, look over the exam papers turned in by jobbers and jobber personnel who took 100-question quiz at Norge merchandise clinic. The 196 "students" averaged 80%. W. G. Whittingham of Radio Distributing Co., Detroit, and J. M. Sandifer, Cain & Baltman, Jacksonville, tied for first, with 96%.
Commercial Credit Offers New Financing Plans

The Commercial Credit Co. vice-pres., H. B. Mathews was a speaker at Philco's Palm Beach, Fla., jobber convention. Herewith he announces CCC's new financing plans for dealers.

Commercial Credit Companies have announced new finance plans for 1940, with a considerable reduction in the finance charges required of the appliance buyer. This general reduction in rates applies to radios, as well as all other home appliances, and a new, simplified Commercial Credit chart entirely replaces all others in dealers' hands.

Commercial Credit also announces two new plans of dealer operation, in addition to its present ones. The new Dealer Reserve Plan permits the dealer to receive a large portion of the finance charge as a special reserve to apply against his contingent liability on paper discounted.

GOOD MERCHANDISERS

H. B. Mathews, CCC vice president, in commenting on the Dealer Reserve Plan, said:

"We recognize and appreciate that more sales and larger gross profits do not always result in greater net profits in any business. The appliance dealer has proven to himself to be one of the outstanding merchandisers. His manufacturer and distributor have given him a sales discount which retailers in most other lines would consider extremely liberal. And yet the average appliance dealer's net profit shows a very small return on sales or capital investment. One major reason for this is the drain on profits resulting from the special cost incident to selling on a time payment plan. Our new plan provides a reserve to the dealer which should be ample to stop this profit leak and give the dealer the full profit to which he is entitled on the time sales of his merchandise."

As an optional plan for dealers Commercial Credit also offers a Purchaser Discount Plan at the same rates to the buying public. Under this plan, however, instead of the dealer getting a reserve, a discount is given to the purchaser who pays his account promptly.

It is entirely up to the dealer whether or not it is to his advantage to select the Dealer Reserve Plan, the Purchaser Discount Plan, or the Limited Liability Plan.
SALES HELPS

Folding Stock Boy
Now Ready

A new "Stock Boy," in folding style, which holds 210 tubes is being announced by Hygrade Sylvania to jobbers, dealers, and servicemen. It has two tree-swinging parts which, when open, become convenient shelves measuring 60 inches. The hinged compartments can be closed and the Stock Boy is then a small compact unit. It helps to prevent dirt and dust from spoiling the appearance of tube containers.

The cabinet is designed to be hung on a wall or stood on a flat surface, and is a space-saver for many servicemen who have limited space for tube stock.

Aerial Display
for Dealers

The 1940 Radiart aerial display is the latest in a series of aerial mer-

chandisers designed by Radiart to help move aerials off the dealer's shelf.

The display holds six of the more popular types of aerials and has an attractive printed panel with a sales message on quality features of the Radiart line. Radiart jobbers now have the displays in stock and can give dealers full details on an extra-profit deal.

Lively Display in
Vibrator Offer

To help radio men stock the new "GT" series of tubes, the Hytron Corp., Salem, Mass., has just designed a special cabinet in red, white, and blue baked enamel. This display rack does away with the need of stocking the small tubes beside the larger ones, where they may get lost or disarranged.

The Hytron display cabinet is offered free to dealers and servicemen with the purchase of an assortment of 50 Bantam "GT" type tubes at regular discount from the list price of $46.30.

In addition to taking care of current tube replacements, this assortment of 25 different types will replace a total of 55 metal "G," and "GT" tube types.

The cabinet measures 8 x 20 inches high and is only 4 inches deep; it is useful in extremely small spaces. It will stand up by itself, and has vertical guides to keep tubes in line.

Bantam "GT" Display and
Stock Cabinet from Hytron
More Lines, Fewer Frames, Claims Dumont Television

Allen B. Dumont of Passaic, N. J., whose television sets automatically follow 400 to 800 line scanning.

A form of television permitting a wide range in number of lines from 400 to 800, and employing as low as 15 frames per second, with screen material of persistent character which reduces flicker, was described by Allen B. Dumont of the Dumont Laboratories, Passaic, N. J., before the Federal Communications Commission hearings on television.

Mr. Dumont protested against freezing the present RMA standards, claiming automatic flexibility for his own system of scanning, with a large number of lines and frames adjustable at will. He also argued that narrower bands of frequencies would be required under the Dumont principle, cutting down the necessary width from six megacycles to four megacycles.

Dumont representatives complained that the RMA standards would not permit the full flexibility of the vertical-synchronizing system, with its adjustability of frames and lines. The system of vertical synchronizing employing a short pulse of 0.5-megacycle energy has proven entirely adequate for producing interlaced pictures either at 441 lines per frame and 30 frames per second, or at 625 lines per frame and 15 frames per second. This method of producing higher definition introduces the problem of increased flicker.

The flicker problem has been attacked by varying the composition of the receiving tube screen material. While the ultimate in this screen material has not yet been achieved as to color, the flicker itself is practically eliminated even at 15 frames per second. Moving pictures employing a continuous projector have been shown to demonstrate the freedom from blurring with moving objects on this "time-delay" tube material and operating at 15 frames per second.

Nelson Gets Sales Post at Gale

Announced by L. H. D. Baker, sales manager of Gale Products, Galesburg, Ill., is the appointment of Richard G. Nelson to the Gale refrigerator sales department. Mr. Nelson has formerly enjoyed success in sales, manufacturing and engineering posts with Frigidaire, Westinghouse, Leonard, Universal-Cooler, and others.

At Gale, Mr. Nelson will be engaged in special sales promotion work in the field.

Stewart Warner Holds Convention Series

A series of sectional conventions are being held this month by Stewart Warner, to introduce to distributors and key dealers the 12 new radios the company has announced. The meetings occur in Chicago, New York, Dallas and San Francisco, with L. L. Kelsey, radio division manager, and C. R. D'Olive, manager of the refrigerator division, announcing new plans for sales and promotion.

Finn Speaks on Television

A featured speaker for the 150 members of the Masonic Club of Wilmington, Del., last month was David J. Finn, advertising manager for RCA Mfg. Co. Mr. Finn spoke on the subject of television, and illustrated his remarks with the new RCA movie, "Television."

NEW! OPERADIO
INTERCOMMUNICATION SYSTEM

New Improvements! New Developments!
Incorporating the very LATEST "do more—do better" features

You need BELTS— you need BALLASTS—and you need this new JFD 80-Page BELT and BALLAST BOOK containing

- Accurate compilations of belt replacement data covering 90 belts for 900 models made by 38 set makers, including 1940 sets—all listed by set and belt number.
- Jobber's and Servicemen's kits of JFD Woven Fabric Belts, identical to original belts used in all popular sets.
- Wiring diagrams and instruction data on AC-DC ballasts.
- Kits of A, B and C-type adjustable ballasts to replace over 2,000 types, listed by type numbers.

Your copy of the 80 page Belt and Ballast Book is FREE WITH EITHER ONE OF THESE KITS
Order yours today from your jobber

J. F. D. MANUFACTURING CO.
4111 Ft. Hamilton Pkwy., Brooklyn, N. Y.
When 126 of the Country's leading Radio Parts Distributors come forward of their own volition and pay for the privilege of adhering to a code of ethics of merchandising—there must be a reason.

There is a reason—it's MORE PROFIT. These 126 far seeing Jobbers realize that the NRPDA has taken great strides in its endeavor to remove destructive price competition; in assisting to develop better understanding; in creating a greater measure of goodwill, confidence and respect on the part of Servicemen and Dealers.

They have found that cooperation with Dealers, Servicemen and other Members insures profits. You, too, will find that the benefits which accrue after becoming a Member of the NRPDA far outweigh the small cost of membership.

You can secure full information by addressing the Executive Secretary.

*This advertisement was prepared in September, 1939. Present Membership is substantially in excess of this figure.
The 1940 presidential campaign plus a greatly increased demand for industrial sound equipment will make this year a banner one for sound operators," says R. C. Reinhardt of Atlas Sound Corp., Brooklyn, N. Y. The firm is now doubling its present manufacturing facilities and factory space.

**U. S. Television**

14-in Receivers

The United States Television Mfg. Corp., 220 E. 51st St., New York City, is now offering a line of 14-in. television receivers on the New York market.

The sets include both a table model and a console designed in Sherraton style, and made of a dull-finish mahogany. "This is most likely to conform to the decorative scheme of the high-income class home which television reaches," says vice-president Hoge, "as the great majority of these have mahogany furniture in some classic style. Our cabinet is one that these homes will be proud to have."

Set features include direct vision, spotless screen, simple tuning, five television channels, high fidelity sound, excellent linearity, giving better contrast and detail, large picture, standard broadcast receiver on every set, and fine engineering and parts quality. Sets are simple to service due to three-chassis construction, enabling any one to be pulled out for repairs. Price is $395 for the table model and $440 for the console.

**Sonora Meeting Sets Pace for 1940 Sales**

A big sales meeting, staged last month by Sonora Radio & Television Corp., Chicago, found representatives from all parts of the U. S. on hand for the firm's first-of-the-year announcements. Program events included introduction of 1940 models, factory tours, promotion announcements, etc.

Sonora's new package plan promotion, announced by Joe Gei, drew generous applause from the guests as they listened to the bigger and better merchandising plans outlined for 1940.

**Rockey Sees Good Sales Ahead**

"An unusually cheery outlook for 1940" among radio distributors and representatives is reported by G. V. Rockey, vice-president and general sales manager for Meissner Mfg. Co., who has just finished a sales tour in the Western states and the Pacific Coast.

Mr. Rockey found that West Coast jobbers were particularly enthusiastic about the new "vibrator sales plan and counter display deal" just announced by Meissner.

**Radio Sales Rep To Open in Spain**

Faustino Fernandez, who has been connected with a leading radio distributor in Havana, Cuba, and whose address is Maximo Gomez 353, Havana, is planning to open a business in Spain, as a radio distributor or representative for well-known brands. Mr. Fernandez writes that he will be glad to present his references to interested manufacturers.

**Pick Profitable Motors for Your Phonograph Jobs**

**Electrical or spring wound—light weight for portables and table models, or heavy-duty for consoles and large combinations—get General Industries Motors. Built for maximum performance. Delivered ready to install. Priced to equip instruments for popular demand.**

Order Samples to Test

Give frequency and voltage of current you use, size of turntable wanted.

Send for NEW Catalog

The GENERAL INDUSTRIES CO.

4038 Taylor St.

Elyria, Ohio

FEBRUARY, 1940
MUSICAL TOWERS
For Bigger Sales and Service Returns

Here’s a sure profit-maker! Handle the complete line of tower and belfry chimes. It’s the best sound installation proposition in the field—not only do you get the largest equipment, but also expert technical assistance and service help.

SUNDT ENGINEERING COMPANY
4763 Ravenswood Ave., Chicago, Illinois

Peter L. Jensen Plays Big Radio Role

Peter L. Jensen, new vice-president of Utah Radio Products Co., 820 Orleans St., Chicago, has long been an outstanding figure in the fields of radio and sound reproduction.

Born in Denmark, Mr. Jensen as a young man worked for Valdimar Poulsen, inventor of the Poulsen Arc and the Telegraphone (steel-tape recording), from 1903 to 1910. In 1910 he was sent to the U.S.A. to erect in California two complete Poulsen-are stations fully equipped for wireless telegraphy and telephony, with automatic apparatus for rapid sending up to 200 words per minute. The Federal Telegraph Co. was formed in 1910, and acquired the Poulsen U. S. patents.

Mr. Jensen resigned from the Federal company in 1910 after the Poulsen arc, and with Edwin S. Pridham in 1911 formed the Commercial Wireless & Development Co. for the purpose of making further research in radio. Their laboratory was established in Napa, Cal., 35 miles from San Francisco.

"ELECTRO-DYNAMIC" PRINCIPLE

At Napa, in 1911, the principle that a moving conductor when attached to a diaphragm capable of being made into an excellent sound reproducer, was discovered. Messrs. Jensen and Pridham gave the name "electro-dynamic" to this principle, a term now universally used. Early in 1915, the electro-dynamic construction was applied to a loudspeaker, creating a device capable of tremendous power handling capacity. By using high-power microphones Mr. Jensen succeeded in amplifying the human voice about 1,000 times, based upon acoustical power output. And with loudspeakers was heard a distance of 7 miles under favorable conditions in Napa Valley. It was at this point that the inventors named the name "Magnavox" and applied it to the loudspeaker. The first public use of a loudspeaker system for reinforcing a speaker's voice took place on Christmas Eve, 1915, in San Francisco, when Mayor Ralph addressed an open-air audience of 75,000 people.

In 1918 Messrs. Jensen and Pridham applied the first patent on an electrical amplifying phonograph, using a microphone for pick-up and a loudspeaker for the sound reproducer. In 1917, Mr. Jensen became co-founder of the Magnavox Company which took over all the assets and patents of the Commercial Wireless and Development Co. He served as chief engineer of the Magnavox Co. until 1925, when he resigned.

AIRPLANE AND PA WORK

During the World War Messrs. Jensen and Pridham developed the Navy intercommunicating telephone systems for airplanes, a system based upon an automatic microphone. They also developed vacuum-tube amplifiers for amplifying audio frequencies, and in 1919 equipped the San Diego Stadium with a public-address system, wherein originally used amplifiers and microphones were remote from the speakers.

Herman J. Tauber, for the past four years in the advertising dept. of Radio Wire Television, Inc. (formerly Wholesale Radio Service Co.), has just resigned.

President Wilson used this system successfully to address 50,000 people September 19, 1919. This was the first public test of audio amplifiers and remote microphones, substantially as used today. Dynamic loudspeakers were naturally employed. Magnavox loudspeakers were developed for radio reception in 1919 and 1920.

Mr. Jensen resigned from the Magnavox Co. in August, 1925, and founded the Jensen Radio Mfg. Co. in 1927, marketing a line of loudspeakers under the trade name "Jensen." He served as president of Jensen Radio Mfg. Co. until December, 1939, when he resigned to become vice-president of Utah Radio Products Co., Chicago.

Palestine Jobber Ready For Line of Parts, Tubes

Received by Radio Today last week was an announcement from the Tel-Aviv, Palestine, area which reveals that a distributor is now prepared to take on a line of American radio parts and tubes. A representative of the firm is now in the U. S. and can be reached through Radio Today, 480 Lexington Ave., New York, N. Y.

NEW BOOKLETS

Catalog describing the entire new line of full range speaker equipment is available from Jensen Radio Mfg. Co., 6601 S. Laramie Ave., Chicago.

Complete new low-priced Audiograph Sound Equipment line is described in a new catalog offered by John Meck Industries, Randolph at Elizabeth Sts., Chicago, Ill. Will be sent upon request, mentioning this publication.

Folder illustrates panel mounting kits for 1940 car radios. Also the special cables and shaft bushings. Chart of kits for all cars. F. W. Stewart Mfg. Corp., 540 W. Huron St., Chicago, Ill.

New bulletin describes the Vibrotest insulation tester. This instrument also measures voltage and current. Associated Research, Inc., 16 N. May St., Chicago, Ill.

Bulletin 101-D covers the solderless fittings for small copper tube transmission lines. IsoLANette, Inc., 253 Broadway, New York, N. Y.

Leaflet describes line of PM speakers and new Music Box speaker enclosures for 8 and 12-inch units. Atlas Sound Corp. 1447 39th St., Brooklyn, N. Y.

Seventy-six page product catalog gives complete line of coils, auto radio controls, resistors, capacitors, wire, and test equipment of Consolidated Wire and Associated Corp., Peoria & Harrison Sts., Chicago, Ill.

Replacement transformer catalog just off the press is labeled 352-E and is a complete service encyclopedia. Covers power, choke, and audio transformers for all model receivers. Free from parts distributors. Thorndarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill.

Free illustrated bulletin describes the PA 240 watt RF amplifier kit manufactured by D. Cardwell Mfg. Corp., 31 Prospect St., Brooklyn, N. Y. Circuit diagram and instructions are included.


Test equipment catalog is thumb indexed for the automotive and radio instruments made by Ted Nagle Equipment Corp., General Motors Building, Detroit, Mich. New radio equipment includes cathode ray tube oscilloscope, and complete set analyzer.

What a "break!"

For the Reader
For the Advertiser

in the 1940-41 edition of the

RADIO YEAR BOOK

and TRADE DIRECTORY

To be issued in March
as a section of RADIO TODAY

Just think... the 4th annual buyer's guide, telling where to buy everything in radio and giving every advertisement a 12-month life... bound as a unit into a big, colorful merchandising issue of RADIO TODAY, vibrating with ideas and opportunities for the Spring selling season.

25,000 circulation guaranteed—Covering all worthwhile radio markets.

Remember... if you don't tell your full story in the RADIO YEAR BOOK, nothing that you can do later on will make up for it.

Don't wait. Order your advertisement today—opposite your directory listing (subject to prior sale).

Cooperative Radio Show Scores in NY Area

Further success is reported for the three-cornered radio promotion now in progress in the New York metropolitan area, where distributors and the Station WMCA are cooperating with the League of Metropolitan Appliance Dealers in a lively broadcast series presented in the interests of independent merchants.

Distributors whose products are mentioned in the program share the expense of the program, while in return the dealers see that WMCA tabs are installed on push button sets. To identify themselves with the promotion, dealers display a decalcomania emblem which shows that they are League members, and that they endorse the products of the cooperating distributors.

"Amdico" Under Way in New Quarters

Now that the reorganization of the Airplane and Marine Direction Finder, Inc., has been finished, the new Airplane & Marine Direction Finder Corp. has moved its laboratories and factories to Clearfield, Pa.

McMurdo Silver is general manager of the firm and Wm. F. Diehl is director of engineering and manufacturing. These execs report that "Amdico" is already busy on several government contracts recently received.

Transducer Labs in Development Work

All the manufacturing and experimental activities of Transducer Corp. are now being handled by Transducer Laboratories, under the direction of B. Eisenberg, located at 45 W. 48th St., New York City.

The Laboratories are handling all microphone sales and repairs that were carried on by Transducer Corp., as well as new experimental work in the electro-acoustic and allied fields.

Ken-Rad Engineers Are RSA Stars

When the RSA of Evansville, Ind., held its annual banquet, two of the featured speakers were engineers from Ken-Rad Tube and Lamp Corp., Owensboro, Ky. G. W. Bain, Ken-Rad chief engineer, discussed frequency modulation, and C. R. Wexler, circuit laboratory head, spoke on recent trends in receiver design.

Garod in Triple Expansion

Garod Radio Corp., during January moved to new quarters at 70 Washington Street, Brooklyn, N. Y. "Our new plant," reports Maurice Raphael, general sales manager, "is three times the size of our former plant and in it is installed the most modern equipment for the efficient production of radio and television receivers."

Over 1,000 dealers saw this pre-showing of Motorola auto radio in a 3-day "open house" at Jackson Distributing Co., Chicago. The sets were shown on the new Motorola "Mainliner" display boards. D. M. Lucas of Jackson Co. reports "a flying start in auto radio sales for 1940."
"Sure we're enthusiastic about the RCA Franchise! It's right up our alley for profits! Not only does it cover all three essentials in our kind of business—test equipment, receiving tubes and power tubes—but it means we can sell our customers products we know are well worth every penny that's asked for them! Nobody can compare with RCA. We're counting on doing a land office business in all three in our new store in Oklahoma City, as well as Dallas."

Only RCA Offers You All Three

1. TEST EQUIPMENT
2. RECEIVING TUBES
3. POWER TUBES
   (Transmitting, Cathode Ray and Special Purpose Tubes)

Put this RCA Big Three to work for You!

YOU'LL find it pays! The RCA Franchise not only gives you all three, but the top three as well. Ask progressive Elliott Wilkinson, crackerjack Dallas Parts Jobber, who has been doing a whale of a job with everything in his line.

He'll tell you RCA has had more service experience in every field of radio and sound than any other organization. That's why RCA Test Equipment is tops. RCA developed the receiving tube business...no one else has contributed so much. RCA quality is widely recognized...acceptance is without equal...profit for you is assured. And no one questions the leadership of RCA in the power tube field. With types of tubes no one else makes...with performance based on a knowledge of transmitter requirements that only the manufacturer of transmitters can have...RCA Power and Special Purpose Tubes have no peer.

Never forget...only RCA offers you all three...and the best in all three.

Over 335 million RCA Radio Tubes have been purchased by radio users. In tubes, as in parts and test equipment, it pays to go RCA All the Way.
Motorola
AMERICA'S FINEST AUTO RADIO
for 1940
First again in 3 BIG WAYS

Eye Appeal
New streamline beauty that will make your eyes sing! Colorings fresh and sunny as a day in June. Prominent stylists acclaim its graceful lines. Yes, Motorola is "Lovely to Look At."
YOUR CUSTOMERS WILL RAVE ABOUT IT!

Ear Appeal
Step up—play it! Its clear, sweet, radiant tone will take your breath away. Touch the tone control—in comes your program accented just the way you like to hear it. Famous musicians and singers thrill to its matchless pitch. Yes, Motorola is "Delightful to Hear."
YOU'LL APPROVE ITS TONE WHEN YOU HEAR IT!

Price Appeal
There's no "can't afford me" about Motorola. The price tag's low—a model to fit everybody's taste and pocketbook. Real value that folks appreciate these days. More for your money, so people say. Yes, Motorola is "Easy to Own."
SALES WILL BE EASIER THAN EVER TO MAKE!

Nationally Advertised to 60,000,000 Readers In 11 Leading Magazines

MODEL 500 MOTOROLA
7 TUBES • PUSH-PULL • 7" SPEAKER
6-STATION PUSH-BUTTON TUNING
$49.95
OTHER MODELS FROM $24.95 TO $69.95 LESS

GALVIN MANUFACTURING CORPORATION • CHICAGO