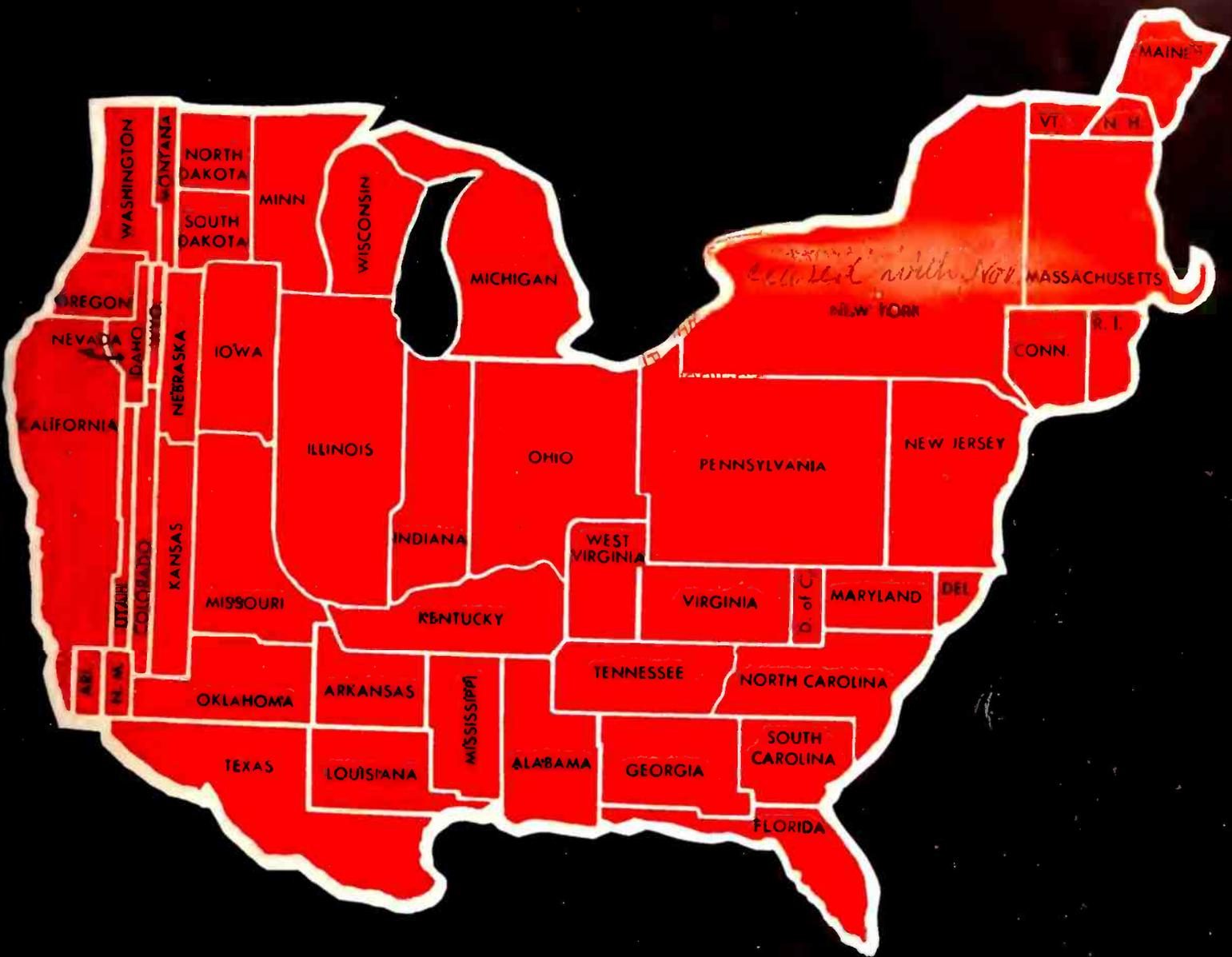


RADIO *and Television* TODAY



— IF THE AREA OF EACH STATE WERE PROPORTIONAL TO ITS NUMBER OF RADIO HOMES —

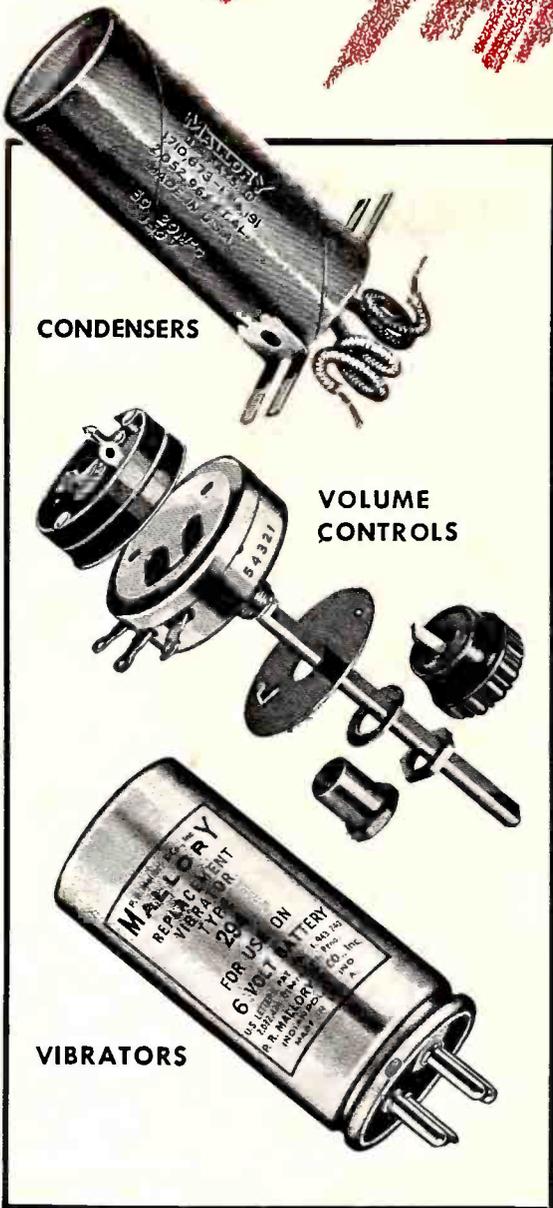
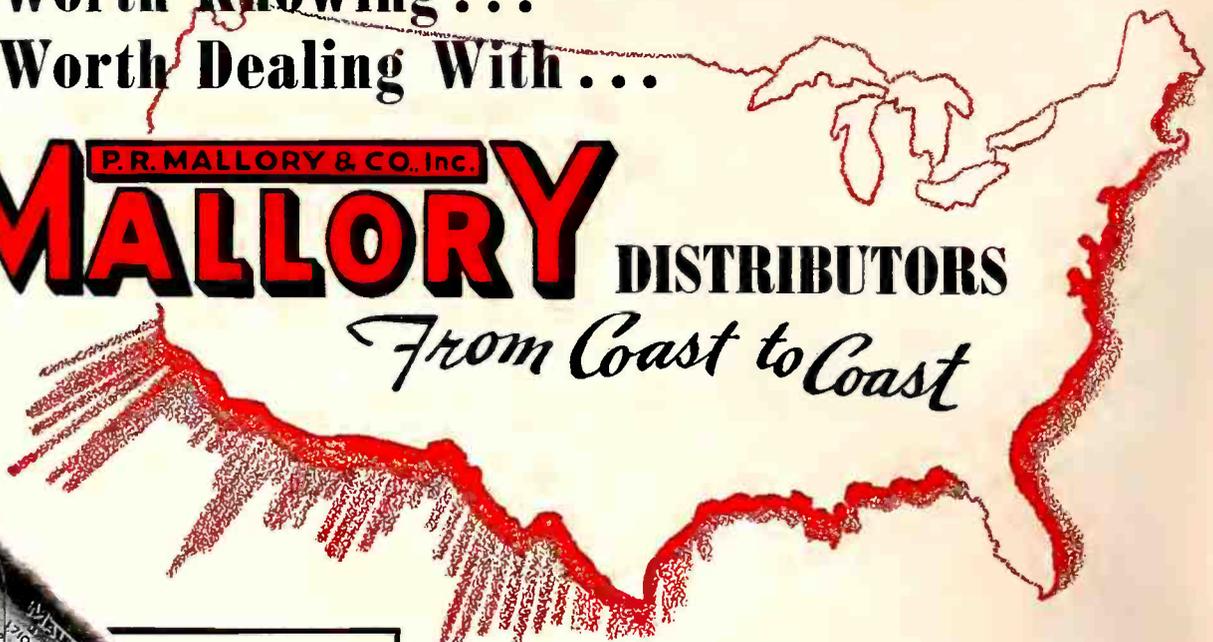
STATISTICAL AND
MARKETING NUMBER

JANUARY

TK 6540
R 28

Well Worth Knowing...
Well Worth Dealing With...

P.R. MALLORY & CO., Inc.
MALLORY DISTRIBUTORS
From Coast to Coast



CONDENSERS

VOLUME CONTROLS

VIBRATORS

THE complete picture of Mallory's service to the replacement field extends far beyond the outstanding excellence of the products themselves. In developing the distribution for its products, Mallory has exercised the same painstaking care that has gone into product development itself.

The result is a handpicked group of leading distributors strategically located and qualified technically for superior service. Each is an organization whose business ideals parallel Mallory's own high standards of integrity.

Get acquainted with your nearest Mallory distributor now. You may rely upon him for genuine Mallory approved precision products, and for high standards of quality in all of his business transactions.

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

More than ever
—INSIST ON

P.R. MALLORY & CO., Inc.
MALLORY
APPROVED
PRECISION PRODUCTS

VIBRATORS • VIBRAPACKS • CONDENSERS •
VOLUME CONTROLS • ROTARY SWITCHES •
SINGLE AND MULTIPLE PUSH BUTTON SWITCHES
• RESISTORS • RADIO HARDWARE

AGAIN CROSLLEY LEADS THE WAY WITH THE CROSLLEY CHAMPIONSHIP LINE OF GLAMOR-TONE RADIOS

A three-way program—
PERFORMANCE, PRICE and PROFIT

**HERE IS THE LEADER
OF THE
CHAMPIONSHIP
LINE**

Introducing 1941's greatest radio value . . . an

11-TUBE

A C SUPERHETERODYNE

**FOR
ONLY**

\$69⁹⁵†

MODEL CA-12



Compare these features with any other radio at the price

- 11-Tube AC Superheterodyne
- Super-Size AC Power Transformer
- Exclusive "Magna-Loop" Antenna with up to FIVE TIMES GREATER PICKUP
- Three-Gang Condenser with Tuned R. F. Stage
- Three Complete Bands—550 to 18,000 Kc.
Standard Broadcast Band
International Shortwave and Foreign Band
Police, Airplane, Ship and Amateur Band
- 12 Watt Push-Pull Power Output
- Full-Range Variable Tone Control
- TWELVE-INCH SUPER-DYNAMIC CONCERT SPEAKER
- Connections for Television and FM Sound and Phonograph
- Automatic Bass Compensation
- Slide Rule Dial, Indirectly Lighted
- Litz wound IF Transformers

**AND
CROSLLEY SPINNER
INERTIA TUNING**

**2408 RADIO DEALERS
HAVE JOINED THE
MARCH TO CROSLLEY
IN THE LAST 10 WEEKS**

†Prices slightly higher in the far west and south.

THE CROSLLEY CORPORATION, CINCINNATI, OHIO

Home of the "Nation's Station"—WLW—70 on Your Dial
POWEL CROSLLEY, Jr., President





MODEL TH-52. A unique utility set in bakelite with a handy carrying handle. Two bands—international shortwave and broadcast. Two-position tone control. Helioscope loop antenna. These are some of the features in this 8-tube* AC-DC Superheterodyne.

MODEL TK-52. An automatic, 8 electric push-button tuning, 8-tube AC-DC receiver with beam power output, two bands—broadcast and international shortwave. Helioscope loop aerial and other engineering improvements. A beautiful cabinet with a solid walnut top and grille with mahogany inlay.

MODEL TA-62. A 6-inch super field speaker assures you maximum tonal performance. 5 automatic electric push-button tuning and a "Gold-Glow" dial guarantee complete convenience. This 5-tube* AC-DC receiver with 7-tube performance is housed in a hand-rubbed sliced walnut veneer cabinet. Two bands—standard broadcast and international shortwave.
*Including Rectifier.



Radio Answers the Call of Total Defense

With characteristic speed, radio today is responding to the call of national defense. Enrolled to serve the public interest and fortify the Nation's invisible life-lines of communication are: Research, Engineering, Manufacturing, Broadcasting, International Circuits, Ship-and-Shore Stations. In 1919 the Radio Corporation of America was organized as an American-owned,

American-controlled radio company. RCA has established a world-wide communications system, independent of all foreign interests, and has pioneered in the creation and development of a new art and a new industry. Today, each of its services is equipped and ready for action in the first line of America's total defense on land, sea, and in the air.

RCA CALLS THE ROLL OF ITS SERVICES TO THE NATION:

WORLD-WIDE COMMUNICATIONS

Vital to defense and commerce, RCA operates 24-hour direct communication service to 43 countries. This service avoids the censorship, errors, and delays which might occur at relay points. The Nation is protected against the loss of overseas communications through the cutting of submarine cables in war-time. Supplementing these globe-girdling channels, RCA operates a domestic radiotelegraph system that links 12 key cities in the United States.

MARINE COMMUNICATIONS

Life and property at sea are guarded by modern radio coastal stations and radio-equipped ships. Eighteen hundred American ships are equipped with RCA apparatus. The shore-lines of the United States are fringed with radio beacon transmitters to guide the fleet and shipping in American waters. American ships do not have to depend upon foreign-controlled means of communication to send messages home.



RADIO

BROADCASTING

RCA pioneered in establishing the first coast-to-coast network of broadcasting. The National Broadcasting Company, formed in 1926, today serves an American radio audience through 50,000,000 receiving sets. NBC provides these listeners with serious and popular music, news and information, drama and education, public forums and religious services. Under the American system of broadcasting, the finest and most extensive variety of programs to be had anywhere in the world is free to the listening public. *The richest man cannot buy what the poorest man gets free by radio.*

The broadcasting service of NBC is also maintained internationally, by short wave, and helps to strengthen good-will and cultural and economic relations between the Americas, and with other parts of the world.

An informed public opinion, promoted by a free press and a free system of broadcasting, is an important national asset in total defense.

MANUFACTURING

The RCA Manufacturing Company operates five large plants, strategically located at Camden and Harrison, N. J., Indianapolis and Bloomington, Ind., and Hollywood, Calif. Within the year the company has invested millions of dollars in expansion to facilitate production and rapid filling of orders from the Army and Navy. Machinery is geared for national defense in addition to providing for normal requirements of the public.

RESEARCH AND ENGINEERING

Through science and research, the RCA Laboratories are enrolled in national defense. Research in electronics, wave propagation, television, facsimile, acoustics, optics, and in other fields has opened new services and extended the scope of existing services, both commercial and military.

No longer must an aviator "just look to the ground" to find his way to a target or to his base. He may fly and land "blind" by radio. The electron microscope, a product of

RCA Laboratories, is a new means to help protect the national welfare as it opens new horizons for bacteriologist, chemist, physicist and industrialist. In these and many other ways, peace-time radio research has built new bulwarks of defense for our Nation.

INVENTIONS AND THEIR USE

RCA licenses many manufacturers to use its inventions and patents. By making them widely available, RCA has helped to create an industry as well as an art.

Through this licensing policy the radio industry has access to results of the research of RCA Laboratories. In this way, competition has been stimulated, and numerous sources of supply opened to the public and the Government.

TRAINING

More than 1,100 students are enrolled in the completely equipped schools of the RCA Institutes, Inc., in New York and Chicago. From this enrollment and from graduates of the Institutes, the United States can enlist the services of trained men in all branches of radio, from ship operators to service men. Scientists and engineers associated with RCA present and publish hundreds of scientific papers each year as aids to others interested in radio. For those who follow technical developments of the art, RCA Review, a quarterly journal, prints the latest scientific reports on progress in radio.

EMPLOYEES

Labor relations between RCA and its employees are excellent. Employment in the RCA organization in 1940 increased from 22,000 to 27,000 employees. Principal officers and many employees of RCA are members of the Army and Navy Reserves.

For 21 years the pioneering efforts and services of RCA have safeguarded American preeminence in radio. ***RCA continues to serve the public interest and is fully prepared and ready to carry on in the first line of total defense!***

CORPORATION of AMERICA

RADIO CITY • NEW YORK

The Services of RCA:

RCA MANUFACTURING COMPANY, INC.
NATIONAL BROADCASTING COMPANY, INC.

RADIOMARINE CORPORATION OF AMERICA
R. C. A. COMMUNICATIONS, INC.

RCA LABORATORIES
RCA INSTITUTES, INC.

JANUARY, 1941



Complete
NET
only
\$10⁵⁶



Always THE RIGHT
REPLACEMENT CONTROL
WITH THIS Centralab
PORTABLE

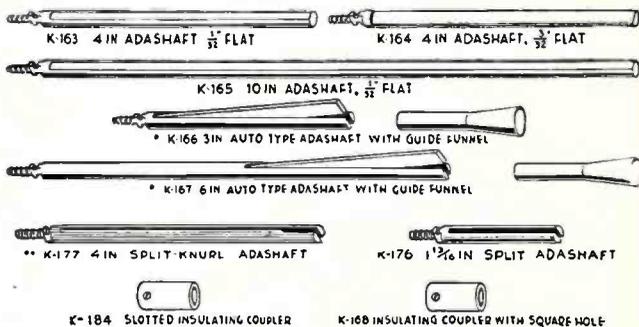
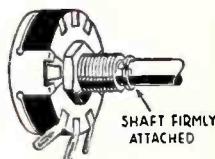
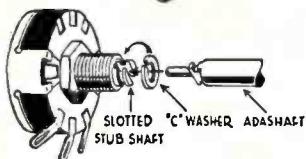
Adashaft Kit

You name the set and it's a hundred to one that you can do a replacement job right out of our PORTABLE Adashaft Kit . . . mighty good business sense . . . owning one of these kits . . . The strong steel case is 12" x 5" x 1 1/2" . . . you can even carry it in your coat pocket (note Old Man Centralab above) and you pay for the controls only . . . we give you the case "FREE"

Any shaft and control can be combined in a moment without special tools. Yet the RESULT is just as STRONG and RELIABLE as a ONE PIECE SHAFT.

Then replace the controls from your jobbers stock as they are used. Buy that ADASHAFT KIT today . . . you need it.

CENTRALAB Div. of Globe-Union Inc., Milwaukee
Cable Address — Centralab



INCLUDED IN THIS ADASHAFT KIT
ARE THE FOLLOWING CONTROLS:

| ! EACH OF | | CURVE |
|-----------|------|--------|
| 10,000 | ohms | 3 |
| 25,000 | ohms | 3 |
| 50,000 | ohms | 6 |
| 250,000 | ohms | 6 |
| 500,000 | ohms | 6 |
| 1 MEG | ohms | 6 |
| 2 MEG | ohms | 6 |
| 3 MEG | ohms | 6 |
| 250,000 | ohms | tapped |
| 500,000 | ohms | tapped |
| 1 MEG | ohms | tapped |
| 2 MEG | ohms | tapped |

SHAFTS

| | |
|---|------|
| 3 | K163 |
| 2 | K164 |
| 1 | K165 |
| 1 | K166 |
| 1 | K167 |
| 1 | K176 |
| 3 | K177 |

COUPLERS

| | |
|---|------|
| 1 | K184 |
| 1 | K168 |

SWITCH COVERS

| | |
|---|-----------|
| 5 | K155 SPST |
| 1 | K157 DPST |

Centralab

Another

RAYTHEON TUBE EQUIPPED SCIENTIFIC CREATION

THE SMITH ARC-LENGTH MONITOR WELDING CONTROL

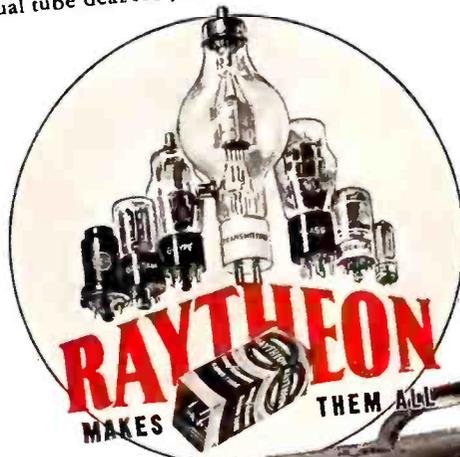
The Arc-Length Monitor, developed by A. O. Smith Corporation, is a modern production tool which guides the arc-welder to make uniformly sound and perfect welds.

Tiny electric bulbs inside the welder's shield automatically warn the operator when his arc is too long or too short. The glows of the bulbs increase in brightness as the welder deviates from the correct arc length. Only when the arc is of proper length for the job—i. e., making a good weld—are both the lights off.

An intricate electronic circuit, using six RAYTHEON tubes, is the brains of this device, which is made by the RAYTHEON Equipment Division for the A. O. Smith Corporation.

It is not a coincidence that when radio tubes are used in particularly critical circuits you find them to be RAYTHEONS. And they are the same tubes the better Servicemen use as replacements. There is no finer quality, yet *they cost no more.*

Your RAYTHEON Distributor has an unusual tube deal for you. See him without delay.



WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS
JANUARY, 1941

THERE IS A DIFFERENCE

Insist on
SOUND X/TRA
for
HEAVY DUTY

TUBES
AUDIO WORK



*Individually
 Packed in
 Special
 Containers*

PEAK PERFORMANCE in
 AMPLIFIERS • PUBLIC ADDRESS SYSTEMS •
 SOUND PROJECTORS • INTER-OFFICE COMMUNI-
 CATING SYSTEMS • COIN OPERATED REPRODUCERS

*We regard every letter from the Radio Service Industry as our personal mail.

Can Be Used to Replace Ordinary Tube of Same Type Number for Better Reproduction

A very complete line of special heavy duty audio tubes. Just ask for National Union SOUND X/TRA and the type you want. Characteristics are the same as ordinary tubes and therefore no change whatever is required in the amplifier or installation. Just put the same type number of SOUND X/TRA TUBES in the tube sockets. You will notice the difference in lowered hum level and you will get improved performance and longer life without trouble-some tube call-backs.

The chief requirement for National Union's new SOUND X/TRA tube types is that they must be DEMONSTRABLY BETTER. In order to accomplish this outstanding performance in SOUND X/TRA types, modifications in construction and details of engineering were incorporated. Emission limits are very high to insure exceptional uniformity, long life and adequate power-handling capacity. Gas and grid current are held to exceptionally low limits to insure minimum distortion, uniformity and stability. Every tube is carefully tested for hum and microphonics and, where necessary, changes have been made in construction such as the use of special micas, extra rugged supports, double helix heaters and special insulation.

Demonstrably Better

- ★ NON-MICROPHONIC
- ★ LOW-HUM LEVEL
- ★ UNIFORM CHARACTERISTICS
- ★ NO MATCHING NECESSARY
- ★ LONG LIFE AT FULL OUTPUT

*Ask Your N. U. Jobber or Write**

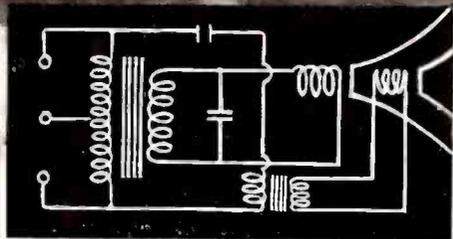
© 1940, N. U. R. CORP

NATIONAL UNION RADIO
 57 STATE STREET, NEWARK, N. J.

Corporation

DUAL Speaker JHP-51

A Two-Way System Complete with Integral Dividing Network



Because it provides faithful wide-range reproduction obtainable only with a Two-Way reproducing system . . . presented for the first time in an integrated, compact unit incorporating high and low frequency radiators, PM fields, frequency-dividing network and impedance-matching facilities . . . at remarkably low cost . . . these are the "reasons why" the JHP-51 Dual Loud Speaker* has attained such immediate and widespread acceptance.

For broadcast monitoring, high-quality FM and AM receivers, better phonograph reproducers, the JHP-51 is ideally suited.

**Also available in complete reproducers incorporating Jensen BASS REFLEX.*

Jensen

RADIO MFG. CO., 6601 SOUTH LARAMIE AVENUE, CHICAGO

Leadership in FM



**NO. 535-PG AUTOMATIC
RADIO-PHONOGRAPH**

Plays and shifts 10" and 12" records mixed together. "Feather-Light Permanent Point" multiplies record life. FM, Standard and Short Wave broadcasts take on added realism through the Labyrinth and Special FM Carpinchoe Speaker System. One dial and one set of control knobs for all bands. Authentic Chippendale design cabinet. "Preferred-Type" Tubes.



NO. 535-M CONSOLE RADIO

Exclusive Labyrinth and Special FM Carpinchoe Speaker System reproduces the utmost of Standard, Short Wave and FM broadcasts. All bands on one dial and controlled by one set of knobs. Push-Button Tuning. Walnut Cabinet. "Preferred-Type" Tubes.

makes
Stromberg-Carlson
First Choice
FOR BOTH
FM RADIOS AND
FM RADIO-PHONOGRAPHS

As the only Telephone Manufacturer making Home Radios . . . as the Tone Quality Leader since 1924 . . . and with the exclusive Labyrinth and Carpinchoe Speaker to deliver the utmost of FM's increased fidelity, Stromberg-Carlson naturally takes the lead in FM reception. Now producing its **THIRD FM LINE**, backed by **TWO YEARS' FIELD EXPERIENCE**. Who else can offer such advantages—or record so many "FIRSTS" as listed below!

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

for **STROMBERG-CARLSON IS**

1st

- FIRST with a complete line of FM Radios
- FIRST with a complete line of FM Phonograph Combinations
- FIRST to advertise FM
- FIRST manufacturer to produce its **THIRD FM LINE**
- FIRST to complete 2 years' continuous **FM FIELD EXPERIENCE**, with more FM sets—in more models—in more homes than any other manufacturer
- FIRST to introduce a Coaxial Speaker expressly designed for FM
- FIRST to provide stock sets that permitted Major Armstrong to demonstrate the utmost of FM's possibilities
- FIRST and **ONLY** FM receivers with the Labyrinth and Carpinchoe Speaker
- FIRST with an FM adapter that included a "tweeter" speaker
- FIRST with an FM adapter that can be used alone as a complete FM radio
- FIRST manufacturer of FM radios to operate an FM station

LICENSED
UNDER
ARMSTRONG
WIDE-SWING
FREQUENCY
MODULATION
PATENTS

There is nothing finer than a
Stromberg-Carlson
Frequency Modulation

ARMSTRONG SYSTEM

RADIO *and Television* TODAY

RADIO IN NATIONAL DEFENSE

As the armament program develops, uses of radio and radio tubes are bound to play a more and more important part in national defense.

For radio tubes and all their vacuum-tube cousins have become the new master-tools of science and of industry.

Events all about us demonstrate that this is increasingly an age of Radio Magic—and that the world is entering upon a Radio Age.

* * *

So far the coming of the Radio Age has been manifested chiefly in the world of thought—in science, in entertainment, and in communication. Now it is creating electronic devices which promise a similar revolution in the fields of industry. In other words, just as industry has moved from the Steam Age into the Electrical Age, it is now moving into the Radio Age.

As we enter 1941 we are under tremendous pressure to increase our production in the national defense. Later, if, as, and when peace comes, we shall have the even more difficult problem of meeting world competition.

In both cases, the answer must lie in the supremacy of America's mass production. Already we lead the world in that field. But radio can help us keep ahead. For there is no factor that can be more important in further speeding up mass production than the introduction of radio and electronic devices into the machinery of that production.

We are probably doing as well now as any combination of human eyes and hands with electricity can do. By putting radio tubes and electrons to work, however, we can introduce a new factor of such precision, delicacy and speed, that we should be able to increase radically the output of our machinery.

* * *

Radio men can be counted upon to do their part in the big defense and armament program—directly, in arms production, and indirectly, in sustaining morale. Both are important.

And manufacturers who temporarily turn their facilities in whole or part to war-goods production, are not under the necessity of sacrificing their regular distribution or markets. They should hold onto their regular outlets which will be again needed in the peace days that are also ahead.

For eventually all radio men must take their places in a peace economy and help to build the bigger and better service of radio and television which the future promises.

EDITOR, Orestes H. Caldwell;
PUBLISHER, M. Clements;
Managing Editor, Darrell Bar-
tee; Merchandising Editor, H.
L. M. Capron; STAFF, E. T.
Bennett, N. McAllister, G. H.
Mayorga, William E. Moulic,
M. H. Newton, R. A. Neubauer,
B. V. Spinetta, R. Y. Fitz-
patrick, 201 N. Wells St.,
Chicago, Ill.; CALDWELL-
CLEMENTS, INC., 480 Lex-
ington Ave., NEW YORK,
N.Y. Telephone PLaza 3-1340.
Copyright 1941. Member Aud-
it Bureau Circulations, Vol.
7, No. 1, January, 1941.

TODAY'S TRENDS

Good Business Ahead for Radio Men

Reports pouring in indicate that the Christmas season just closed rang up the greatest merchandising totals in U.S. history. Retail sales of all kinds ran ahead of previous years, and radio did its share of this record business.

Meanwhile for the first quarter of 1941, radio men look for good business. Already the effects of the employment and armament moves are being felt, but the full impact of the government's spending of billions will not reach the general public until the end of 1941 or the first half of 1942. Millions of people who have been off payrolls for years, at last are getting wage-envelopes regularly, and these folk have indicated that their first purchases are going to be radios, refrigerators and other goods that stock radio dealers' stores.

Prices May Go Up in 1941

Possible price increases are seen, as the rearmament program develops. Raw materials in certain lines are expected to show shortages, with costs to radio manufacturers going up.

Two alternatives face manufacturers in planning their future price schedules. One course will be to "up" the list prices, and raise the price



J. M. Spangler of National Carbon Co., makers of batteries, has been boosted to vice-president as well as general sales manager. 1941 has already been called "radio's battery portable year."

structure all along the line. The other course will be to trim present models of special luxury gadgets, and hold price brackets as before, but with slightly stripped models. The latter course will be especially difficult in radio, where essentials have to be whittled into, before any marked inroad of savings results.

General feeling seems to be that great customer spending splurge is ahead, with millions having first easy money since 1928, and that radio as a "favored-item" purchase, can break upwards into new price levels in 1941.

FCC-NTSC Television Conference Jan. 27

Early standardization of television will be considered at an FCC conference in Washington, Jan. 27, with the National Television System Committee. A status report and possible tentative television standards will be submitted by the NTSC. Agreements have been reached by some of the panels, or subcommittees, on television standards.

Chairman W. R. G. Baker of the NTSC and all panel chairmen will participate in the January 27 conference, called by the FCC on November 16, when the Commission also announced licensing of ten additional television experimental stations, adding that the total budget of all experimental stations engaged in television research now amounted to \$8,000,000.

Members of the FCC will visit the New York area Jan. 24 and personally inspect late television developments.

Radio Gives 'Em Time to Pay

Installment selling is more popular among radio dealers than among the retailers of any other trade except one, and that's auto dealers, according to the findings of Dun & Bradstreet in their 1940 Retail Survey. Retailers totalling 13,000, in 52 trades were surveyed as to their operations in 1939, and it was found that 81 percent of radio dealers extend installment credit. The figure for auto men is 86 percent, the top.

It was found that the typical part of the total volume done on installment credit by these radio dealers was 47 percent. Other findings were that only 11 percent of radio dealers were doing a cash business, that is, 90 percent or more for cash. About 67 percent of the radio fellows extend open credit, and in these cases they do 22 percent of their volume via open credit.



"This year, angels have us by the hand," was Sayre Ramsdell's enthusiastic phrase as he predicted increased employment and consumer spending, at Philco's distributor convention in Chicago. See page 46.

Exchange of Ideas and Goods

Of real import to the whole U.S. radio industry is an announcement made by William S. Paley, president of the Columbia Broadcasting System upon his return from a 7-week air tour of Latin America. Columbia will now extend its network to 18 of the 20 Latin American republics. Negotiations are under way to include the two remaining nations. NBC short-wave beam programs are already available for rebroadcasting in South America.

Broadcasting of appropriately de-



John Garceau who heads the new RMA committee on advertising methods. Mr. Garceau is adv. mgr. for Farnsworth Television, Fort Wayne, Ind.

signed CBS programs on a day-by-day basis will start about Sept. 1 of this year. This "good neighbor" plan also includes the broadcasting here of features originating in Latin America.

Mr. Paley concludes that "the peoples of the two continents should know each other better and whatever part radio can play in bringing this about should prove of immense value in relationships between the Americas."

Plans for Expanded FM Service

Construction permit for the seventh FM station in New York City and the 26th in the country, has been granted to CBS, which will erect its 48.7 mc transmitter on the Salmon Tower, 42nd Street. Meanwhile the big 40,000-watt Alpine station of Major Armstrong has gone to a program of transcriptions and records, but is understood to have applied for a commercial license. FM programs of WOR and WQXR continue in the metropolitan area.

NBC has reconstructed its Empire State transmitter on 45.1 mc, and is now operating Saturdays and Sundays, including the Metropolitan Opera and Toscanini programs, though off the air Mondays and Tuesdays.

New FM applications by Muzak, New York, and WIBG, Philadelphia, are also before the FCC, making a total of 58 FM applications now pending at Washington.

Broadcast Re-Allocation May Be Postponed

The general re-allocation of broadcasting stations, which will affect most of the stations of the United States, may be postponed beyond the previously announced date of March 29, 1941, because of international difficulties.

This re-allocation, made under the Havana radio treaty, to improve broadcast reception in the Western Hemisphere, requires the approval of all nations concerned. Already Canada and Mexico have given their assent, but a snag has been struck with the Cubans. The U. S. State Department will hold conferences late in January, in an effort to clear the remaining obstacle. But even if all nations are in accord by Feb. 1, there is still doubt that the re-allocation can be put through by the date announced, March 29.

Radio Salesmen Work Hard for "Floor Time"

At Max Barnett Furniture Co., New Orleans, La, radio salesmen sell one of the biggest volumes of business of the entire store—because radio department manager Mike Magoni believes in providing an unusual incentive for his sales staff.



Radio now has friends in the fancy poultry business—Wm. C. Grunow, left, and J. J. Davin, Sr., shown at Mr. Grunow's Val-Lo-Will chicken farms, Lake Geneva, Wis., where Mr. Davin is sales manager.

It is his belief that more radios can be sold outside the store than it is generally felt possible—so many, in fact, that all the radio and appliance salesmen of the store spend the majority of their time on "outside calls."

This outside selling program had one bad feature however, in that salesmen are likely to become discouraged with "cold canvassing." Accordingly, Mr. Magoni developed a selling plan which means that every man sells every week at least three radios, running up to a minimum of \$100 a week in "outside" business.

"Floor time" in the first-floor radio department at the Barnett store, is naturally highly desirable to salesmen, inasmuch as there is a traffic of

around 5,000 persons daily past the section. Any salesman can swiftly close sales at this point, and usually can earn the largest part of his week's income on the floor.

Seven salesmen (specialty appliances and radios) are concerned in the plan. None can earn the right to spend a selling day on the radio department floor until they have brought Mr. Magoni a fixed amount of outside business which has been sold entirely independent of the store's help (no telephone inquiries, floor customers, etc.). When this quota is reached and checked at the end of the week by Mr. Magoni, the salesman receives one day on the radio floor; rotating days through the seven-man staff.

So Long As They Shall Live

There are a few married couples around the country who have a recording of those innocent and low-spoken words which marked the beginning of the joint life, be it bliss or battle.

It happens that at their weddings, somebody hid in the shrubbery with a microphone and set a recorder to turning, so that the fatal "I do," complete with music, was all registered on a permanent record.

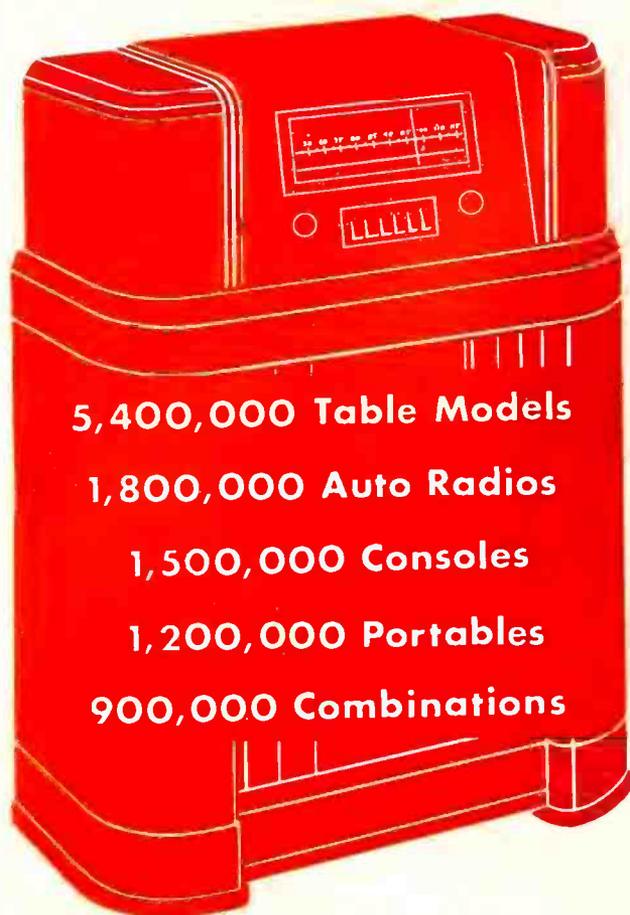
These discs become priceless as time goes on. They create a sensation when played at anniversaries, and the children of the couple show a genuine, if perverse, interest in them. It's one of the most dramatic illustrations of the worth of home recordings.

No doubt these wedding records are played sometimes when hubby gets tough, or the wife gets cross, in order to re-emphasize the "love, honor and obey" section. But the discs remain the most interesting document to be found in any of the bureau drawers.



Bristling with "Blue Ribbons," GE execs are shown in Atlanta with new lines preview they gave in 9 key cities. Headquarters officials are A. A. Brandt, right, radio sales manager, and Harry Deines, second from left, ad manager. See p. 47.

RADIO NEARS



5,400,000 Table Models
1,800,000 Auto Radios
1,500,000 Consoles
1,200,000 Portables
900,000 Combinations

All records broken by units sold during 1940
 (excepting sales of consoles)

Statistics of Sales of Receiving Sets and Parts, Sets in Use, etc. Industry Totals to January 1, 1941

RADIO-SET AND TUBE SALES, 1940

| | Number | Retail Value |
|---|-------------|---------------|
| Total sets sold during 1940 | 11,600,000 | \$400,000,000 |
| Radio sets exported | 700,000 | |
| Automobile radios | 1,800,000 | 72,000,000 |
| Home radios sold in U.S. | 9,300,000 | 357,000,000 |
| Consoles | 1,500,000 | 75,000,000 |
| Table models | 5,400,000 | 112,500,000 |
| Combinations | 900,000 | 62,500,000 |
| Home recorders | 150,000 | 25,000,000 |
| Portables, battery | 1,200,000 | 32,000,000 |
| Farm radios, battery | 800,000 | 19,400,000 |
| Home sets sold as replacements | 2,820,000 | 145,000,000 |
| Home sets sold to homes previously without radios | 1,880,000 | 94,000,000 |
| Tube replacements | 33,000,000 | 33,000,000 |
| Tubes, initial equipment | 77,000,000 | 77,000,000 |
| Total tubes sold 1940, including exports | 110,000,000 | 110,000,000 |
| Parts, supplies | | 57,000,000 |
| Phonograph records | 75,000,000 | 40,000,000 |

ROLL CALL OF THE RADIO INDUSTRY, JANUARY 1, 1941

| | | | |
|--|--------|---|---------|
| Manufacturers of radio receivers | 82 | NBC Blue Network stations | 92 |
| Manufacturers of radio tubes | 10 | CBS Network stations | 123 |
| Manufacturers of radio parts | 700 | MBS Network stations | 168 |
| Manufacturers of test equipment | 49 | International broadcast stations | 13 |
| Manufacturers of broadcast and amateur equipment | 95 | Television transmitters (experimental) | 23 |
| Manufacturers of sound equipment | 106 | Police radio transmitters | 6,300 |
| Radio-set and parts distributors | 2,150 | Aviation radio transmitters | 2,000 |
| Manufacturers' agents | 301 | Forest-conservation stations | 1,050 |
| Retail outlets selling radios | 57,000 | Special emergency stations | 450 |
| Servicemen, including dealers' servicemen | 25,000 | Commercial radio operators | 40,000 |
| Radio amateurs | 57,000 | Total employes in radio manufacturing | 75,000 |
| Broadcasting stations (Standard, A.M.) | 882 | Total employes in radio distribution, dealers, etc. | 150,000 |
| Frequency-modulation stations authorized | 25 | Total employes in broadcasting (including artists, part-time, etc.) | 45,000 |
| NBC Red Network stations | 131 | | |

THE RADIO BUSINESS TODAY—ITS MAGNITUDE IN ITS 21ST YEAR

| | Total Investment | Annual Gross Revenue | Number of Employes | Annual Payroll |
|-----------------------------------|------------------|----------------------|--------------------|-----------------|
| Radio manufacturers (1,064) | \$ 50,000,000 | \$300,000,000 | 75,000 | \$ 80,000,000 |
| Radio distributors, dealers, etc. | \$350,000,000 | \$600,000,000 | 150,000 | \$225,000,000 |
| Broadcasting stations (882) | \$ 80,000,000 | \$185,000,000 | 20,000* | \$ 50,000,000 |
| Commercial communication stations | \$ 35,000,000 | \$ 20,000,000 | 10,000 | \$ 4,000,000 |
| Listeners' sets (50,000,000) | \$3,200,000,000 | | | \$220,000,000 † |

*Regular staff—not including part-time employes, artists, etc., who number at least 25,000 more.

†Annual operating expense for listeners' sets for tube replacements, electricity, batteries, servicing, etc.

THE BILLION MARK!

ANNUAL BILL OF U.S. FOR RADIO IN 1940

| | |
|---|---------------|
| Sale of time by broadcasters, 1940 | \$190,000,000 |
| Talent costs | 60,000,000 |
| Electricity, batteries, etc., to operate 50,197,000 receivers | 200,000,000 |
| 10,900,000 radios sold in U.S., (retail value) | 345,000,000 |
| 33,000,000 replacement tubes at \$1.00 | 33,000,000 |
| Radio parts, supplies, etc. | 57,000,000 |
| Servicing radio sets | 65,000,000 |

U.S. Public paid for radio in 1940.....\$950,000,000

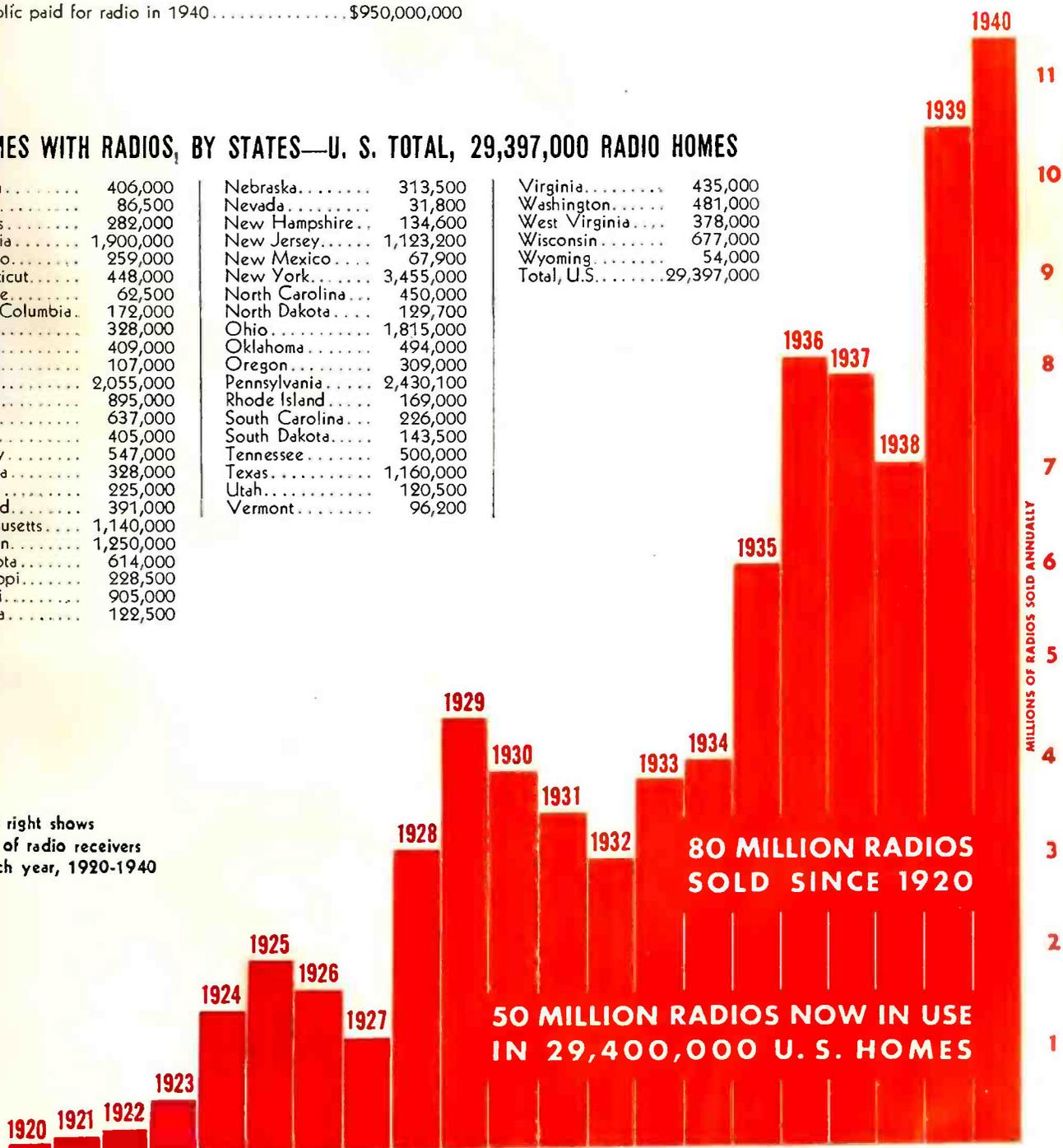
RADIO SETS IN USE, AS NEW YEAR OPENS

| | Jan. 1, 1940 | Jan. 1, 1941 |
|---------------------------------|-------------------|-------------------|
| U.S. homes with radios | 28,700,000 | 29,397,000 |
| "Secondary" sets in above homes | 9,200,000 | 11,000,000 |
| Battery portables | 700,000 | 1,800,000 |
| Auto-radios | 6,500,000 | 8,000,000 |
| Total sets in use, U.S. | 45,000,000 | 50,197,000 |

HOMES WITH RADIOS, BY STATES—U. S. TOTAL, 29,397,000 RADIO HOMES

| | | | | | |
|---------------------|-----------|------------------|-----------|------------------------|-------------------|
| Alabama..... | 406,000 | Nebraska..... | 313,500 | Virginia..... | 435,000 |
| Arizona..... | 86,500 | Nevada..... | 31,800 | Washington..... | 481,000 |
| Arkansas..... | 282,000 | New Hampshire.. | 134,600 | West Virginia.... | 378,000 |
| California..... | 1,900,000 | New Jersey..... | 1,123,200 | Wisconsin..... | 677,000 |
| Colorado..... | 259,000 | New Mexico..... | 67,900 | Wyoming..... | 54,000 |
| Connecticut..... | 448,000 | New York..... | 3,455,000 | Total, U.S..... | 29,397,000 |
| Delaware..... | 62,500 | North Carolina.. | 450,000 | | |
| Dist. of Columbia.. | 172,000 | North Dakota.... | 129,700 | | |
| Florida..... | 328,000 | Ohio..... | 1,815,000 | | |
| Georgia..... | 409,000 | Oklahoma..... | 494,000 | | |
| Idaho..... | 107,000 | Oregon..... | 309,000 | | |
| Illinois..... | 2,055,000 | Pennsylvania.... | 2,430,100 | | |
| Indiana..... | 895,000 | Rhode Island.... | 169,000 | | |
| Iowa..... | 637,000 | South Carolina.. | 226,000 | | |
| Kansas..... | 405,000 | South Dakota.... | 143,500 | | |
| Kentucky..... | 547,000 | Tennessee..... | 500,000 | | |
| Louisiana..... | 328,000 | Texas..... | 1,160,000 | | |
| Maine..... | 225,000 | Utah..... | 120,500 | | |
| Maryland..... | 391,000 | Vermont..... | 96,200 | | |
| Massachusetts..... | 1,140,000 | | | | |
| Michigan..... | 1,250,000 | | | | |
| Minnesota..... | 614,000 | | | | |
| Mississippi..... | 228,500 | | | | |
| Missouri..... | 905,000 | | | | |
| Montana..... | 122,500 | | | | |

Chart at right shows number of radio receivers sold each year, 1920-1940



RADIO NEAR THE BILLION MARK!

Statistics of Sales of Receiving Sets and Parts, Sets in Use, etc. Industry Totals to January 1, 1941

RADIO-SET AND TUBE SALES, 1940

| | Number | Retail Value |
|---|-------------|---------------|
| Total sets sold during 1940 | 11,600,000 | \$400,000,000 |
| Radio sets exported | 700,000 | |
| Automobile radios | 1,800,000 | 79,000,000 |
| Home radios sold in U.S. | 9,300,000 | 357,000,000 |
| Consoles | 1,500,000 | 75,000,000 |
| Table models | 5,400,000 | 112,500,000 |
| Combinations | 900,000 | 62,500,000 |
| Home recorders | 150,000 | 25,000,000 |
| Portables, battery | 1,900,000 | 32,000,000 |
| Farm radios, battery | 800,000 | 19,400,000 |
| Home sets sold as replacements | 2,820,000 | 145,000,000 |
| Home sets sold to homes previously without radios | 1,880,000 | 94,000,000 |
| Tube replacements | 33,000,000 | 33,000,000 |
| Tubes, initial equipment | 77,000,000 | 77,000,000 |
| Total tubes sold 1940, including exports | 110,000,000 | 110,000,000 |
| Parts, supplies | | 57,000,000 |
| Phonograph records | 75,000,000 | 40,000,000 |

ROLL CALL OF THE RADIO INDUSTRY, JANUARY 1, 1941

| | |
|--|--------|
| Manufacturers of radio receivers | 82 |
| Manufacturers of radio tubes | 10 |
| Manufacturers of radio parts | 700 |
| Manufacturers of test equipment | 49 |
| Manufacturers of broadcast and amateur equipment | 95 |
| Manufacturers of sound equipment | 106 |
| Radio-set and parts distributors | 2,150 |
| Manufacturers agents | 301 |
| Retail outlets selling radios | 57,000 |
| Service men, including dealers' servicemen | 25,000 |
| Radio amateurs | 57,000 |
| Broadcasting stations (Standard, A.M.) | 882 |
| Frequency-modulation stations authorized | 25 |
| NBC Red Network stations | 131 |

| | |
|---|---------|
| NBC Blue Network stations | 92 |
| CBS Network stations | 123 |
| MBS Network stations | 168 |
| International broadcast stations | 13 |
| Television transmitters (experimental) | 23 |
| Police radio transmitters | 6,300 |
| Aviation radio transmitters | 2,000 |
| Forest-conservation stations | 1,050 |
| Special emergency stations | 450 |
| Commercial radio operators | 40,000 |
| Total employes in radio manufacturing | 75,000 |
| Total employes in radio distribution, dealers, etc. | 150,000 |
| Total employes in broadcasting (including artists, part-time, etc.) | 45,000 |

THE RADIO BUSINESS TODAY—ITS MAGNITUDE IN ITS 21ST YEAR

| | Total Investment | Annual Gross Revenue | Number of Employes | Annual Payroll |
|-----------------------------------|------------------|----------------------|--------------------|----------------|
| Radio manufacturers (1,064) | \$ 50,000,000 | \$300,000,000 | 75,000 | \$ 80,000,000 |
| Radio distributors, dealers, etc. | \$350,000,000 | \$600,000,000 | 150,000 | \$225,000,000 |
| Broadcasting stations (882) | \$ 80,000,000 | \$185,000,000 | 20,000* | \$ 50,000,000 |
| Commercial communication stations | \$ 35,000,000 | \$ 20,000,000 | 10,000 | \$ 4,000,000 |
| Listeners' sets (50,000,000) | \$3,200,000,000 | | | \$220,000,000† |

*Regular staff—not including part-time employes, artists, etc., who number at least 25,000 more.
†Annual operating expense for listeners' sets for tube replacements, electricity, batteries, servicing, etc.

ANNUAL BILL OF U. S. FOR RADIO IN 1940

| | |
|---|---------------|
| Sale of time by broadcasters, 1940 | \$190,000,000 |
| Talent costs | 60,000,000 |
| Electricity, batteries, etc., to operate 50,197,000 receivers | 200,000,000 |
| 10,900,000 radios sold in U.S., (retail value) | 345,000,000 |
| 33,000,000 replacement tubes at \$1.00 | 33,000,000 |
| Radio parts, supplies, etc. | 57,000,000 |
| Servicing radio sets | 65,000,000 |
| U.S. Public paid for radio in 1940 | \$950,000,000 |

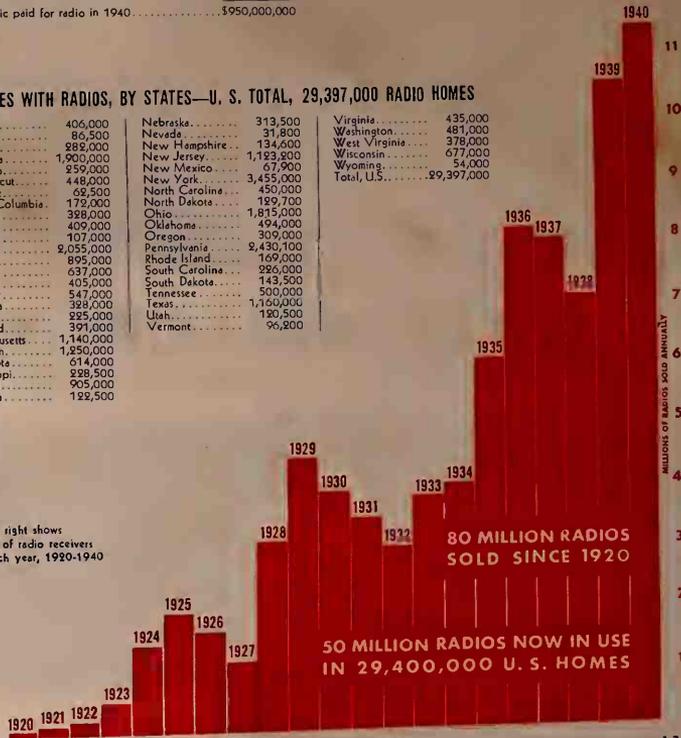
RADIO SETS IN USE, AS NEW YEAR OPENS

| | Jan. 1, 1940 | Jan. 1, 1941 |
|---------------------------------|--------------|--------------|
| U.S. homes with radios | 98,700,000 | \$9,397,000 |
| "Secondary" sets in above homes | 9,200,000 | 11,000,000 |
| Battery portables | 700,000 | 1,800,000 |
| Auto-radios | 6,500,000 | 8,000,000 |
| Total sets in use, U.S. | 45,000,000 | 50,197,000 |

HOMES WITH RADIOS, BY STATES—U. S. TOTAL, 29,397,000 RADIO HOMES

| | | | | | |
|-------------------|-----------|----------------|-----------|---------------|------------|
| Alabama | 400,000 | Nebbraska | 313,500 | Virginia | 435,000 |
| Arizona | 80,500 | Nevada | 31,800 | Washington | 481,000 |
| Arkansas | 282,000 | New Hampshire | 134,600 | West Virginia | 378,000 |
| California | 1,900,000 | New Jersey | 1,123,900 | Wisconsin | 677,000 |
| Colorado | 250,000 | New Mexico | 67,900 | Wyoming | 54,000 |
| Connecticut | 448,000 | New York | 3,455,000 | Total, U.S. | 29,397,000 |
| Delaware | 62,500 | North Carolina | 450,000 | | |
| Dist. of Columbia | 172,000 | North Dakota | 199,700 | | |
| Florida | 328,000 | Ohio | 1,815,000 | | |
| Georgia | 409,000 | Oklahoma | 494,000 | | |
| Idaho | 107,000 | Oregon | 309,000 | | |
| Illinois | 2,055,000 | Pennsylvania | 2,430,100 | | |
| Indiana | 895,000 | Rhode Island | 169,000 | | |
| Iowa | 637,000 | South Carolina | 292,000 | | |
| Kansas | 405,000 | South Dakota | 142,500 | | |
| Kentucky | 547,000 | Tennessee | 500,000 | | |
| Louisiana | 328,000 | Texas | 1,160,000 | | |
| Maine | 225,000 | Utah | 120,500 | | |
| Maryland | 397,000 | Vermont | 66,300 | | |
| Massachusetts | 1,140,000 | | | | |
| Michigan | 1,250,000 | | | | |
| Minnesota | 514,000 | | | | |
| Mississippi | 258,500 | | | | |
| Missouri | 905,000 | | | | |
| Montana | 122,500 | | | | |

Chart at right shows number of radio receivers sold each year, 1920-1940



JANUARY, 1941



"Don't miss the dramatic broadcasts of 1941!" is a timely sales theme for dealers now. At left, Edward G. Robinson and Ona Munson prepare the gripping "Big Town" series, CBS, Wednesdays.



SALES WALLOPS FOR

RADIO MERCHANDISING CUES BEFORE

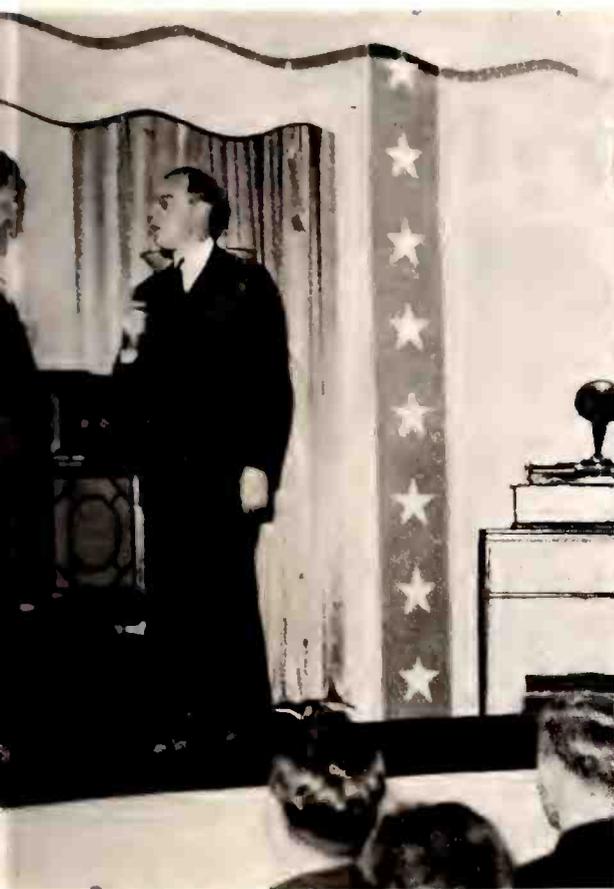


Above, a Connecticut truck does a promotion job. For jobber Dale Radio, New Haven.

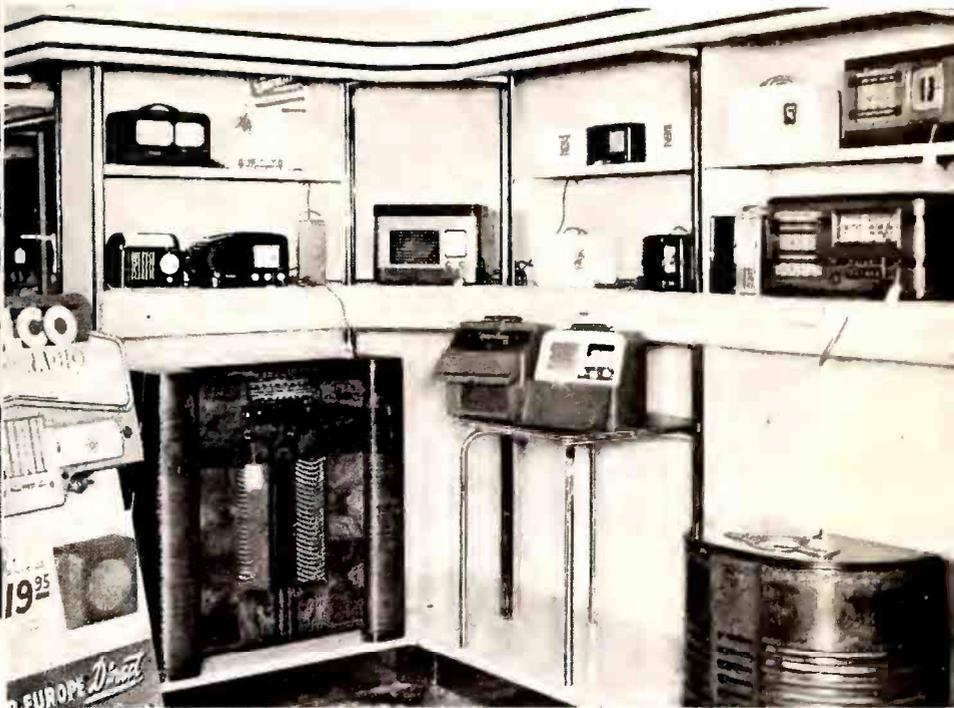
At left, colorful displays from manufacturers help a dealer with dramatic window trim. At McBreen's, Melrose Park, Ill.

idea for action in windows—a life-like figure “con-
 tacts” at Adam-Melgrum-Anderson, Buffalo, N. Y.

Milwaukee store stages own broadcast. Below, Prof.
 Quiz and Philco photo-electric unit at Schuster's.



Below, bright new pastel-enameled steel fixtures, made by Aurora Equip.
 Co. in streamlined radio display at Bruns & Collins, Chicago.



WINTER SPRING COMES



Above, Bradford Radio, Columbia, S. C., piled 5,000 old tubes into window, asked people to guess number. It got results.

Customers like well-appointed shops like this luxurious display of Magnavox, right, at the swank W. & J. Sloane store, N.Y.C.





"Don't miss the dramatic broadcasts of 1941!" is a timely sales theme for dealers now. At left, Edward G. Robinson and Ona Munson prepare the gripping "Big Town" series, CBS, Wednesdays.

Idea for action in windows—a life-like figure "conducts" at Adam-Melgrum-Anderson, Buffalo, N. Y.

Milwaukee store stages own broadcast. Below, Prof. Quiz and Philco photo-electric unit at Schuster's.



Below, bright new pastel-enameled steel fixtures, made by Aurora Equip. Co. in streamlined radio display at Bruns & Collins, Chicago.



SALES WALLOPS FOR WINTER

RADIO MERCHANDISING CUES BEFORE SPRING COMES



Above, a Connecticut truck does a promotion job. For jobber Dale Radio, New Haven.

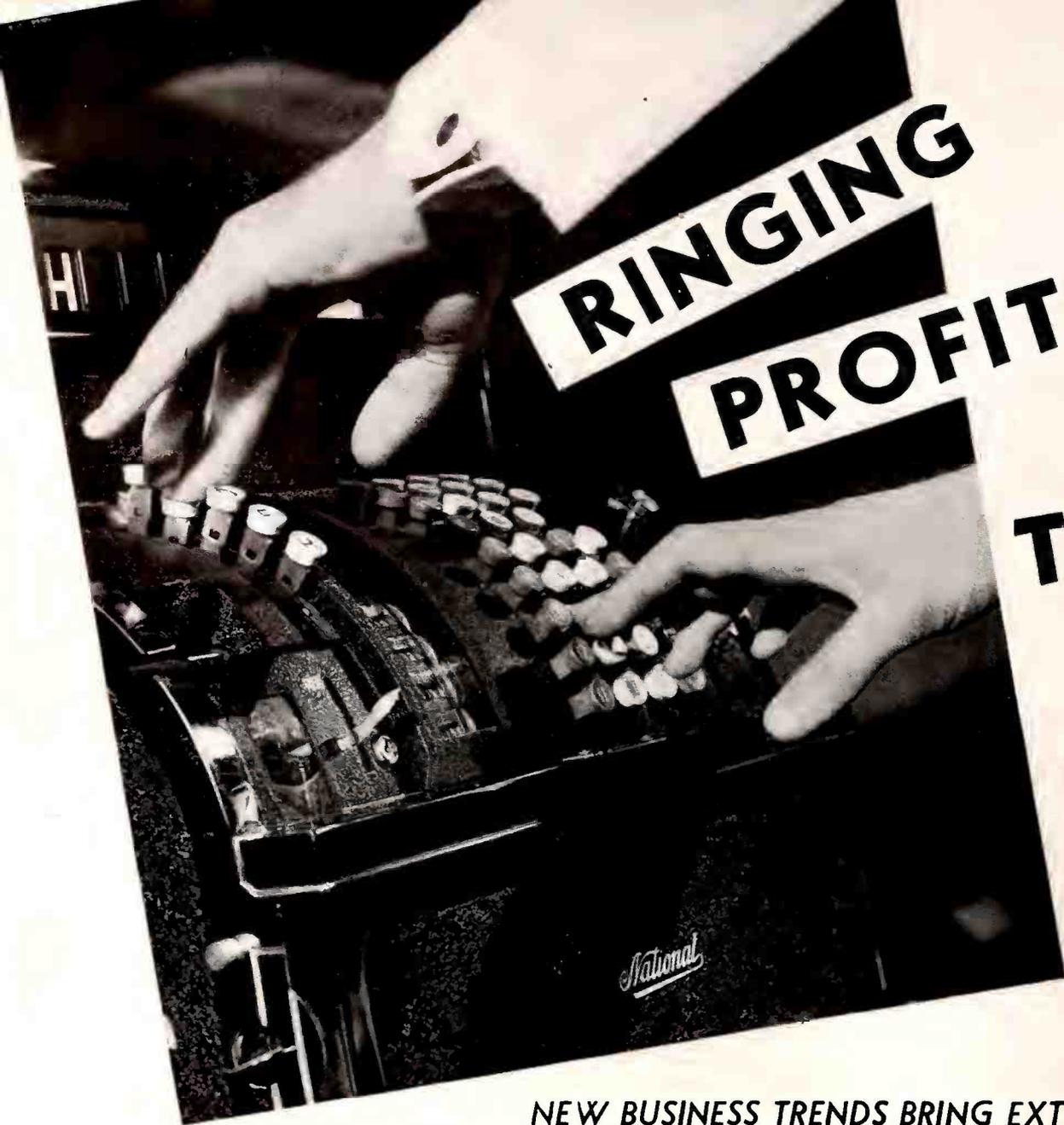


Above, Bradford Radio, Columbia, S. C., piled 5,000 old tubes into window, asked people to guess number. It got results.

At left, colorful displays from manufacturers help a dealer with dramatic window trim. At McBreen's, Melrose Park, Ill.

Customers like well-appointed shops like this luxurious display of Magnavox, right, at the swank W. & J. Sloane store, N.Y.C.





RINGING PROFITS

THIS YEAR!

NEW BUSINESS TRENDS BRING EXTRA DOLLARS BUT REQUIRE EXTRA PLANNING ON DEALER'S PART

Many are the signs which point to a great radio year in 1941.

But along with more business there come too, more problems which the small business man cannot overlook. Rather, he must look over these problems, study them, plan for them, and solve them. Some are peculiar to the radio dealer.

First it must be recognized that our tremendous defense program expenditures and the rapidly mounting national debt, make increased taxes a certainty. Taxes are an expense which must be paid, when due, in cash.

CHANGING SCENE

But beyond this, the rapid rise in corporation income, and excess profits taxes may take a much larger amount of cash than expected, if they are not understood, and planned for, particularly when good years follow poor ones.

Excess profit taxes are computed on a basis which accepts a "normal" profit as the tax floor. It is obvious then, that the lower the "normal" profits have been, the lower will be the "floor" above which excess profit taxes become effective.

Proprietors and partners will be affected too, because the personal income tax base will be broadened, exemptions will be reduced, and the tax rate gradient will go up more sharply as the upper brackets are reached.

The next most important new problem is the one created by the "selective service" law, which will take more and more men into the Army. This "draft" affects the small business in two ways. First, is *personnel*. The smaller the organization the harder it will be hit when key men are called for training. The extreme case is the "one-man" business which may be forced to temporarily suspend opera-

tion while the owner answers his country's call to training.

Though the departure of men, even temporary, may affect each business differently it certainly is a problem which must be carefully studied.

PLAN FOR PERSONNEL

As owners or partners, sales managers or salesmen, servicemen or bookkeepers are called, different problems are created which each business must consider, and plan for, individually.

Sales volume may suffer, competition may gain a strong advantage, good-will may be lost, unless adequate preparation is made to meet the situation.

All of these factors may have a far reaching effect on the dealer's credit standing with his suppliers.

Also to be considered is the effect of this training on the dealer's cus-

WATCH THESE IN '41

Figure your tax costs closely and be ready for new rates.

Make plans to keep your personnel ranks full, if Selective Service calls some.

Build your sales effort to emphasize higher unit sales.

Be ready for "clean" selling of FM sets, when they're due for your area.

Keep a sharp eye on customers' credit standing, as well as your own.

customers, their ability to maintain their time payment contracts, and the resulting effect on the dealer's credit and sales.

There can certainly be no question of the correctness, in our democracy, of requiring all of us to pay for the defense of our homes according to our ability to do so.

BOOM TIME

As our national defense program calls large numbers of men to expanding industry, we may reasonably expect that sales will follow the upward curve of buying power.

But it is also a fact, that the demands of industry will raise wages substantially in other occupations, such as retailing and servicing.

To the radio dealer this means higher sales, and salary costs and probably too, a higher personnel turnover.

The prudent dealer will watch his time-paper closely, for one of these days the bottom will drop out of the "defense boom" and when it does,

capital frozen in non-moving stock and deferred payment paper may be a millstone around the dealer's neck.

SELLING UP IN '41

Now for the matter of higher unit selling under the new conditions, although the sale of combinations has broken all previous records, the average unit sale has not risen appreciably, if at all.

The fact that the unit sale is now the average of the two extremes, and that the sale of the middle range console has sharply declined, indicates a problem which is important.

Greater selling effort, based upon more intelligent selling, must be employed to step up more sales to the combination class.

Probably the most conspicuous and widespread failure of radio dealers has been their mad scramble to sell radio on a price basis only. To neglect the opportunities of selling better radio for what they are, *better radio*, is to fall into the "order taking" price trap which this year may have more far-reaching results than in the past.

KEEP YOUR BUSINESS

The diversion of radio sales to non-radio stores will be greater in 1941 than in the past, and this constitutes another important problem which dealers, individually or collectively must face and solve.

The new camera-size "personal" portables have found an active demand awaiting them. But they also found that people would buy them in luggage shops, gift shops, sporting goods stores, drugstores, accessory stores, and plenty of other *non-radio* stores.

SALESMEN WANTED

"More and better retail salesmanship is needed in radio," declares the RCA Mfg. Co. president, G. K. Throckmorton, in his year-end statement on trends in the business. Mr. Throckmorton believes that "too many have relied entirely on the public's keen interest in radio and recorded music and have limited themselves merely to taking orders, rather than selling the superior tone, appearance and performance of the larger and more complete home entertainment instruments."

The rapidly increasing demand for combinations presents its own problems too.

Combinations can best be sold only when records, too, are sold. Records involve space, merchandising and selling effort of a special type. With the substantial reduction in record prices a few months ago, a whole new set of problems has been created with dealers strongly divided as to their answers.

The objective is to keep profits up as new markets are created for low-priced records. Cheaper discs will be sold this year than ever before by musical appreciation groups and many will be used by newspapers as circulation premiums.

Though this year presents many problems to the radio dealer, it offers him opportunities at least as great. The next 12 months may surprise those who fail to *think* and *learn* how far-reaching some new conditions may be.

"Three deep" is the report on how this window lined up the passers-by for the Eastern Columbia store in Los Angeles. Hundreds stopped to see a new photo of their favorite radio star (and read the quiet sales message on new receivers.)





In stores where there's a lot of traffic and where salesmen are moving around among groups of people, these radios (the ones with the shoulder straps) can be worn by the men all the time, like the sales people in the variety stores who are introducing some small item of apparel and wear it around as an extra advertisement. Four radio salesmen wearing tuned

At the left is the neat little "Carryette" by Westinghouse, counterpart of RCA's pioneer job. And below the handsome plastic-cased unit by GE.



couple of sales because he did not have the right colors in stock. Many of these units are bought by women, and they have ideas about color. Moral: be sure that your stock is complete. A dozen of the leading manufacturers are making these radios now.

The fact that the tiny sets use "peanut tubes" is used in some quarters for novelty appeal. People know what an average radio tube should look like and they are interested in exceptional variations. It speaks well for radio engineering, too.

Reports in some areas are that the pint-sized jobs are the best gift items that ever came along in the radio business. This applies to birthdays, Father's Day, anniversaries, and graduations, as well as Christmas. Dealers are apt to report this with a good deal of spirit, because they say that often, when the set is being purchased for a gift, sales are made quicker and the buyer is mostly concerned about eye appeal.

In demonstrating these radios, a New York dealer says that it is best to "tune in on a voice broadcast, rather than some form of music. Of course you have to size up the customer and get some idea of how he plans to use the set, but in general you should not pick out a symphonic

RADIO EN ROUTE

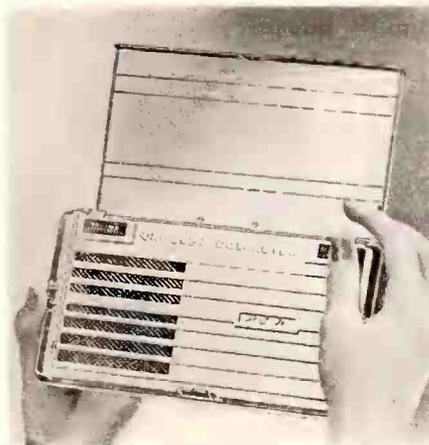
Your customers like to listen wherever they are, and here are tips on how to sell 'em the easy-to-take bantam jobs.

Rarely has a single type of radio created such a wave of public interest as the new camera-sized jobs. They're widely advertised and publicized and millions are calling them fashionable as well as useful and interesting.

Much of this activity started when RCA introduced its "Personal" and sent it soaring to new sales records.

When you contact dealers, you find that there are some special methods being used to get more of these sets sold. A report may be helpful to readers who'd like to do a better job.

Since the sensationally light weight of these radios is one of the important sales considerations, the use of scales, or some kind of weighing device that will attract attention, is appropriate. Dealers have never before featured the matter of weight in selling radio, and the idea will suggest a number of display stunts for the window or counter. One of the manufacturers uses this idea, in a display in which the receiver is suspended by a thread.



Directly above, the smart strap-around job by Philco, and at left, Crosley's stylish aluminum "Commuter."

sets would of course result in bedlam; the only thing that can be advertised in this way is the wearing convenience and the eye appeal.

Throughout display work and in direct mail, the word "Personal" can be played up in an effective way. Placards, leaflets, or letters marked in this way are apt to get attention, particularly if the word is in handwriting. It describes the qualities of the set very well and so it makes an ideal key word for sales messages. One manufacturer has done this nicely on a leaflet.

In one store the dealer had lost a

broadcast and expect to demonstrate extra quality reproduction with this type of set."

More good advice from this store is "by all means be sure to turn the receiver off, when you get through showing it . . . the batteries will be dead soon enough."

Photos of broadcasts which listeners may miss if they do not own a personal set, and pictures showing how owners are actually using the radios, suggest good display ideas. An example of this was pictured in RADIO TODAY last month, via a window at Lyon & Healy, Chicago.

SELLING LIKE *Blazes*



because
they're
HOT!

RCA VICTOR SUPER SIX

17 features—6 RCA Victor Preferred
Type Tubes—only \$16.95*

These 17 features prove *why* folks everywhere have kept our factory going full blast to keep up with orders: Six RCA Victor Tubes, big Continental style plastic cabinet, R-F stage for better sensitivity, big Edge-Lighted dial, new style Bull's-eye pointer, Music-Speech Tone Control, Plug-in for record player attachment, Powerful 5" Permanent Magnet Dynamic Speaker. Improved superheterodyne circuit, popular 1610-1712 kc. police band, Extra-large Magic Loop Antenna, Big knobs for easy tuning, Automatic Volume Control, Special hi-stability I-F transformers, connection for extra antenna. 16-to-1 Vernier tuning, AC-DC operation.

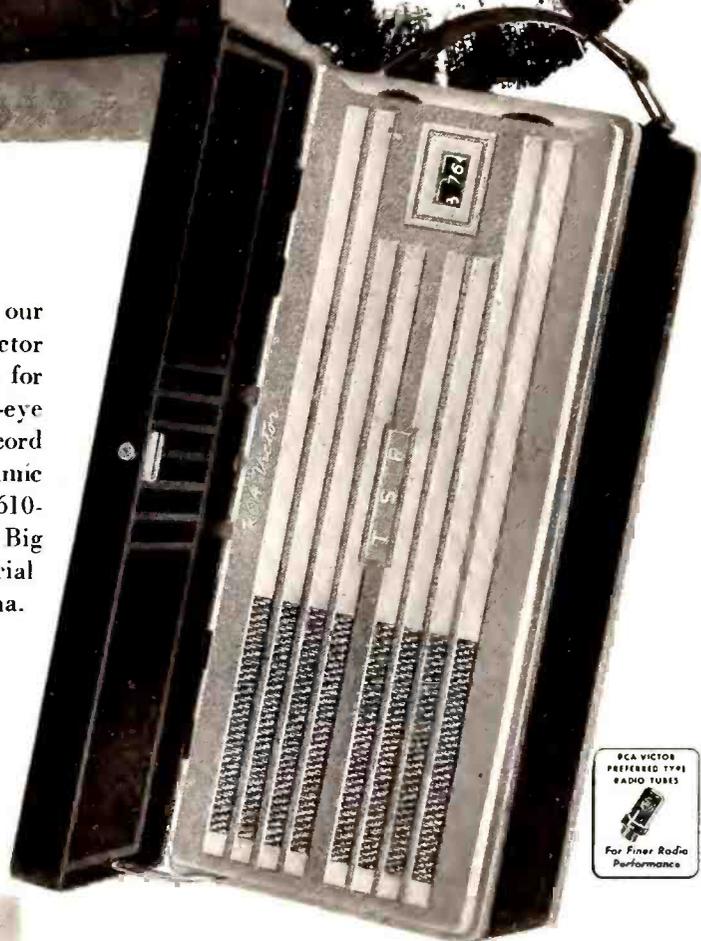
Begin the New Year with these
proved big sellers by RCA VICTOR
Feature them . . . push them—for profits

*Prices f. o. b. Camden, New Jersey, subject to change without notice.
Trademark "RCA Victor" Reg. U. S. Pat. Off. by RCA Mfg. Co., Inc.



RCA Victor

RCA MANUFACTURING CO., INC., CAMDEN, N. J.
IN CANADA, RCA VICTOR CO., LTD., MONTREAL
A Service of the Radio Corporation of America



RCA VICTOR PERSONAL RADIO

Little . . . light . . . sensation of the nation—
only \$20* complete with batteries

There are reasons—plenty of 'em—why the RCA Victor Personal Radio created enthusiasm in every market it's touched! It weighs only 4¼ lbs.—measures only 3¼" by 8¾" by 3". And in it are built outstanding performance features, which make possible this set's splendid tone and sensitivity. These include new "Ellipticon" speaker, 2-position lid support, 4 new RCA Victor Tynetron Tubes. The lid contains built-in antenna. No exposed controls. Open lid—set plays. Close lid—it stops. Smart, sturdy case provides room for personal initials.



Admiral's "Slide-A-Way" phonograph combo, 71-M6, with automatic record changer and Pfanstiehl lifetime needle, plays 10 and 12 in. records. This AC superhet has 6 tubes, 10 in. P.M. dynamic speaker and 2 wave bands. \$69.95.

NEW SELLERS



S-C plastic set

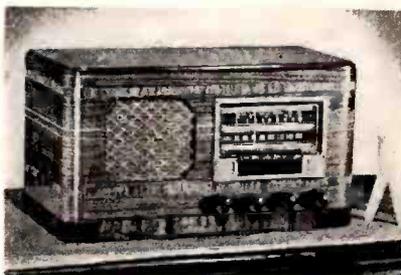
★ A plastic table radio, No. 600-H, available in ivory finish or brown with horizontal white stripes. AC-DC operation on standard broadcast band from 550 to 1600 kc. 5 tuned circuits, tone control, A.V.C., 5½ in. dynamic speaker, built-in loop and connection for outside aerial. In brown, \$24.95; ivory, \$26.95. Stromberg-Carlson Tel. Mfg. Corp., 100 Carlson Rd., Rochester, N. Y.—RADIO TODAY.

pickup. Amplifier power output 2 w. 6½ in. p.m. speaker. Front panel tone and volume control. Period, wood cabinet. Espey Elec. Phonographs, 305 E. 63 St., N. Y. C.—RADIO TODAY.



Radiola model "515"

★ A new model in the Radiola series of table radios is the "515", a 6-tube, 2-band set with 2 built-in antennas, one stage of R.F. amplification and p.m. dynamic loudspeaker. Plug-in and switch for phono attachment. Walnut veneers & horizontal rails. Horizontal dial at 45 degree angle for easy reading. \$24.95. RCA Mfg. Co., Inc., Camden, N. J.—RADIO TODAY.



Westinghouse table model

★ AC-DC superheterodyne, WR-12-7, with 2 bands, 6 push buttons, enclosed loop antenna & 5 in. P.M. dynamic speaker. A.V.C., phono terminals. 5 tubes. \$29.95. Westinghouse Elec. Supply Co., 150 Varick St., N. Y. C.—RADIO TODAY.



Freed-Eisemann FM-AM set

★ Model FM-42, combination FM-AM radio with automatic record changer, in Hepplewhite walnut or mahogany. AC operation but also available for DC. 16 tubes, cathode ray tuning indicator, built-in FM-AM aerial. Two-speakers—1 Panphonic 12 in. electrodynamic and 1 high frequency permanent magnet. Crystal pickup, automatic stop, plays 10 & 12 in. records intermixed. Freed Radio Corp., 39 W. 19th St., N. Y. C.—RADIO TODAY.



Majestic model 400

★ Majestic superhet AC-DC table model with 5 tubes, loop antenna, plastic cabinet. 11-1/8 in. wide, 6-1/4 in. high, 7-1/4 in. deep. \$9.95. Majestic Radio & Telev. Corp., 2600 W. 50th St., Chi., Ill.—RADIO TODAY.



Espey automatic phono

★ Model RC-21, automatic record changer electric phonograph. Plays fourteen 10 in. or 12 in. records. Rim drive motor, 78 rpm, 115 v., AC, 60 cycles. Also available in AC-DC. 9 in. turntable. Crystal



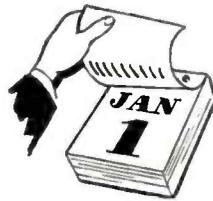
Philco console

★ A 9-tube receiver, 296X, with 8 electric push-buttons and a balanced field electro-dynamic speaker. Built to receive standard broadcasts, American and foreign short-wave, state & city police calls aircraft & ship amateur stations. Walnut cabinet. \$99.50. Philco Corp., Tioga & C Sts., Phila., Pa.—RADIO TODAY.

UTAH KEPT 6,263,126 GOOD RESOLUTIONS



G. Hamilton Beasley
President



Last year the Utah organization solemnly resolved to provide parts for the radio industry which would not only meet its own rigid engineering standards but which would set new *value* standards for manufacturers, retailers, servicemen and consumers.

During 1940 Utah furnished 6,263,126 parts to the Radio Industry. Each one is evidence that the resolution was being kept—each one representing a greater value for *you*.

You are assured that in 1941 Utah's engineering and designing will keep abreast of all industry developments; that Utah's manufacturing skill will produce even greater values; that Utah products will continue to be distributed through the recognized channels only; *and that Utah will serve you better than ever before.* Utah Radio Products Company, 814 Orleans Street, Chicago, Illinois. Canadian Office: 560 King Street West, Toronto. In Argentine: Ucoa Radio Products Co., SRL Buenos Aires. Cable Address: Utaradio, Chicago.



Peter L. Jensen
Vice-President



J. W. Caswell
Vice-President



W. Dumke
Vice-President
and Secretary
Charge of Production



H. S. Neyman
Vice-President and
Treasurer



O. F. Jester
General Sales
Manager



W. A. Ellmore
Chief Engineer



C. L. Walker
Asst. Chief Engineer



J. M. Hume
Sales Engineering



W. H. Edwards
Sales Engineering



R. M. Karet
Sales



R. R. Hutmacher
Sales



P. H. Heckendorn
Sales



F. E. Ellithorpe
Sales Engineering

UTAH RADIO PRODUCTS COMPANY

Speakers • Transformers • Vibrators • Utah-Carter Parts

814 ORLEANS STREET • CHICAGO, ILLINOIS

RECORD SALES

Since Jan. 1st, the musical fare which the public hears through its radio has been greatly changed. As many radio men know, there's a big dispute between the broadcasters and ASCAP (American Society of Composers, Authors & Publishers), so that many of the songs which had been considered favorites are no longer aired by the networks.

To the dealer who sells records, this means that most of his customers will be able to hear a certain group of musical compositions *only* on discs.

An example of what retailers may do about this situation is seen in the action taken by Bloomingdale's, New York City. This store ran ads in which were listed a long series of compositions, and the copy suggested that "If You Can't Hear These on the Radio, Get Them for Your Phonograph!"

This striking ad also took occasion to mention the low prices of records, and advised readers that "This Is the Time to Buy an Electric Phonograph!"

IT ALL HELPS

In general, retailers may remember that these things are likely to happen while ASCAP-controlled music is withdrawn from the air:

1. Sales of recordings of old favorite compositions such as those by ASCAP members, Victor Herbert, Irving Berlin, George Gershwin, Cole Porter, Jerome Kern, Rudolf Friml, and many other leaders, may be expected to rise.

2. Demand for discs of those current tunes which became popular before the first of the year, and are now off the air, will also increase. Examples are "Only Forever," "Trade Winds" and "Down Argentine Way."

3. Retail volume of radio-phono combinations may trend upward even more.

4. Dealers will have a chance to study the influence of radio in making hits out of the songs now being

written.

5. There may be a tendency to "sweeter" music, as the public hears less of "Rhumbogie" and more of "Jeanie With the Light Brown Hair."

Presented herewith is RADIO TODAY's list of compositions which, controlled by ASCAP, are now off the air, but which are high in public favor. The record dealer is now the chief agent for bringing this music into the homes of his area.

Quality Phono Needles to Get a Play

While radio men are enjoying a vigorous demand for radio-phonograph combinations and there is talk of sales of 100,000,000 records in 1941, there has arisen a lively discussion as to what needles should be used in order to make this merchandise more satisfactory to owners.

This trend toward quality reproduction in the home depends to some extent on merchandising of better phono needles. Radio Today has therefore undertaken to give retailers the best advice on this matter, and has queried the leaders in the business. All their ideas and suggestions will be assembled and presented to readers in a forthcoming issue.

Meanwhile the dealers themselves, those men who are facing the record customers day after day, are invited to send in more of their ideas on the subject.

A Way to Win Disc Blank Sales

A plan by which radio servicemen may use postage-free order cards, in an effort to get more business in recording blanks and needles, has been outlined by R. C. Powell, sales manager of Presto Recording Corp., 242 W. 55th St., New York City. The suggestion was made in connection with the millions of service contacts



Everything happens at a "Bar" these days, even demonstrating records several at a time. This Record Bar, at Davega's, Bronx, N. Y., is from A. Bitter Const. Corp.

to be made when the station re-allocation event arrives.

The cards are furnished free to dealers and servicemen, with imprint, in reasonable quantities. They are to be mailed to prospects, or left in homes where the serviceman has a job and notes a recorder in use. The cards provide the prospect with a free convenient, and attractive way to order blanks and needles.

New "Record Bar" Now Ready

Announcement from A. Bitter Construction Corp., 27-01 Bridge Plaza North, Long Island City, N. Y. is that the firm is ready with an improved 1941 "Record Bar," presented as "a complete record merchandising department." Features include a 12" high fidelity P.M. speaker, Featherweight pickup, sapphire needlepoint, rim-drive constant-speed motor, etc.

The new Bar emphasizes compactness, multiple demonstration facilities, "silent salesman" showcase display for discs, albums and accessories, convenient counter space, finger-tip stocking bins, low cost, and other features. Finish may be walnut or Duco colors.

The Bitter firm reports that its record merchandising equipment has recently gone out to such houses as Raymond Rosen & Co., Philadelphia; Wm. H. Block Co., Indianapolis; Swern & Co., Trenton, N. J.; Gertz Dept. Store, Jamaica, L. I., N. Y.; Cedar-Lee Radio Co., Cleveland; Southern Wholesalers Inc., of Baltimore and Washington and others.

Recordio Announces Free Album

A new promotion on Recordio blanks has just been announced by Wilcox-Gay Corp., Charlotte, Mich. It includes an exclusive new packaging album, a

(Continued on page 48)

Favorite Compositions Not on the Networks Today *

Caprice Viennois
St. Louis Blues
Ol' Man River
Indian Love Call
Sylvia
On the Road to Mandalay
God Bless America
Ah Sweet Mystery of Life
Tea for Two
Mighty Lak' a Rose
The Last Round-Up
Alexander's Ragtime Band
The End of a Perfect Day
Rhapsody in Blue
Oh Promise Me
Gypsy Love Song
Stardust
De Glory Road

Stars and Stripes Forever
The Old Refrain
Body and Soul
Kiss Me Again
Deep River
Giannina Mia
Grand Canyon Suite
Italian Street Song
Desert Song
Summertime
The Riff Song
Make Believe
One Alone
Stout Hearted Men
Lover Come Back to Me
Night and Day
When I Grow Too Old to Dream
Mood Indigo

CURRENT FAVORITES

Only Forever
Ferryboat Serenade
Java Jive
Down Argentine Way
Trade Winds
Mayhe
Two Dreams Met
Our Love Affair
We Three
San Antonio Rose
A Nightingale Sang in Berkeley Square
Rhumbogie
The Last Time I Saw Paris
Beat Me Daddy
MacNamara's Band

Dietrich Sees Plentiful Volume This Year



Earl Dietrich of Raytheon

What the radio business may be like in 1941 is seen in a forecast made this month by Earl S. Dietrich, manager of replacement sales for Raytheon Production Corp., makers of Raytheon radio tubes. Mr. Dietrich prefers "to let present conditions serve as the yardstick," and since radio has just completed a record year with indexes continuing to reach new high levels, "it is reasonable to assume that that for the first six months of the year Volume will continue to be plentiful and profits adequate for constructive planning and selling."

Mr. Dietrich points out that it's a day of rapid changes, and precise forecasts are practically impossible, but at the moment he sees no disturbing factors. He states that Raytheon plans "business as usual . . . with one constructive step following another."

Emerson Sold Over Million Radios in 1940

In his annual message to distributors and salesmen, Ben Abrams, president of Emerson Radio and Phonograph Corporation, states that all-time "highs" were reached in 1940 in terms of units sold and dollar volume.

Emerson broke all previous records, and produced and sold during the year considerably in excess of a million radios.

"Distributor and dealer profits on Emerson products were greater in 1940 than those made on comparable competitive merchandise. Also, we were able to distribute employee bonuses in excess of \$50,000.

"My own confidence and optimism indicates that the prospects for 1941 are brighter than ever before and that Emerson dealers will be able to capitalize them to the limit."

Mr. Abrams said he confidently expects to see a rising market for most type of receivers as the year advances, with the demand for table models, portables and combinations in even greater proportion than during 1940. "Increased income of millions of people and the re-employment of additional millions this year will lead to the purchase of more 'extra' sets than ever before. The 'naturals' here are small sets and Emerson 1s, as usual, concentrating largely on this type of product."

Shortage of Parts Is 1941 Problem

"Shortage—that will be the greatest problem facing the radio parts trade in 1941, if I read all signs correctly," declares Charles Golenpaul, of Aerovox Corporation. "This will be a new and puzzling situation for most jobbers who have come into this field during the past decade or so, but it will simply be history repeating itself for those recalling the good old days when parts were scarce and prices were based on take-it-or-leave-it selling.

"A year ago I warned jobbers not to overstock. It was too early in our rearmament activities to worry about over-taxed production facilities. And the past twelve months showed no signs of a shortage. But now the picture is different. Many radio parts plants are already loaded up with Government orders. Still more can be anticipated as our nation prepares to the very limit.

"Already jobbers, here and there, are reporting shortages and delays. Certain large jobbers are buying a three-months' supply at a time, instead of the former thirty-days' supply. Of course there is also the price-increasing possibility, but that seems secondary at the moment. The main thought is an adequate stock on hand. At the Aerovox plant, we still maintain a huge jobber stock for prompt and complete shipments. However, in the face of increasing Government business, which must receive priority, our jobber stock may dwindle. Therefore, I say again, increase your orders and stock!"

Radio's Bowling Tourney Coming Up!

Feb. 1st, 2nd, and 8th are the dates for the second annual tournament of the Radio Industries Bowling Association, to be held at Bensingers, in Chicago, for radio's bowlers. Prizes and trophies include the "Stone Trophy," the 5-man championship award donated by J. McWilliams Stone of Operadio Mfg. Co., St. Charles, Ill. It was won last year, and must be defended at this event, by Quam Nichols.

Chairman of the entry committee is L. Monnich, 509 S. Kildare, Chicago, and the address of the Association is P.O. Box 11, St. Charles, Ill. F. R. Voorhoor is president. Competition for singles and doubles, as well as 5-man teams, is part of the tourney. Climax is the Bowlers Banquet set for Saturday evening, Feb. 8th.

NEW PRESTO JR. TURNTABLE

At Lowest Price Ever Quoted On A Presto



● Here is the ideal turntable for portable transcription playbacks, high quality record players, sound effects reproducing equipment—in short, wherever a compact, reliable turntable is needed.

The new Presto 11-A dual speed, 12" turntable has ample power for playing 16" transcriptions, without wavers or change in pitch from outside to center. Exceptionally low vibration. Has the exclusive Presto rubber tire drive, same as that used in the higher priced recording turntables. Quick speed change, 5 seconds from 78 to 33½ RPM.

Now ready for delivery at the lowest price ever quoted on a Presto turntable. Write today for descriptive bulletin.

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

World's largest manufacturers of instantaneous sound recording equipment and discs



Extra room, separate space for dry cold, moist cold, frozen foods, Philco MAH7.



Here's the "Cold Mist Freshener" on a new "Moist Master" model by Kelvinator.



At the right, the GE "Deluxe 7" showing new "butter conditioner" feature.

REFRIGERATOR PARADE



At the top, the "Martha Washington" by Westinghouse, crystal interior trim.

Directly above, the Hotpoint "8," with extra butter and unrefrigerated zones.

At the right, the Norge complete with new Hydrovoir and Cold-pack meat drawer.

Swinging into a new merchandising pace on 1941 refrigerators, more of the manufacturers of the re-styled boxes are ready this month with fresh announcements.

The sales news at the moment is concerned with the storage of butter, extra space for frozen foods, automatic defrosting, new "moist cold" conveniences, the use of color in interiors, etc. All of it lends itself importantly to dealer action.

EXTRA ENGINEERING

Philco has just unveiled a 1941 refrigerator line of 8 new boxes, in 6, 7 and 9 cu. ft. capacities. Dominant features are new overall advanced design, improved Conservador, substitution of plastics for metals in many cases. Has a moist "Cold Shelf"; giant-size frozen food compartment completely sealed in with separate chambers for ice cubes and frozen storage; large separate dry cold storage space and divided reserve storage bin. Also an automatic defrosting signal, and the hermetically sealed "Super Power" system. Philco prices range from \$114.75 to \$259.95.

GE introduces this year 16 new models featuring a new 7 cu. ft. model and offering "ten stars" which cover ice storage, frozen food storage, quick chilling for beverages, high humidity meat storage, multi-bottle storage butter conditioning (by means of a 3-watt heating element) vegetable storage under glass, 10 qts. fruit storage, adjustable and sliding stainless steel shelves and non-refrigerated dry storage. Prices range from \$114.95 (6 cu. ft.) to \$229.95 (8 cu. ft.). There are also 12's, 16's, 3's and 4's in the line.

The newest Hotpoint 1941 line consists of 15 refrigerators from 3 to 16 cu. ft. capacity. Two additional storage zones, one for butter (special compartment in upper left-hand corner) and one for unrefrigerated storage just below the cabinet, are new this year. 3 models are of the new 7 cu. ft. capacity. Snowy-white Textolite door strips, "overcenter" door spring to hold freezer door open, 6-way cold storage compartments, utility basket and removable tray shelf are also new.

COLOR NOTE

Westinghouse is ready with "Colonial Mode" refrigerators to honor three notable early American women. Color invades the interior for the first time in plastic panels of soft pastel shades. True-Temp control maintains even temperature and humidity levels. A ventilated meat keeper and glass-topped Humidrawer are incorporated in the line. A Trip-Lok automatically shuts door and an Aero spring hinge permits door to remain open to any desired distance. Comes in 5 sizes—3, 4, 6, 7 and 9 cu. ft.

Nash-Kelvinator, who created a stir with its box prices last year, now shows its 1941 refrigerators in 8 models, only 2 sizes—six 6¾ cu. ft. and two 8¾ cu. ft. Prices this year range from \$114.75 to \$209.95, with the price of the equipped box cut from \$139.95 last year to \$124.95 for 1941; other reductions as much as \$30. New type "Moist Master" models have glass-shelved interiors, stainless-steel (Continued on page 46)



Farnsworth

VALUES STILL LEAD

● 1941 sees Farnsworth dealers well out ahead with VALUE-LEADERS that the public "snaps up."

For today's market, Farnsworth offers dealers the most salable and profit-producing line available. Typical leaders are shown below. Every one has proved it's got "buy me" oomph . . . *competitive* from *any* angle. Outstanding profit-builders in themselves, these are only the forerunners of amazing Farnsworth announcements to come.

For tomorrow's market, Farnsworth will again have sensational new numbers . . . keyed to *tomorrow's demands* . . . sales-stars that will continue to measure up to the Farnsworth record of SUCCESS.

Get the new Farnsworth profit story that is now making more sales—more profits—for wide-awake dealers. See your Farnsworth distributor at once. Or wire, phone or write to FARNSWORTH TELEVISION & RADIO CORPORATION, FORT WAYNE, INDIANA.

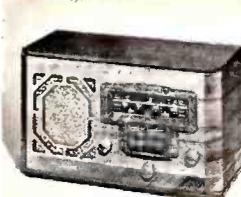
The fool-proof, service-free CAPEHART-FARNSWORTH record changer is one of the biggest sales-builders in the industry. Plays 14 tens or 10 twelves. Customers see it, *play* it, buy it!



BK-82. This lowboy console is a marvelous performer in a distinctive cabinet.



BT-70. Beautifully styled, this table model looks like a small console. Real quality for little money.



BT-61. A superb instrument for both tone and cabinet-work. Compact and modern. At a "take-away" price!



BT-55. This handsome, ultra-modern table model is really smart styling! A honey for the money. Excellent tone.



BT-71. A distinguished model, unusual in its period trim, and richly grained woods. At a price that says "Buy me."



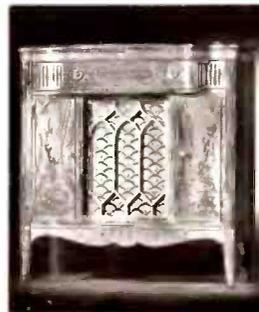
BK-BB (*Empire*) has "Tip-Top Tuning." Simply pull out convenient dial panel that's "always at hand whether you sit or stand." Many features for little cost.



BK-112 (*Jefferson*). This splendid example of fine period designing is tops in the Farnsworth line! In mahogany or walnut. A knockout for the carriage trade!



BK-89 (*Regency*). Here is a great big package for the money! Features front opening doors—a clinching sales point to a tremendous number of prospective customers!



BK-87 (*Stratford*). This impressive, fast-moving combination has great appeal for those who want period furniture. Available in either mahogany or walnut.



BK-85 (*Modern*). This combination sells itself on sight! Conservatively modern, classically simple. Also available in blond. A sales-producing bargain!

FARNSWORTH • MAKERS OF RADIOS AND TELEVISION TRANSMITTERS AND RECEIVERS, THE CAPEHART, THE CAPEHART-PANAMUSE AND FARNSWORTH PHONOGRAPH-RADIO COMBINATIONS.

THE NEW 1941 PHILCO



-ama
THE

THE GREATEST
REFRIGERATOR
EVER BUILT...
PHILCO
Advanced Design
MODEL
MAH-7

PHILCO ALL YEAR 'ROUND

REFRIGERATOR IS HERE

PHILCO IS ON MARCH AGAIN!

Now, after rocketing to the front rank of refrigeration in two short years . . . after showing, last year, a record-breaking increase of over 100% in sales . . . now, for 1941—

PHILCO PRESENTS A NEW CHALLENGE TO THE INDUSTRY!

Last year, Philco produced a *New Kind of Refrigerator* that contributed more new, original, saleable ideas to refrigeration than the industry had seen in 5 years!

And now . . . Philco engineers present for 1941—**THE FULL FLOWERING OF THOSE NEW IDEAS . . .** stepped up, improved and perfected in appearance, efficiency and construction . . . the most outstanding, the most beautiful, the most saleable line of refrigerators ever presented to the American public!

Hundreds of thousands of dollars were spent for new, modern machinery to put these 1941 Philco Refrigerators *in a class by themselves* for quality, dependability and exclusive sales appeal! It's a line of refrigerators that will *make money for you . . .* because it's the *most perfect sell-up line* ever offered in refrigeration, with powerful, logical step-ups and obvious added values in every price

bracket. It's a line that's planned in advance to carry on the Philco tradition . . . to give you *the highest average unit sale*, the biggest dollar margin, the greatest profit line in the industry!

The news of this great new line of refrigerators will greet the selling season in a smashing, dominating advertising and promotional campaign. The most spectacular, sales-making Philco promotions the industry has ever seen are now in the works!

The same leadership which has just brought to Philco dealers the *greatest season of radio profits in their history . . .* now offers to you the greatest, most valuable All Year 'Round Profit Franchise in the industry. Your Philco Distributor is bringing you the complete story.

Get set to March On With Philco In 1941!

. . . the Most Valuable Franchise in the Appliance Field!

THE NEW 1941 PHILCO REFRIGERATOR IS HERE

-and **PHILCO IS ON THE MARCH AGAIN!**

Now, after rocketing to the front rank of refrigeration in two short years . . . after showing, last year, a record-breaking increase of over 300% in sales . . . now, for 1941—

PHILCO PRESENTS A NEW CHALLENGE TO THE INDUSTRY!

Last year, Philco produced a *New Kind of Refrigerator* that contributed more new, original, saleable ideas to refrigeration than the industry had seen in 5 years!

And now . . . Philco engineers present for 1941—**THE FULL FLOWERING OF THOSE NEW IDEAS** . . . stepped up, improved and perfected in appearance, efficiency and construction . . . the most outstanding, the most beautiful, the most saleable line of refrigerators ever presented to the American public!

Hundreds of thousands of dollars were spent for new, modern machinery to put these 1941 Philco Refrigerators in a class by themselves for quality, dependability and exclusive sales appeal! It's a line of refrigerators that will make money for you . . . because it's the most perfect, sell-up line ever offered in refrigeration, with powerful, logical step-ups and obvious added values in every price

bracket. It's a line that's planned in advance to carry on the Philco tradition . . . to give you the highest average unit sale, the highest dollar margin, the greatest profit line in the industry!

The news of this great new line of refrigerators will greet the selling season in a smashing, dominating advertising and promotional campaign. The most spectacular, sales-making Philco promotions the industry has ever seen are now in the works!

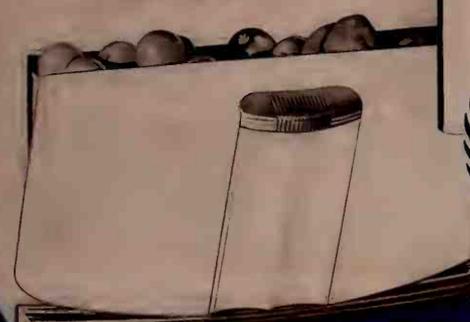
The same leadership which has just brought to Philco dealers the greatest season of radio profits in their history . . . now offers to you the greatest, most valuable All Year 'Round Profit Franchise in the industry. Your Philco Distributor is bringing you the complete story.

Get set to March On With Philco In 1941!

THE GREATEST
REFRIGERATOR
EVER BUILT . . .

PHILCO
Advanced Design

MODEL
MAH-7





THEY LOOK ALIKE... BUT

THE COMMERCIAL VALUE of one of these glasses of milk has been increased a hundred-fold by the Pasteurization Process . . . a fact neither you nor we could ever guess simply by looking at both.

Similarly Sylvania's engineering genius, constant research, patient attention to detail, and uniform quality give Sylvania Tubes a

greater value to both you and us than the profit we make on their sale.

For, while a Sylvania Tube *looks* much like any other, the famous quality and dependability of these tubes reflect credit on those who recommend them . . . and, in so doing, help you to build up your greatest asset . . . customer good-will!

S Y L V A N I A

SET-TESTED RADIO TUBES



Also makers of Hygrade Lamp Bulbs, Hygrade Fluorescent

Lamps and Miralume Fluorescent Light Fixtures

PRODUCTS TO SELL

Newest equipment from the manufacturers to boost pre-spring sales and profits



Majestic farm radio

★ A battery set, TO81-A, with 4 tubes. Batteries are contained in the cabinet. Tuning range, 600 to 1800 kc. \$24.95. Also available in walnut plastic (TO81-C) at \$19.95. Majestic Radio & Telev. Corp., 2600 W. 50th St., Chi., Ill.—RADIO TODAY.



Philco combo

★ Philco model 625-P, "Beam of Light" radio-phonograph at \$99.95. Record changer plays ten 12 in. or twelve 10 in. records. Tilt-front cabinet, 7 tubes. Built-in American & Overseas aerial system, tone control. P. M. speaker. Standard broadcasts, Amer. & Foreign shortwave & state police calls. Walnut cabinet. Philco Corp., Tioga & C Sts., Phila., Pa.—RADIO TODAY.

Howard progressive series

★ A new line of communication receivers, tuning from 550 kc. to 43 mc. Tuned r.f. stage on all models. Model 435A priced at \$29.95 has 7 tubes and built-in Howard-Jensen speaker. May be changed into 8 or 9 tube model at any time and accessories including 2-stage preamplifier, monitor and carrier level meter can be added. Howard Radio Co., 1731 Belmont Ave., Chi., Ill.—RADIO TODAY.

Motorola "Playboy"

★ Model A1 camera type radio measures 6¼ x 4½ x 3½ and weighs 4¼ lbs. Maroon streamlined case in crackle finished metal trimmed in chrome. Plastic front cover. Four miniature tubes in superhet circuit. Automatic lid switch. Priced \$19.95. Slightly higher in west. Galvin Mfg. Corp., 4545 Augusta Blvd., Chicago, Ill.—RADIO TODAY.



Pilot radio-phonograph

★ Model TP-32 for AC only is a 6-tube, 2-band superhet combination with RF stage on both bands. Built-in loop antenna, 8 in. P.M. speaker, 6-position switch tone control. Phonograph plays 10 or 12 in. records with lid down, crystal pickup. TP-32 (AC) \$69.50; Pilot Radio Corp., 37-06 36th St., L. I. City, N. Y.—RADIO TODAY.



Sun-Kraft ultraviolet

★ Mercury quartz ultraviolet generator operates on AC or DC & uses only 35 w. electricity. Has built-in automatic electric timer. The quartz tube containing mercury & rare gases has no metal electrodes fused into it—cannot burn out, develop black spots. Operates on RF power. Adjustable to any position. Chrome finish. Complete with carrying case, \$49.50. Sun-Kraft, Inc., 215 W. Superior St., Chi., Ill.—RADIO TODAY.



Continental table combo

★ Model 69-M5, 5 tube, AC-DC superhet with automatic record changer which plays twelve 10 in. or ten 12 in. records. Pfanstiehl life time needle. Super Aeroscope, full-size heavy duty P.M. dynamic speaker. "Sofglo" airplane dial. Standard broadcast band. Walnut cabinet. \$39.95. Continental Radio & Telev. Corp., 3800 W. Cortland St., Chi., Ill.—RADIO TODAY.



Fada silent radio

★ 5 tube, AC-DC superhet equipped with Dictograph Mystic Ear. 3 knobs, the first to operate set as regular radio, 2nd, speaker & mystic ear simultaneously and 3rd, Mystic Ear alone with speaker silent. American Broadcast & some state police. 5½ in. dynamic speaker. Ivory plastic cabinet. \$29.95. Fada Radio & Elec. Co., Inc., 30-20 Thomson Ave., L. I. City, N. Y.—RADIO TODAY

Electromatic AS 26 series

★ Deluxe table model of duograin walnut woods and veneers in AC (AS26AC) and AC-DC (AS26U) models. Speaker grille specially formed to a chamber. Illuminated full-vision dial. Superhet circuit, 6 tubes, 2 bands. Climate-proofed components. Extra heavy P.M. speaker. Built-in loop antenna on universal model only. Electromatic Distributors, Inc., 88 University Pl., N. Y. C.—RADIO TODAY.

AUTO-RADIO OPPORTUNITY FOR PARTS DISTRIBUTORS

Whenever a radio man can address the parts distributors of the country and say, "there exists today a very substantial and rapidly increasing market for service parts, which you are almost completely ignoring," then the trade will stop and listen.

Such an undeveloped market for radio parts lies in the service departments of new-car retail agencies, declares Ken C. Burcaw, sales manager for The Radiart Corp., Cleveland.

"Now, most jobbers will say, 'My salesman contacts them—I am getting their parts business, but it is small.' WAKE UP, Mr. Jobber! You are only getting the crumbs from the table and perhaps not that. Go out yourself—call on these accounts and ask them how many aeriels, vibrators, volume controls, condensers, resistors, control heads, etc., they are buying from their factories. Naturally, they are taught to buy these, sometimes even kidded into believing they have to. This in itself should constitute a challenge to every jobber to get this business.

ONE JOBBER'S STORY

In making similar statements at jobber sales meetings, I have been invited to prove my point, and naturally that constituted a challenge to me. It is always a pleasure to accept such a challenge, for, if advantage is taken of the relative positions, the situation certainly is in the jobber's favor.

"Here is an actual experience together with a few added points which were not needed to sell one "X" car dealer.

"John Doe, a very good parts sales-

man for a large mid-western parts jobber, dared me at a sales meeting to spend a day with him. The following day I made four calls with him, selling all four accounts aeriels for a total of 78 units. He then took me to "X" car dealer on whom he admitted he never called. Naturally, it is doubly hard if the dealer does not know the salesman or the company he represents.

PROFITS FOR ALL

"Bill Jones, the sales manager (it is advisable to talk to the sales manager), assured us that the parts manager handled all such matters and that all accessories were "X" car accessories. I took time to talk to some of Bill's salesmen on the floor, and found out that they had actually lost sales on radios because the only aeriels they had required drilling the body of the car. Some customers just won't stand for drilling their new cars, and therefore all this business was being lost. We sold Bill Jones on underhood bracket aeriels right then and there—and with that, he took us to the general manager and sold the idea of underhood aeriels for us. They called the parts man up and told him to give us an order for twelve aeriels.

"Having established ourselves, we felt it was time to do the dealer a REAL favor. Bill's floor salesman had also revealed to us that he, and the other boys, had been telling customers that only "X" car radios and "X" car antennas would work on "X" cars. He also stated that they have had people walk out because they could

not use their old radio (which was satisfactory in every respect) in their new cars. Many car salesmen are doing this same thing! Yes, you're right—we sold him control heads. He then spoke to his salesmen for he did not want people's confidence destroyed in his organization by such a policy.

MAKE FRIENDS

"People eventually do find out they can use their old set in a new car. When this happens, the result is that they will never go back to that dealer again. Suggest to the dealer also that a good radio service department is just as important as a good motor service department.

"Show him that you have parts for all the old sets he gets in in trade so that he can put these in perfect order. You are a local business man and many of your employees are his potential customers. No one need ever be ashamed of the old reciprocity argument. His car salesmen use it every day.

"Incidentally, the jobber recently wrote me stating that Bill Jones now averages \$350.00 per month.

"Don't forget he often gets 25 per cent or 30 per cent from his suppliers, where you give him 40 per cent, and he frequently pays transportation from the distributor or factory. Frequently he is required to buy large standard packages. You are close by and can give him service thereby reducing his inventory. Most of all, *go out and try this yourself*. See it work, and then see that your salesmen use it!"

Jobber Accents Credit Standing

A novel postcard, which calls attention to "our reputation for meeting our obligations" is used by the parts jobbers, Dymac Radio, Buffalo, N. Y., as a regular reminder to credit managers that "in every case we've kept our word." When the firm pays a bill, the payment is followed some weeks later by the card, on which is also noted the date of the bill and the date of payment. The card says, too, that "at times during the past 18 months of expansion we've felt somewhat pinched," but adds that "Dymac remembers!"

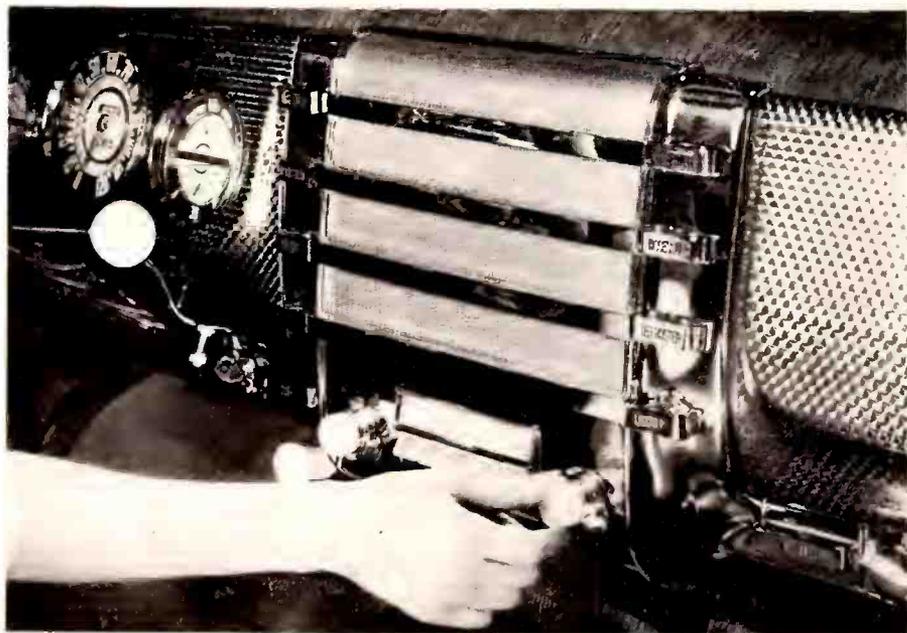
Dymac presents itself to the trade as "the fastest growing radio, photo and model distributor in western New York" and uses the slogan, "Service—Our Key Word."

Distributor Enlarges Branch House

From Radio Service Laboratory, 1191 Elm St., Manchester, N. Y., comes the news that the company has moved its branch at Bangor, Me., to new and improved quarters at 45 Haymarket Square, that city. This prominent jobber also has branches at 34 Free St., Portland, Me., and at 188 S. Main St., Barre, Vt.

Radio Service Labs has just issued a new 200-page catalog, with an attractive fund of up-to-the-minute information on radio parts and sound equipment. It is available from Manchester.

"Every Second Car You See" Is Prospect for Auto-Radio



Radio servicemen and dealers have a great unsaturated market in auto-radio. Look at the cars parked or passing, and realize that at least "every second car" is an immediate opportunity for sale of an auto-radio receiver!

Two More Execs in Sonora Expansion



Ed Harris of Sonora

Further news of the sales expansion of the Sonora Radio & Television Corp., Chicago, is an announcement by president Joseph Gerl that Ed Harris has been named sales manager for the firm. Mr. Harris has been in Sonora's sales division for the past 3 years, and has had a total of 15 years experience in radio merchandising.

The company's vice president in charge of engineering, Donald M. Fetterman, has named a new chief engineer, Linus O. Hubbard. The new chief has been at Sonora 2 years, and previously worked in GE research, as well as Wells-Gardner engineering.

Freed-Eisemann Picks Sales Reps

Joseph D. R. Freed, head of the Freed Radio Corp., makers of Freed-Eisemann FM radio sets, has announced the appointment of 5 sales representatives to the staff of the firm.

George W. Axmacher gets the area of lower Manhattan (below 59th Street) and Brooklyn, N. Y.; Robert C. Roggen will be the representative in upper Manhattan, the Bronx, lower Westchester and Queens, N. Y.; and J. E. McKinley will have the Philadelphia, Southern New Jersey and Washington, D. C. areas. Chicago and Milwaukee will be in the hands of Royal A. Stemm, with John O. Olsen selling Cleveland and the immediate territory.

Further appointments will be made where FM stations are now broadcasting, it was stated by Mr. Freed.

Gen-E-Motor Buys Grigsby Plant

Increased demand for its products from defense activity as well as regular non-military channels has prompted the Pioneer Gen-E-Motor Corp. of Chicago to double its present plant area, according to D. E. Bright, president. Gen-E-Motor is one of the world's leading makers of dynamotors, generators, power plants, rotary converters and other power supply units for aircraft, radio and sound.

The company has purchased the former Grigsby-Grunow big No. 2 Build-

ing at 5841 West Dickens Ave., Chicago. The plant provides a total of 80,000 square feet. Remodeling costs exceed \$20,000, the second expansion within the past 18 months.

F. B. Connelly Dies in Seattle

F. B. Connelly, founder and president of F. B. Connelly Co., Seattle, Wash., prominent distributors of the Northwest area, died last month of a heart ailment. Mr. Connelly, whose company has a branch at Billings, Mont., was a well known figure in the civic, political and business circles of that area.

Transfer of Simplex Radio Stock

Stockholders of Simplex Radio Co., Sandusky, Ohio, have adopted a plan whereby they will receive one share of stock of Philco Corp. in exchange for each three shares of Simplex stock. Assets and business of the Simplex company will be transferred to a successor company of substantially the same name, Simplex Radio Corp.

Over 90 per cent of the stock of Simplex Radio Co. is owned by Philco Corp., which will own 100 per cent of the stock of the new Simplex Radio Corp.

SERVICING by SIGNAL SUBSTITUTION

"Servicing by Signal Substitution" Copyright 1940 by Precision Apparatus Co. 647 Kent Avenue, New York

Question: **PERFORMANCE?** ... Answer: **YES!**
Question: **COSTLY?** ... Answer: **NO!**

Because 1. "S-S-S" employs **ONLY BASIC TEST EQUIPMENT** ... NO EXTRAS!
2. "S-S-S" is **UNIVERSAL** ... non-obsolete
3. "S-S-S" requires **NOTHING COMPLEX TO LEARN**

Modern servicing (A.M. and F.M.) requires only 3 basic instruments: The Signal Generator (such as PRECISION Series E-200); The Dynamic Mutual Conductance Type Tube Tester and a 20,000 ohms per volt Multi-Range Set Tester (such as PRECISION combination Series 954).



★ Series 954 Combination Dynamic Mutual Conductance Type Tube Tester and 20,000 ohms per VOLT Multi-Range AC-DC Set Tester

A complete service laboratory answering the demand for a compact unit with every facility for accurate, reliable solutions of all tube test and measurement problems (A.M., F.M. and Television). A single master rotary range selector permits simple, rapid measurements in troublesome stages, quickly localized through "Servicing by Signal Substitution."

954 MCP—in open face portable metal case (illustrated for Series E-200). Complete with battery and extra high voltage test leads **\$61.95**

954 P—(illustrated above) Hardwood case. Complete **\$65.95**
954 PM—Standard panel mount. Complete **\$65.95**

FREE A 120 page text book "Servicing by Signal Substitution" describes this simplified approach to receiver adjustment problems. Furnished **FREE** with every PRECISION Series E-200. Also available at leading distributors or directly from factory at 35c — Write for it today!

More than 40 models in the New PRECISION 1941 LINE ... 21 Dynamic Mutual Conductance Type Tube Tester and Set Tester models ranging in price from as low as \$29.95 ... 16 Multi-Range Tester models from as low as \$14.95 ... Signal Generators from \$35.95 ... See them at your local distributor ...

Ask or write for the PRECISION TEST EQUIPMENT 1941 CATALOG.

PRECISION TEST EQUIPMENT

Standard of Accuracy

SEE THEM AT YOUR JOBBER

PRECISION APPARATUS COMPANY • 647 KENT AVENUE • BROOKLYN, N. Y.
Export Division: 458 Broadway, New York City, U. S. A. • Cable Address: Morhanex



★ Series E-200

Modern Laboratory Type Multi-Band Signal Generator

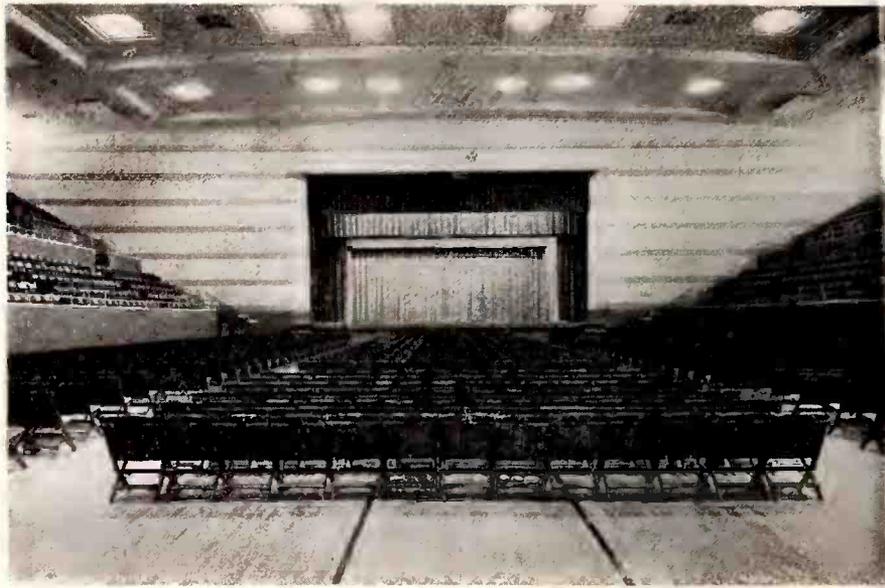
Not only an unsurpassed Signal Generator for purposes of receiver alignment, but **SPECIFICALLY DESIGNED** as the key to "Servicing by Signal Substitution" ... Nevertheless priced within the easy reach of every progressive radio service engineer.

E-200—(illustrated)—in heavy gauge metal cabinet, complete with tubes, coaxial output cable and **FREE** copy of "Servicing by Signal Substitution" **\$35.95**

E-200PM—in standard panel mount, complete **\$39.95**

Interior view of Civic Auditorium, Emporia, Kan. Single speaker group above the stage serves the entire area.

Enid, Okla. high school sound system uses 67 speakers in its classrooms. Principal Selby shown at the controls.



SOUND FOR

1. *Wide-angle sound distribution.*
2. *Use of acoustic absorption material.*
3. *Speaker compensating resistors.*

Winter sound jobs are found in school, church, and civic auditoriums. Here, the plays, graduation exercises, musical programs, and town meetings will be given, and here are the sound installations to concentrate on.

Many of your previous installations will need new equipment for either replacement or modernization. New school systems are using two-way communication in addition to the usual sound distribution network. Bi-aural systems are receiving more consideration and many present installations can be converted by adding another amplifier and locating additional speakers.

Sound jobs, such as these auditorium installations are bringing profits to PA specialists. One of the many examples is the school sound business garnered by Hunter Radio Shop, Enid, Oklahoma under the direction of Walter C. Hunter.

The recent completion of the Enid, Oklahoma high-school sound job by Hunter wound-up the program of public address installations for the three secondary schools of that city.

USING MULTIPLE SPEAKERS

The first school equipped, Longfellow Junior High School, utilizes 22 five-inch P.M. dynamic speakers baffled in wall-type cabinets.

Each speaker is equipped with a matching transformer reflecting 2,000 ohms impedance into the line. Single-pole, double throw switches and 2,000 ohm one-watt resistors are used at each speaker to compensate for the

load when speakers are turned off. Parallel lines feeding out from the office accommodate the various branches of the building. The loads reflected by each of these branches (2,000 ohms divided by the number of speakers on a branch) were added by series connecting the various branches. By this method it is quite convenient to build up a reflected impedance close enough to one of the several available output taps (2, 4, 8, 16, 166, 250 and 500) and form quite an acceptable "match."

INFINITE Baffle

The amplifier uses push-pull parallel 45's, a 56 and a 57. An American double button carbon microphone, deriving button current from a well bypassed tap on the 57 bias resistor, is used. A small AC-DC radio, with a power line isolation transformer, a phono-motor and pick-up complete the installation.

Emerson Junior High School uses 42 eight-inch P.M. dynamic speakers equipped with 2,000-ohm matching transformers, 2,000-ohm one-watt resistors with S.P.D.T. switches.

Emerson is designed with air shafts from the attic to each room. The building has three principal floors so one shaft in each tier reaches from the attic to the basement. By mounting the speakers on 12 x 12 x 3/4 in. flat baffles and cutting a 10-inch round hole through the "Masonite" bulletin borders over the black boards and through the chalk tile of which the air shafts are constructed, it was pos-

sible to mount the speakers in true infinite baffle manner. Each tier of speakers is fed by a line dropped from the attic.

The amplifier is a Vocograph 30-watt unit. The speaker lines are matched in the same manner as in the Longfellow H.S. installation. A Shure crystal microphone, a phono-motor and pick up, and a large console radio complete the central system.

TWO WAY SYSTEM

In the auditorium, two 12-inch P.M. dynamic speakers are mounted on flat baffles—cut back into the proscenium fan rooms to provide infinite baffling. They are fed by push-pull parallel 45's. The voltage amplifiers are one 57 pentode into one 57 triode into cascade 56's. A third 56 fed from the first 56 is used as a cathode follower to feed the central amplifier in the office. Thus the entire school may listen to anything originating in the auditorium, the vocal or instrumental music rooms. The stage amplifier may also be fed from the central amplifier speaker lines. This makes possible amazing two-way conversations and programs from the office and stage without switching or volume adjustments.

ELIMINATING HUM

The Enid High School system, recently completed, uses 70 four-inch P.M. dynamic speakers housed in bass reflex baffles. Matching transformers reflecting 7,000 ohms are used at each speaker. S.P.S.T. switches in the voice coil leads are found quite satis-

factory. While opening the voice coil circuit causes a rise in reflected impedance in the primary of the matching transformers, no ill effects are noted even when many of the speakers are "on." Speaker line branches are connected in series to approach a "match" at the Audlovox 30-watt amplifier. Operadio record playing equipment and a Howard 435 communication receiver provide phono and radio facilities. The microphone is an "As-tatic" crystal unit. Parallel cotton covered number 18 wire is used for speaker lines. It is tacked to the plastering along the halls and drops are fed into each room through a small hole in the non-opening transoms. By working these drops around the moulding to the bottom of the transom the hole is easily concealed. The wire is tacked along a color break of a so-called dropped ceiling and is not noticeable.

It is well to mention that almost all hum, distortion or transient "bugs"

Emerson's principal, B. Roy Daniel, Longfellow's Leon R. Vance and the High School's D. Bruce Selby, assisted in the installation. It is of mutual advantage for the principal to assist in the installation since he knows the building so well. Such teamwork gives a greater knowledge of the system to the principal and leads to better use of the facilities.

Frequently a principal can be shown the advantage of an inexpensive sound installation much more easily than an entire board. Emerson's system was financed by two plays; the High School's out of the athletic fund.

AUDITORIUM JOBS

High quality sound installations, such as the one recently completed in the new Civic Auditorium of Emporia, Kansas, present few problems with which the P.A. man is not already thoroughly familiar.

Even though the cubical content of such an auditorium is considerably

of eighty-seven and one-half degrees and a frequency response of from 200 to 15,000 cycles. The low frequency speakers are not used and provision is made for sharp cut-off at 250 cycles on speech reinforcement, as reverberation in this building (as in most similar ones) is most pronounced at about 200 cycles.

FOOTLIGHT MIKES

As it will be observed in the photograph, the speakers were located in the steel framework which was suspended under the face of the proscenium arch.

Four low impedance velocity microphones were located above the footlight trough and two similar microphones were furnished and provided with floor stands.

The footlight microphones normally operate at maximum sensitivity; the stand microphones, of course, are operated at various levels depending on their particular use.

The central control unit incorporates a voltage amplifier with individual inputs for the microphones, a 50-watt power amplifier and a monitor amplifier which in addition to actuating the monitor speaker feeds a line to ten hard-of-hearing aids located in the upper tier of seats of the auditorium, a feature which adds greatly to the utility of such an installation.

AUDITORIUMS

are due to poorly grounded circuits. Especially should one side of all speaker lines be grounded. Grounding of amplifier chassis is absolutely essential and this usually grounds all lines.

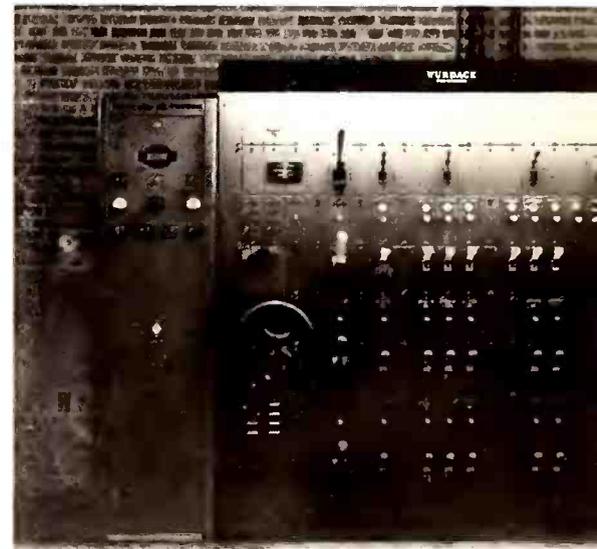
The high school bible building is some 250 feet from the main building and across the street, yet no difficulty was experienced in feeding its speaker. A weatherproof pair was stretched parallel with the class-bell pair.

greater than that of the average public building or theatre, this type of installation can be tackled without fear by the P.A. man providing, of course, the equipment consists of the proper type of high quality units.

In covering large areas good high-frequency distribution is, of course, essential. In this installation two cellular high-frequency projectors were used, each having a dispersion angle



Microphone and speaker layout on stage of Kansas Civic auditorium. Foot-light mikes (in lower circles) operate at full gain. Frequencies below 250 cycles are cut off and only wide-angle HF horns are used.



Amplifier rack for Emporia auditorium shown at left of stage switchboard.

USES ACOUSTIC MATERIAL

Volume level meters are incorporated to indicate both the output of the main amplifier and the output of the monitor amplifier. Separate pads are used on the output of the monitor amplifier for the speaker and the hearing aids.

The new RCA accordion cone speaker is used as a monitor, which, due to its wide frequency response, makes it ideally suited for this purpose.

In the design of the building, the architects used excellent judgment in

(Continued on page 40)

Interior view of Civic Auditorium, Emporia, Kan. Single speaker group above the stage serves the entire area.

Enid, Okla. high school sound system uses 67 speakers in its classrooms. Principal Selby shown at the controls.



SOUND FOR AUDITORIUMS

1. Wide-angle sound distribution.
2. Use of acoustic absorption material.
3. Speaker compensating resistors.

Winter sound jobs are found in school, church, and civic auditoriums. Here, the plays, graduation exercises, musical programs, and town meetings will be given, and here are the sound installations to concentrate on.

Many of your previous installations will need new equipment for either replacement or modernization. New school systems are using two-way communication in addition to the usual sound distribution network. Bi-aural systems are receiving more consideration and many present installations can be converted by adding another amplifier and locating additional speakers.

Sound jobs, such as these auditorium installations are bringing profits to PA specialists. One of the many examples is the school sound business garnered by Hunter Radio Shop, Enid, Oklahoma under the direction of Walter C. Hunter.

The recent completion of the Enid, Oklahoma high school sound job by Hunter wound-up the program of public address installations for the three secondary schools of that city.

USING MULTIPLE SPEAKERS

The first school equipped, Longfellow Junior High School, utilizes 22 five-inch P.M. dynamic speakers baffled in wall-type cabinets.

Each speaker is equipped with a matching transformer reflecting 2,000 ohms impedance into the line. Single-pole, double-throw switches and 2,000 ohm one-watt resistors are used at each speaker to compensate for the

load when speakers are turned off. Parallel lines feeding out from the office accommodate the various branches of the building. The loads reflected by each of these branches (2,000 ohms divided by the number of speakers on a branch) were added by series connecting the various branches. By this method it is quite convenient to build up a reflected impedance close enough to one of the several available output taps (2, 4, 8, 16, 32, 64 and 600) and form quite an acceptable "match."

INFINITE Baffle

The amplifier uses push-pull parallel 45's, a 66 and a 57. An American double button carbon microphone, deriving button current from a well bypassed tap on the 57 bias resistor, is used. A small AC-DC radio, with a power line isolation transformer, a phono motor and pick-up complete the installation.

Emerson Junior High School uses 42 eight-inch P.M. dynamic speakers equipped with 2,000 ohm matching transformers, 2,000 ohm one-watt resistors with S.F.D.T. switches.

Emerson is designed with air shafts from the attic to each room. The building has three principal floors so one shaft in each tier reaches from the attic to the basement. By mounting the speakers on 12 x 12 x 3/4 in. flat baffles and cutting a 6-inch round hole through the "Masonite" bulletin boards over the black boards and through the clink tile of which the air shafts are constructed, it was pos-

sible to mount the speakers in true infinite baffle manner. Each tier of speakers is fed by a line dropped from the attic.

The amplifier is a Vocograph 30-watt unit. The speaker lines are matched in the same manner as in the Longfellow H.S. installation. A Shure crystal microphone, a phono-motor and pick up, and a large console radio complete the central system.

TWO WAY SYSTEM

In the auditorium, two 12-inch P.M. dynamic speakers are mounted on flat baffles—cut back into the proscenium fan rooms to provide infinite baffling. They are fed by push-pull parallel 45's. The voltage amplifiers are one 57 pentode into one 57 triode into cascade 58's. A third 56 fed from the first 56 is used as a cathode follower to feed the central amplifier in the office. Thus the entire school may listen to anything originating in the auditorium, the vocal or instrumental music rooms. The stage amplifier may also be fed from the central amplifier speaker lines. This makes possible amazing two-way conversations and programs from the office and stage without switching or volume adjustments.

ELIMINATING HUM

The Enid High School system, recently completed, uses 70 four-inch P.M. dynamic speakers housed in bass reflex baffles. Matching transformers reflecting 7,000 ohms are used at each speaker. S.F.S.T. switches in the voice coil leads are found quite satis-

factory. While opening the voice coil circuit causes a rise in reflected impedance in the primary of the matching transformers, no ill effects are noted even when many of the speakers are "off." Speaker line branches are connected in series to approach a "match" at the Audlovox 30-watt amplifier. Operadio record playing equipment and a Howard 435 communication receiver provide phono and radio facilities. The microphone is an "Astatic" crystal unit. Parallel cotton covered number 18 wire is used for speaker lines. It is tacked to the plastering along the halls and drops are fed into each room through a small hole in the non-opening transoms. By working these drops around the moulding to the bottom of the transom the hole is easily concealed. The wire is tacked along a color break of a so-called dropped ceiling and is not noticeable.

It is well to mention that almost all hum, distortion or transient "bugs"

Emerson's principal, B. Roy Daniel, Longfellow's Leon R. Vance and the High School's D. Bruce Selby, assisted in the installation. It is of mutual advantage for the principal to assist in the installation since he knows the building so well. Such teamwork gives a greater knowledge of the system to the principal and leads to better use of the facilities.

Frequently a principal can be shown the advantage of an inexpensive sound installation much more easily than an entire board. Emerson's system was financed by two plays, the High School's out of the athletic fund.

AUDITORIUM JOBS

High quality sound installations, such as the one recently completed in the new Civic Auditorium of Emporia, Kansas, present few problems with those that a P.A. man is not already thoroughly familiar.

Even though the cultural content of such an auditorium is considerably

of eighty-seven and one-half degrees and a frequency response of from 200 to 15,000 cycles. The low frequency speakers are not used and provision is made for sharp cut-off at 250 cycles on speech reinforcement, as reverberation in this building (as in most similar ones) is most pronounced at about 200 cycles.

FOOTLIGHT MIKES

As it will be observed in the photograph, the speakers were located in the steel framework which was suspended under the face of the proscenium arch.

Four low impedance velocity microphones were located above the footlight trough and two similar microphones were furnished and provided with floor stands.

The footlight microphones normally operate at maximum sensitivity; the stand microphones, of course, are operated at various levels depending on their particular use.

The central control unit incorporates a voltage amplifier with individual inputs for the microphones, a 50-watt power amplifier and a monitor amplifier which in addition to actuating the monitor speaker feeds a line to ten hard-bearing aids located in the upper tier of seats of the auditorium, a feature which adds greatly to the utility of such an installation.

greater than that of the average public building or theatre, this type of installation can be tackled without fear by the P.A. man providing, of course, the equipment consists of the proper type of high quality units.

In covering large areas good high-frequency distribution is, of course, essential. In this installation two cellular high-frequency projectors were used, each having a dispersion angle



Amplifier rack for Emporia auditorium shown at left of stage switchboard.

USES ACoustic MATERIAL

Volume level meters are incorporated to indicate both the output of the main amplifier and the output of the monitor amplifier. Separate pads are used on the output of the monitor amplifier for the speaker and the hearing aids.

The new RCA accordion cone speaker is used as a monitor, which, due to its wide frequency response, makes it ideally suited for this purpose.

In the design of the building, the architects used excellent judgment in

(Continued on page 40)

Microphone and speaker layout on stage of Kansas Civic auditorium. Foot-light mikes (in lower circles) operate at full gain. Frequencies below 250 cycles are sharply cut off and only wide-angle HF horns are used.

Wet ELECTROLYTICS



Type PG600—Max. 600 v. D.C. Surge; 1 3/8" and 1 1/2" dia. can, 3 7/16" to 4 13/16" high, 4 to 16 mfd., \$.81 to \$1.20 your cost.
 Type PG500—Max. 500 v. D.C. Surge; 1 3/8" and 1 1/2" dia. can, 3 1/2" to 4 1/2" high, 4 to 40 mfd., \$.48 to \$1.14 your cost.
 Type PG350—Max. 350 v. D.C. Surge; 1 3/8" and 1 1/2" dia. can, 3 1/2" to 4" high, 8 to 40 mfd., \$.54 to \$1.08, your cost.
 Type PGM500—Max. 500 v. D.C. Surge; 1 1/2" dia. can, 3 1/2" to 4 1/2" high, 4 to 16 mfd., \$.48 to \$0.81, your cost.
 Type PGM350—Max. 350 v. D.C. Surge; 1 1/2" dia. can, 3 1/2" and 4 1/2" high, 8 to 20 mfd., \$.54 to \$0.84, your cost.
 Type PGM250—Max. 250 v. D.C. Surge; 1 1/2" dia. can, 3 1/2" and 4 1/2" high, 8 to 40 mfd., \$.48 to \$0.72, your cost.
 Type PGM150—Max. 150 v. D.C. Surge; 1" dia. can, 3 1/2" and 4 1/2" high, 8 to 40 mfd., \$.42 to \$0.69, your cost.

- High capacity in minimum bulk; ability to take severe punishment; instant self-healing or reforming of dielectric film following break-down due to excessive voltages — these factors account for the growing popularity of wet electrolytics.
- Meanwhile, the elimination of such drawbacks as leakage and seepage, and inadequate venting, heretofore associated with this type, accounts for AEROVOX "wets" as the first choice. • A trial will soon convince you.

Ask Your Jobber . . .

- Ask for these AEROVOX "wets." Try them in that new assembly. Use them in place of "drys" that have failed due to serious surges or peaks. Ask for latest catalog . . . or write us direct.

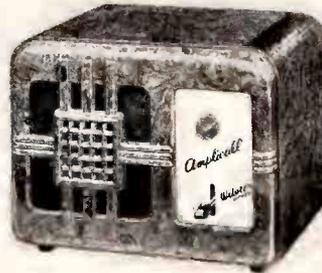
AEROVOX
CORPORATION
NEW BEDFORD, MASS.
IN CANADA: AEROVOX CANADA, Limited, Hamilton, Ont.

SOUND PRODUCTS

New equipment from manufacturers for pre-spring jobs.

Audio cutting styli

★ Improved recording performance claimed for improved line of sapphire and stellite cutting styli. Lower surface noise, greater high frequency response, and more thread throw are features. Audio Devices Inc., 1600 Broadway, New York, N. Y.—RADIO TODAY.



Webster-Chi intercom

★ W-102, a 2-station system, 1 master and 1 remote station. Latest tubes, balanced line, freedom from hum, new compact speaker—microphone. Volume control on master station. Walnut finished bakelite cases. Webster-Chicago Corp., 5622 Bloomingdale Ave., Chi., Ill.—RADIO TODAY.

Davenoil lubricator

★ Superfine lubricating oil for delicate and precise instruments. Will not leave a residue of dirt or sticky gum. Furnished with metallic applicator. The Davenoil Co., 158 Summit St., Newark, N. J.—RADIO TODAY.



Thordarson mobile amplifier

★ An 18-w. mobile amplifier includes electric phono motor and pickup. Plays 10 or 12 in. records. Separate mike and phono volume controls. 6 v., or 115 v. AC. 2, 4, 6, 8, 250 or 500 ohms. Inverse feedback. Mike input gain, 115 db; phono input, 75 db. T-30W18 with

selected tubes, \$125 list. T-31W18 without phono motor and pickup, \$114 list. Baked grey wrinkle finish, stainless steel trim. Thordarson Elec. Mfg. Co., 500 W. Huron St., Chi., Ill.—RADIO TODAY.



RCA speaker horns

★ Two new metal re-entrant speaker trumpets, MI-6303, and MI-6302 have frequency response characteristics of 150 to 7000 cycles and 200 to 7000 cps. The first is 31 inches long, 28 inches in diameter. The latter is 19 inches long, 21 inches in diameter. 15, 12, and 10-watt drivers are inter-changeable with both horns. RCA Mfg., Camden, N. J.—RADIO TODAY.

Dunco sensitive relay

★ Type S relay operates on .008 watts DC or 0.10 volt-amperes AC at 60 cycles. Especially suited for use with control devices such as thermostats, and electronic welding timers, burglar alarms, etc. Balanced construction, non-freezing due to residual magnetism. Struthers Dunn, Inc., 1315 Cherry St., Philadelphia, Pa.—RADIO TODAY.



Universal recording motor

★ Synchronous motor and turntable runs at either 78 or 33 1/3 rpm. for playback or recording. Motor and shaft drive unit are mounted on aluminum plate. Instant change from high to low speed. 8 and 12-inch turntables. Universal Microphone Co., Inglewood, Calif.—RADIO TODAY.

Soundview Marine "Time Tick"

★ Model 805, portable marine radio with self-enclosed batteries & copper plated cabinet. Receives time signals, Aeronautical weather reports and regular weather beacons. \$79.95 complete with matched impedance headphones. Karns-White Corp., 1775 Broadway, New York, N. Y.—**RADIO TODAY.**



University "bull" speaker

★ New model, 2YR "Baby Bull" reflex speaker is designed for 50 w. continuous audio input. Rubber tire rim. Bell diameter, 24 in., overall length 27 in. \$145 list, incl. horn, 2 PAH driver units, dust cover and Universal bracket. University Labs., 195 Chrystie St., N.Y.C.—**RADIO TODAY.**

Knight-Bruno recorder

★ A 20-wa. recording and P. A. system, model BR-12. 33 1-3 and 78 r. p. m. Records on all types of discs from 6 to 12 in. Volume indicator meter, tone control. Mike gain 127 db. Frequency response 50 to 10,000 C. P. S., 12 in. speaker with 30 ft. cord. Crystal mike with 25 ft. cable. 110 v., 60 cycle operation. Allied Radio Corp., 833 W. Jackson Blvd., Chicago, Ill.—**RADIO TODAY.**



Clarion booster amp

★ A 51-w. booster amplifier, A-77K boosts low power systems. Input driver voltage of only 0.15 v. Inverse feedback. Gain of high impedance input, 65 DB. 40 to 12,000 CPS. Output impedance 2, 4, 8, 16, 50 ohms. 110-125 v., 50 cycles AC. Available in 3 models, for table mounting, rack mounting and in cabinet, \$102.25. Transformer Corp. of America, 69 Wooster St., N.Y.C.—**RADIO TODAY.**

Sound Manufacturer Wants Reps

It has been announced by a prominent manufacturer of sound equipment that he is inaugurating a new policy, and that he now requires men to represent him calling on jobbers. Interested readers may make contact by writing to Box 19, **RADIO TODAY**, 480 Lexington Ave., New York City.

Parmetal in Expansion

Parmetal Products Corp. has just moved into its own new factory at 32-62 49th St., Long Island City, N. Y., following a healthy increase in business during the past two years. Mr.

Parmet, president of the firm, declares that the new and improved facilities will provide a long-needed need for more room.

Clarion Extends Rep's Area

Harold Weiler, the sales representative for Transformer Corp. of America, makers of Clarion sound equipment, has had his sales area extended, according to news from TCA headquarters at 69 Wooster St., New York City. He formerly covered the Pennsylvania, metropolitan New York, New Jersey, Delaware and Maryland areas; new assignment includes the New York and New England territories.

FOR YOUR BASIC INSTRUMENTS *only the best are good enough*

IT may be difficult to avoid some obsolescence in tube testing equipment—**BUT**—a set tester represents an investment as basic and permanent as any tool in your shop or kit!

Over the years you must have discovered that it just doesn't pay to buy anything but the best in basic and permanent tools—and right there you have the reason for acquiring one of these **BASIC Simpson Testers.**

Start 1941 right: Make the acquaintance of one of these finely built Simpson Testers, and you will thank the day

that it became your trusted helper on every service job. The instruments illustrated cover a wide range of individual needs, but they have two great attributes in common—the life-time accuracy that is based squarely on the superlative Simpson Meter, and the precision craftsmanship that is reflected in every detail of assembly.

Thanks to advanced design, modern facilities and streamlined production methods you can acquire one of these finer instruments at the moderate prices listed.

SIMPSON ELECTRIC CO., 5216-18 Kinzie St., Chicago, Ill.



MODEL 320 (below)—Giant tester with 9-inch illuminated meter. Has 50 ranges—nine A.C. and nine D.C. voltage ranges; six milliamperage ranges; five resistance ranges; four capacity ranges; seven decibel ranges. Entirely A.C. operated. All voltage ranges have resistance of 1000 ohms per volt. Test leads included. Rack mountings available. Dealers net price..... **\$37.50**



MODEL 215—Incorporates all essential ranges for modern servicing. Offers large, 4½ inch, easy to read dial, at low price. Five A.C. and D.C. voltage ranges; five decibel ranges; 0-10-100-500 milliamps; 0-250 microamps; 0-4000-400,000 ohms; 0-4 megohms. Dealers net price..... **\$22.85**



MODEL 260—The outstanding value in a high sensitivity set tester for television and general servicing. Ranges to 5000 volts, both A.C. and D.C.—at 20,000 ohms per volt D.C. and 1000 ohms per volt A.C. Resistance readings from 10 megohms down to ½ ohm and five decibel ranges from -10 to +52 D.B. Also 3 milliamperage and 1 microampere range. Dealers net price..... **\$27.50**



MODEL 240—A remarkable value in a pocket size (5¼x2½x1¼") 3000 volt, self-contained tester. Four A.C. and five D.C. voltage ranges at 1000 ohms per volt; 0-15, 150, 750 milliamps; 0-3000, 300,000 ohms. Dealers net price..... **\$14.75**

MODEL 230—Smallest A.C.-D.C. instrument on the market, yet has ranges of 0-10, 250, 1000 volts A.C.; 0-10, 50, 250, 1000 volts D.C.; 0-10, 50, 250 D.C. milliamps; 0-1000, 100,000 ohms. Dealers net price..... **\$14.25**



SIMPSON INSTRUMENTS THAT Stay ACCURATE

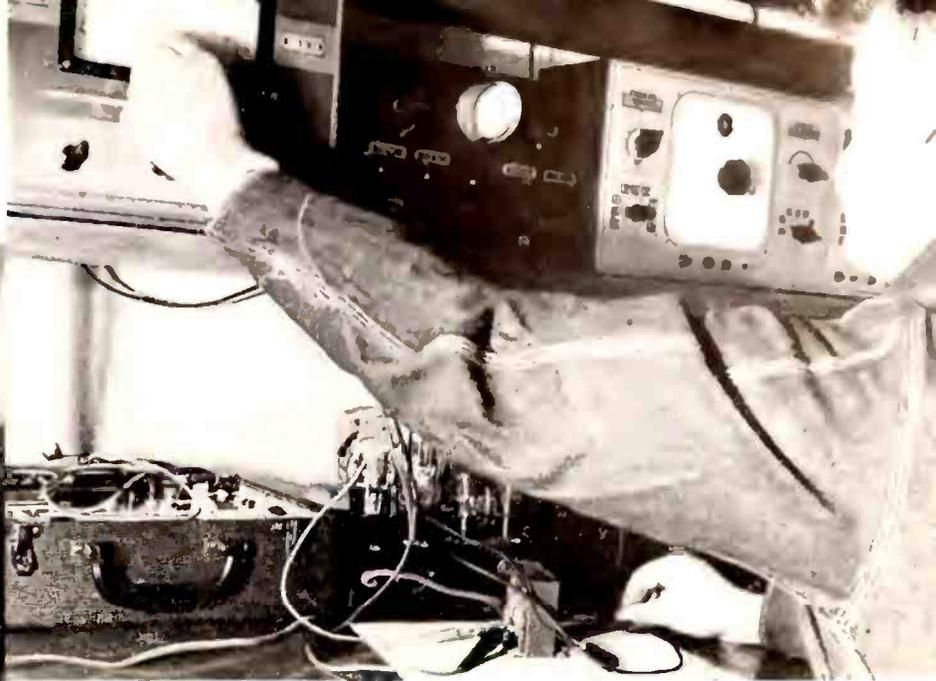
ANALYZING AUDIO AMPLI



At right is first step in testing audio 1. amplifiers. Plate, screen, and bias voltages must be in correct relation to operate tube in proper amplifier class. Voltages on class A '47 are being measured with Radio City Products model 803 tubetester multimeter.



2. Second test is amplitude distortion of tube over wide frequency range. Jackson model 652 audio oscillator (upper left) drives the stage while output is observed on scope. 803 multimeter gives DB level at the output. Wave form should be good at full output.



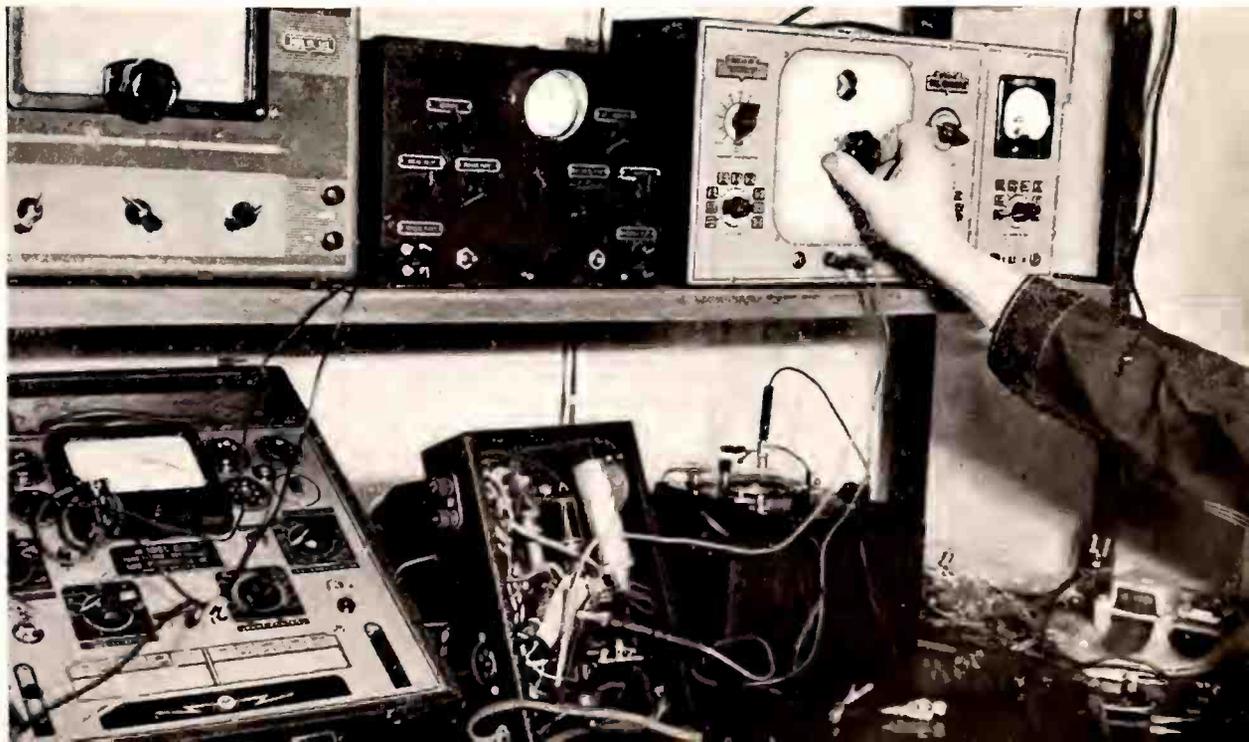
4. Audio and output transformers are quickly tested for frequency range with audio oscillator, output meter, and 'scope. Resonant peaks, and range are essential facts in determining quality of audio system. Use recommended load on transformer secondary.

3. Speaker frequency range is checked (above) with 652 oscillator, 'scope, and Weston model 669 vacuum tube voltmeter across oscillator output. Oscillator voltage is held constant over frequency range while scope checks waveform at secondary of speaker transformer. Listening shows resonance, rattles, cut-off, etc.



RADIO TODAY

5. Coupling condenser between audio stages must be of best quality and have very low leakage. The capacity should be large enough to prevent attenuation of the low frequencies. Replace if more than 10% below recommended value. Aerovox L-C checker used here.



Cathode by-pass, 6. screen by-pass, and tone control capacitors must be of correct value to give best audio quality. Replace low capacity by-pass capacitors, also leaky units. Tone control capacitors should not be too much above rated value and should have high DC leakage resistance. Sprague Tel-o-Mike shown measuring capacity and leakage.

ANALYZING AUDIO AMPLIFIERS

by
WILLIAM MCGILIC
Service Editor



At right is first step in testing audio amplifiers. Plate, screen, and bias voltages must be in correct relation to operate tube in proper amplifier class. Voltages on class A '47 are being measured with Radio City Products model 803 tube-tester multimeter.



3. Speaker frequency range is checked (above) with 652 oscillator, scope, and Weston model 669 vacuum tube voltmeter across oscillator output. Oscillator voltage is held constant over frequency range while scope checks waveform at secondary of speaker transformer. Listening shows resonance, rattles, cut-off, etc.



4. Audio and output transformers are quickly tested for frequency range with audio oscillator, output meter, and scope. Resonant peaks, and range are essential facts in determining quality of audio system. Use recommended load on transformer secondary.



5. Coupling condenser between audio stages must be of best quality and have very low leakage. The capacity should be large enough to prevent attenuation of the low frequencies. Replace if more than 10% below recommended value. Aerovox L-C checker used here.

RADIO TODAY



2. Second test is amplitude distortion of tube over wide frequency range. Jackson model 652 audio oscillator (upper left) drives the stage while output is observed on scope. 803 multimeter gives DB level at the output. Wave form should be good at full output.

Cathode by-pass, 6. screen by-pass, and tone control capacitors must be of correct value to give best audio quality. Replace low capacity by-pass capacitors, also leaky units. Tone control capacitors should not be too much above rated value and should have high DC leakage resistance. Sprague Tel-o-Mike shown measuring capacity and leakage.



SERVICE NOTES

RCA Chassis 16 X 11, 16 X 13 Service Data

This two-band six-tube set uses an RF stage with untuned coupling between the RF stage and the first detector. The added sensitivity and selectivity of an RF stage is possible with a two-gang condenser and the type of inter-stage coupling used.

Several parts of the circuit are different from the usual practice. The B+ supply is filtered by choke action through a part of the output transformer primary. By supplying the plate current of the output tube through one section of the winding and the other tubes through the lower portion of the winding, core magnetization due to the DC is reduced, thus permitting better audio quality.

A ten-meg resistor between the oscillator grid and the AVC bus provides a small negative bias voltage to control the tubes at zero signal.

IF ALIGNMENT

Feed a 455 kc. test signal through 0.1 mfd. capacitor to grid of 12SK7 IF tube and tune dial to quiet point around 1600 kc. Adjust secondary and primary of second IF transformer. Reconnect signal to 12SA7 detector

grid and adjust secondary and primary trimmers of first IF transformer for peak response.

The short-wave band is aligned with a 19 mc. test signal fed to the antenna post through a 47 mmfd. capacitor. The tuning dial is set at 19 mc. and the oscillator trimmer on the tuning section is adjusted for maximum response. The short-wave antenna trimmer (C31) is peaked while the signal generator is radiating a 18 mc. signal through a short piece of wire. The dial is tuned to resonance with the signal. A radiated signal of 6.1 mc. is tuned-in and the inductance of the short-wave antenna secondary is varied for maximum output by dressing the AVC lead near the coil.

Connect a 1720 kc. signal to the antenna post through 200 mmfd. capacitor and adjust the oscillator trimmer for maximum. This trimmer is across the oscillator coil. The dial is set at 1720 kc. for this adjustment. A radiated signal of 1400 kc. is tuned in on the set and the antenna trimmer (C33) is peaked. Connect the signal generator through the 200 mmfd. capacitor to the antenna post and adjust the oscillator tracking padder for maximum indication at 590 kc.

The broadcast band alignment should be repeated for accurate results.

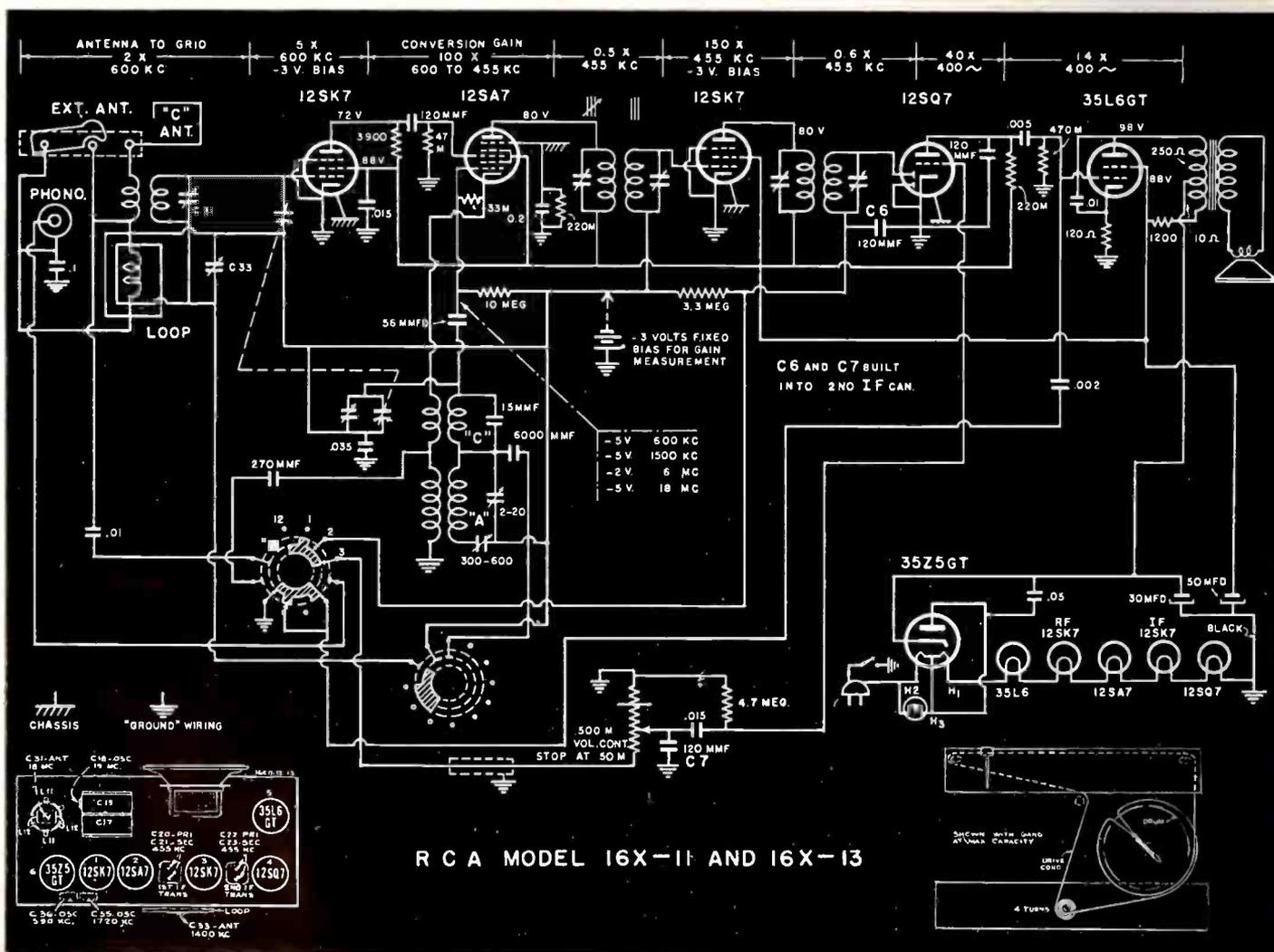
Stage gain figures shown at the top of the diagram serve to check the sets which do seem to be quite up to par. The 5X figure for the 12SK7 RF tube

means that a signal voltage of some value on the grid of the tube will be five times as great when measured at the plate of that tube. These figures are approximate and were measured with a RCA Rider Chanalyst. The values for the DC oscillator grid voltages at different frequencies are also shown. These may be measured with a VTVM. Note that when making gain measurements of tubes, a fixed AVC voltage of 3 volts is used.

Stewart-Warner Models 11-10A and 11-10AZ

Audio howls in these sets may be corrected by one or more of the following means. The chassis must be allowed to float on the rubber mounting cushions. Loosen the four mounting bolts which hold the chassis and also remove the wooden strips which may have been used for shipping. See that the knobs, shafts, and dial mechanism does not touch the cabinet.

On chassis not stamped with letter S, a tendency to howl or rumble may be stopped by changing the .01 mfd. audio coupling condenser from the diode load resistors to the radio-phonograph push-button key to 0.002 mfd. Replacing the rear rubber grommet on the gang tuning condenser with a soft gum rubber type will clear up the last bit of trouble. The washers and mounting bolt are not replaced if this is done.



The COLONEL'S LADY and JUDY O'GRADY Are NOT Sisters Under Their Skins!



1. A glass tube, continuously drawn with utmost precision to the size of a small pencil lead, is the beginning of an IRC Type BT Insulated Resistor.



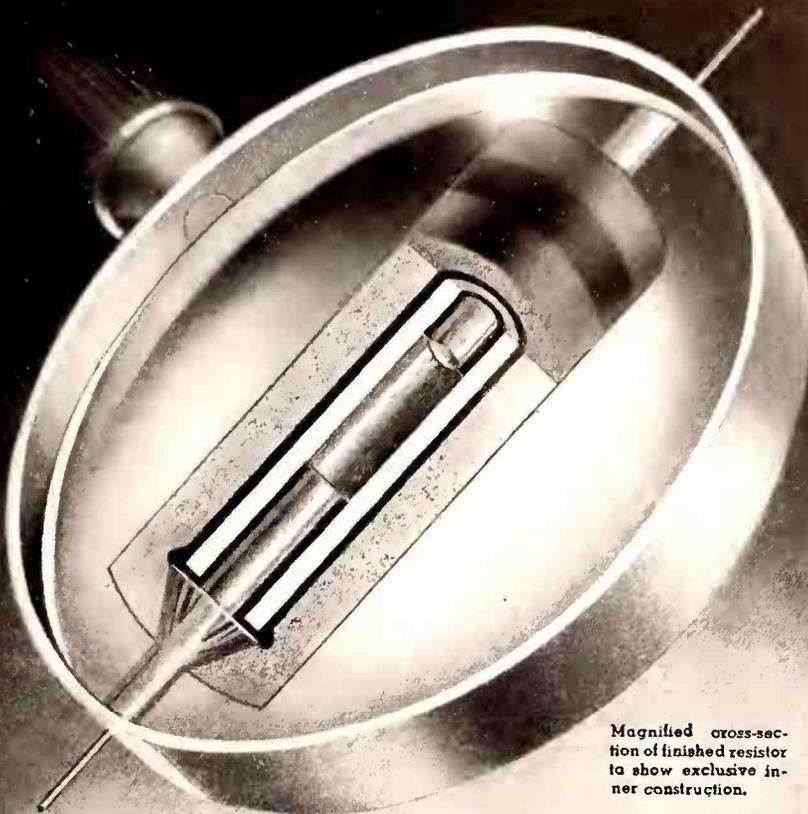
2. The tube with a coating of Metallized type resistance material permanently bonded to its outer surface, and stabilized by a baking process.



3. Special leads for easy soldering have enclosed, positive contact to element which cannot open. Insertion of leads *inside* the element tube aids rapid heat dissipation, drawing heat out of the resistor.



A finished 1-watt unit. Element is completely sealed by molded insulating phenolic. Moisture cannot enter. No possibility of grounding. Leads anchored *inside* insulation cannot turn or pull loose.



Magnified cross-section of finished resistor to show exclusive inner construction.

Flattering and widespread imitation following IRC's development of the Insulated Resistor with its obvious advantages as compared with old-style, non-insulated units has resulted in such uniformity of appearance that it is difficult to distinguish one make from another. *This similarity, however, is only skin deep—only as deep as the insulation.*

What lies beneath is of the utmost importance from the standpoint of performance. The outside insulation is important only because it protects the inside resistance element, prevents shorting and facilitates rapid and economical assembly. Not this protection *but what it protects* is the final determining factor of quality—and it is underneath this insulation that insulated resistor similarity ends.

As an outstanding example, the IRC type BT insulated resistors, comprising the unique "Metallized" filament element and specially developed insulating phenolic covering, have humidity characteristics hitherto unobtainable. More than 10 cycles of alternate two hour immersions in 100°C. and 0°C. salt solution followed by two hour loadings at normal rating result in an average change in resistance value of less than 10%.

In connection with the present defense program such performance is essential for dependable communication equipment but it is also obviously very important for all commercial applications.

TYPE BT INSULATED RESISTORS

INTERNATIONAL RESISTANCE CO., 401 N. BROAD ST., PHILA.

SOUND IN AUDITORIUMS

(Continued from page 33)

specifying acoustic plaster for the entire ceiling and upper portions of the interior walls. This, of course, is a contributing factor in the excellent sound coverage obtained. The acoustic plaster to a great degree compensates for the absence of any other sound absorbing material. The sound installation was made by the RCA-Victor distributor at Kansas City, Missouri.

Even with overflow crowds, which have exceeded six thousand persons, perfect sound coverage is obtained with the amplifier operating at only a small portion of its total rated output.

Now is the time to analyze the auditorium in your vicinity and then design a complete sound system to do the job.

Recorder and Phono Servicing Notes

"Wow" or the wavering of pitch during the playing of records or home recordings is a particularly annoying trouble with turntable mechanisms. The type of "wow" falls under one of two classifications; intermittent variation, or variation synchronized with turntable rotation.

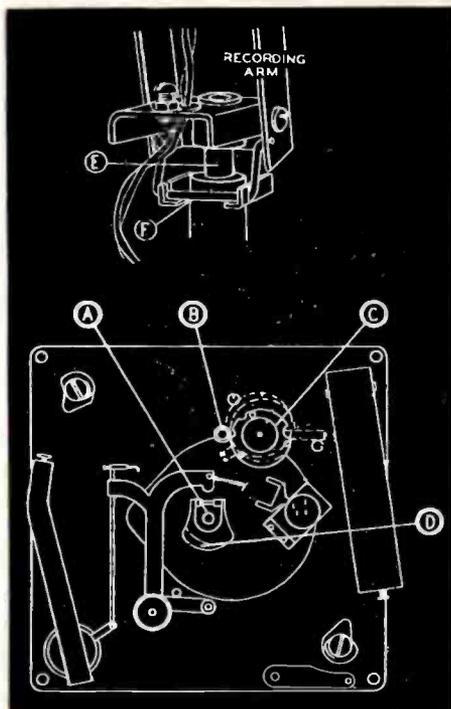
These notes are from the Wilcox-Gay Corp., Charlotte, Mich. and while they apply in particular to models A93 and A94, much of the data is applicable to all types of recorders and record players.

For the intermittent varying variety, the following suggestions will usually clear up the trouble. First, the old stand-by, be sure the rubber tired drive wheels are clean and free from oil, or grease. The wheels should run freely in their own bearings though, and a drop of oil is occasionally needed. The bearings should be free from any side-play, that is, the bearings should be tight.

The inside rim of the turntable should also be free from oil and dirt.

If speed variation still exists, the tension on the rubber rimmed drive wheels against the turntable rim should be increased.

If the drive wheel or wheels are allowed to ride up on the turntable rim, it is possible that they will rub



Position of lubrication points for automatic record changers.

on the under side of the turntable and slow it down.

Intermittent variation of the turntable speed on record may also be due to binding of the lateral feed screw bearing. An adjustment is provided on the gear housing to take up end-play, and the correct adjustment is one which gives only a slight amount at any point in a complete rotation of the feed screw.

SYNCHRONIZED VIBRATION

If the "wow" occurs each time the turntable makes a certain part of a revolution, the trouble is usually due to a flat spot on the rubber rimmed drive wheel, or an out-of-round turntable.

The inside rim of the turntable should be perfectly round and moderately smooth. The table should be replaced if it is damaged.

Warped records, or records with oversized center holes are also causes of "wow."

If the "wow" is being cut into home recordings, the cutter head damper may need adjusting. 1. The adjusting screw should be turned to the right so that no pressure is exerted on the cutting head by the felt damper. 2. Raise the recording arm to a vertical position so that the stylus screw is midway in the slot in the front end of the arm. The cutter head should oscillate back and forth when moved. 3. Turn the damper screw to the left until the stylus screw returns to the center of slot without oscillating when it is moved to one end and released.

Frequent oiling of recorders and record players is not required. A small amount of oil should be used about once each year for best results. The diagrams show the points where lubrication should be applied. The turntable is removed by applying upward pressure around the rim and gently tapping the top of the spindle.

Two or three drops of electric motor oil is applied at A, turntable shaft bearing; B, upper motor bearing; C, between drive wheel mounting disc and bed plate. At D, place a coating of petroleum jelly on the lip of the master cam. Two or three drops of oil can be placed on the recording arm pivot post E, and the straddle plate slot, F.

FM, Tele Simultaneously On Same Antenna

FM sound and television video signals are being radiated simultaneously from the big video antenna on top of the Empire State Building, New York. This antenna was designed to cover the broad band from 30 to 60 megacycles and therefore can be used to transmit the FM sound signal at 45.1 mc. and the video television signal at 51.25 mc. if suitable means are used to prevent each signal from feeding back into the other transmitter. A unique system of cut-off filters eliminates interference between the two signals at each transmitter.

A recent test demonstrated that no interference resulted at the receiving end when both FM and television transmitters were operating together.

The FM station is operating five days a week and the television station operates for approximately four-hour periods three days a week.

The Counter Display That Says —

"Buy HOWARD Discs NOW!"

This attractive counter display was designed and built for one purpose only . . . to help dealers sell HOWARD Recording Discs in profitable volume. And it does it too! Contains 3 packages (5 each) of 10" discs; 3 packages (5 each) of 8" discs; 4 packages (5 each) of 6½" discs; 6 packages each of phono and recording needles plus an ample supply of consumer sales

making literature . . . \$17.50 retail value. HOWARD Discs have proved their superiority, are fully approved by the Underwriters' Laboratories and can be used with any make of home or professional recorder. The many exclusive features of HOWARD Recording Discs mean consistent and worthwhile profits for you. Order today!



Flame Proof . . . Underwriters' Approved . . . Metal Base . . . Low Surface Noise . . .

HOWARD RADIO COMPANY

1731-35 Belmont Av., Chicago, Ill. - Cable Address: HOWARDCO, USA

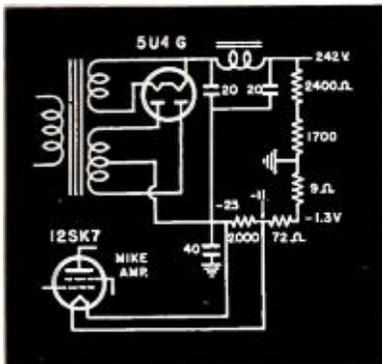
America's Oldest Radio Manufacturer

RSA Speaker



Sylvania engineer G. E. Connor spoke recently before Hempstead, N. Y. RSA Chapter, Jean Lapler chairman. New circuit changes and FM were discussed.

RCA Models VHR-207-407



These home recording phono-radios use DC on the filament of the 12SK7 mike pre-amplifier tube to reduce hum. This DC voltage is obtained across one section of the bleeder network. Because the filament is "below ground" and across the grid bias section of the bleeder, it will be burned out if the B+ is shorted to ground. The extra flow of current through the 2000 ohm section from the transformer center tap to the rectifier filament through the short will increase the voltage drop enough to burn out the filament. Use a voltmeter, not a screwdriver to check plate voltage.

Stromberg-Carlson Models 505 and 515

A reduction in sensitivity or complete loss of signal on the FM band in either of these models may be caused by the 22M resistor connected between ground and grid end of the second 1F transformer heating and changing value. Most cases of this trouble can be corrected by removing the resistor from the circuit. If oscillation should result after the resistor is removed, replace with new 22M unit. Connect across terminals 4 and 5.

Book Review

The Meter at Work

Written and published by
John F. Rider

404 4th Ave., New York, N. Y.

Price, \$1.25

An understanding of the basic tool of the serviceman, the electric indicating meter, is the result of reading this new text. Its ten chapters cover the various types of instruments, their uses, and their limitations.

A few of the chapter titles are, Moving-iron meters, which are commonly used for AC instruments; Moving-coil meters, the most common of all DC indicating meters; Electrodynamometer meters, the combination current and voltage measuring instrument used to indicate electrical power.

Other chapters deal with thermal and electrostatic meters, mechanical features of design such as damping, bearings, magnets, scales, etc. Electrical characteristics of various meters and their effects upon circuits under test show the proper methods of application.

The physical make-up of "The Meter at Work" is entirely different from other texts in that each page is divided so that a diagram, picture, or formula occupies the upper third and the text material the lower two-thirds. This permits the reader to have before him at all times the particular diagrams referred to in the text.

This text has much information that will help the serviceman to further understand the instruments which give the clues to set troubles.



and it isn't

BALONEY!

SERVICEMEN and DEALERS everywhere will be called upon immediately to supply a large demand for F-M conversion units! Commercial F-M is now a reality and public attention is being attracted to this new system of true high-fidelity, noiseless reception. YOUR sales AND profits are due for a tremendous boost IF you take immediate advantage of the present opportunity to cash in on early demands for high quality, inexpensive adapters for present radio receivers, such as

the New Meissner



F-M RECEPTOR

This unit is a complete, self-powered, 8-tube converter, designed to add F-M reception to any regular receiver—feeds directly into the input of the audio system. Power output and tone quality are limited only by the capabilities of the audio equipment in the regular receiver! RF stage provides maximum reception range and noise rejection. In attractive walnut cabinet, the Receptor is only 13" wide, 7" high and 6 3/4" deep! Available without cabinet, if desired. Write for details and prices at once!

Write Today for Free General Catalog

Address Dept. T-1





KEN-RAD

DEPENDABLE RADIO TUBES

Make 1941 a Ken-Rad year. Investigate the Ken-Rad selling story at once. You will profit by it.

KEN-RAD TUBE & LAMP CORPORATION OWENSBORO, KY.
Export Dept., 116 Broad St., New York, U.S.A. Cable Address: Minthorne, New York

to the genius of **THOMAS EDISON**

**A TRIBUTE EVERY RADIO
MANUFACTURER, JOBBER AND
DEALER SHOULD READ!**

One of the major obstacles confronting Edison in developing the phonograph some 50 years ago was the design of a stylus, or needle, capable of reproducing the recorded sound clearly, without destroying the record. In Edison's characteristically thorough style, every known substance was used — and discarded, until a permanently installed sapphire needle was tried. At last he had found the ideal!

While the records we enjoy today are sturdy beyond comparison with the frail wax records of the 1890's, the requirements of high-quality reproduction — without record wear — still must be met. Today, as then, the permanently installed sapphire needle ideally meets every requirement. A genuine sapphire needle, when built into a modern feather-weight tone arm, never wears out records, and reproduces perfectly — for more than 15,000 playings!

Look for jewel sapphire needles in the leading manufacturers' newest radio-phonograph models!

Send for literature describing the complete line of Walco Sapphire Needles and recording accessories.

ELECTROVOX COMPANY
424 Madison Ave., New York

WALCO
Sapphire Needles

Sales Managers Gather at New Yorker

A lively meeting of the Sales Managers Club, Eastern Group, took place Dec. 30th at the New Yorker Hotel in New York City, with Dan Fairbanks as chairman and Charles Golenpaul as master of ceremonies. Guests were invited to this meeting, including Arthur Moss, executive secretary of the National Radio Parts Distributors Association, and Austin Lescarboursa, public relations expert.

Gifts were presented on behalf of the membership to three prominent figures in the Club, in recognition of their efforts for the organization. These were A. A. Berard, (Ward Leonard); Paul S. Ellison, (Hygrade Sylvania Corp.); and W. W. Jablon, (Hammarlund Mfg. Co., Inc.). Mr. Jablon, whose address is 424 W. 33rd St., New York City, is secretary of the Club's Eastern Group.

Members on hand for the session, besides Mr. Ellison, Mr. Jablon, Mr. Golenpaul (Aerovox) and Mr. Fairbanks (International Resistance Co.), included John F. Rider, publisher; D. P. O'Brien (Cinaudagraph); Victor Mucher, (Clarostat); Paul Duryea, (Wirt Co.); Peter Bercoe, (Alpha Wire). D. C. Mitchell, (American Radio Hardware); Herman Smith; S. L. Baraf, (United Transformer Corp.); and W. F. Osler, Jr. (Cornish Wire).

California Pioneers in Annual Hi-Jinks

The Radio Pioneers of Southern California staged their 11th Annual Christmas Hi-Jinks last month at the Rainbow Isle of the Mayfair Hotel in Los Angeles, with some 130 radio men present. An elaborate dinner and entertainment program was ready for the guests.

Radio Pioneers is described as the oldest of its kind in the U. S., having been formed in November, 1929. Membership includes a select group of radio manufacturers, jobbers, and manufacturers' reps in Southern California. J. J. Perlmut, 225 E. Pico Blvd., Los Angeles, is secretary.

Poor Elected Executive Head of Sylvania

Walter E. Poor, the Hygrade Sylvania Corp. executive, has been elected executive vice-president in charge of all operations of the company. The action was taken at a recent meeting of the Sylvania board of directors, was announced by Edward J. Poor, chairman of the board, and B. G. Erskine, president of the firm.

Mr. Poor will make his headquarters at the New York offices of Sylvania, 500 Fifth Ave.

Neely Opens New Office

Norman B. Neely, West Coast manufacturers agent, has opened an office at 420 Market St., San Francisco, Calif. with Homer E. Beren, sales engineer, in charge.

"Profitizer" to Compute Expense and Profit

In the conduct of any retail business the relationship between expense and gross profit is one vital factor the merchant must have at his fingertips.

For easy reference, these two figures are always expressed in percentage of selling price.

Percentages of course, are simple to work with, easy to compare. But complications soon present themselves to many dealers, when the practical applications to their daily business make it necessary to figure percentages quickly and accurately. Some use the "rule of thumb," some guess, and some just don't bother.

There is a little slide rule called the "Profitizer" made by Smith Lee in Los Angeles, Calif., small enough to tuck in a vest pocket, simple enough for a child to use, inexpensive enough for anyone to own, that solves all of these retailers' percentages in no time at all.

EASY COMPUTATIONS

Knowing your cost and selling price it will quickly tell you gross profit in per cent of selling price or markup in per cent of cost.

Knowing your cost and desired gross profit, it will quickly tell you necessary selling price to maintain the desired gross profit.

Knowing selling price, and per cent of discount, it will accurately tell you the cost.

Knowing desired "gross profit" expressed in per cent of sales, it will tell you "markup" in per cent of cost necessary to attain the desired gross.

Knowing your cost and per cent markup, it will tell you selling price in dollars, to give you desired gross profit.

This little "Profitizer" will throw the "rule of thumb" out the window and take all the irk out of the work of figuring percentages. It's a great little aid to any merchandiser.

GE Supply Names Officers

Charles R. Pritchard and Ralph J. Brown are new vice presidents of the General Electric Supply Corp., Bridgeport, Conn., it has been announced by John L. Busey, president. G. E. Supply Corp. is a wholesale distributor of electrical equipment and the largest single outlet for the appliances, supplies, construction materials and Mazda lamps manufactured by GE.

Crosley Dealers to Jobber Show

Dealers from Ohio, Kentucky and Indiana, 300 strong, went to a big radio meeting at Crosley Distributing Corp., Cincinnati, for a dedication of the jobber's new showroom, and a sales session of radio alone. Crosley execs on the business program included William T. Wallace, L. Martin Krautter, and Guy Flaig.

SALES HELPS

Motorola Merchandiser



One of the sales-catching display-demonstrators from Galvin Mfg. Corp., 4545 Augusta Blvd., Chicago. To help dealers with the big auto radio market.

Brightly Colored Sales Aid

A sales aid which is exceptionally colorful has been released by RCA Victor, a booklet titled "There's an RCA Victor for Every Room in Your Home." The folder has 16 pages, and shows some 20 sets in full color. It strongly emphasizes "extra" radios in the home.

RCA dealers may have the booklet imprinted and sent to their prospects direct from Camden, or it may be used as an envelope stuffer or for over-the-counter distribution.

Tubes and Parts in Emerson Deal

A new package deal of the most widely used tubes and parts is being offered by Emerson Radio & Phonograph Corp., New York City. Tubes include 14 popular types—a total of 30. Parts include volume controls, condensers, etc. The two kits are available to dealers and servicemen "on an attractive basis" for a limited time; details from Emerson jobbers.

Jones Speaks to Dallas Service Men

The Dallas Radio Service Association was host to a group of service men in the Dallas area at their regular monthly meeting last month. Walter Jones, Hygrade-Sylvania engineer, presented a complete lecture on "Tube Applications."

This was the sixth in the series of lectures by nationally famous engineers who have been brought to Dallas by the local association as part of its educational program. The program has produced during 1940 a 50 per cent increase in attendance and has resulted in more close cooperation between factory representatives, jobbers, and service men.

RCP Expands Sales in Two Areas

As a part of "a highly satisfying growth of our company's test equipment business," it is announced by Milton Reiner, president of Radio City Products Co., New York City, that RCP is designating the states of Mississippi and Tennessee as one of its sales areas. Ralph Gregory has been named RCP sales rep for that territory, where increasing business has been noted lately.

Another expansion in the RCP sales program is the appointment of Richard A. Hyde as representative in the Mountain States area including Utah, Colorado, New Mexico and Arizona.

Shifts Among Clarostat Reps

Appointment of the Kennedy Sales Co., 2362 University Avenue, St. Paul, Minn., as sales representative, is revealed by Clarostat Mfg. Co., Inc., of Brooklyn, N. Y. The well known Kennedy organization will cover the States of Minnesota, North and South Dakota, and a part of Wisconsin.

In the Ohio trade areas, John O. Olsen has now taken over. He has moved from Pittsburgh to 1456 Waterbury Road, Lakewood, Cleveland. For the Virginia territory, J. E. McKinley is now the rep, with headquarters at 519 N. 33rd St., Philadelphia.



STANDARDIZE SALES SERVICE

WITH **TRIPLET**

MODEL 1612

Counter Type Tube Tester

\$29.84

DEALER NET

Has **RED•DOT**
Lifetime
Guaranteed Instrument

Model 1612 is a "customer acceptance" tube tester that is impressive in appearance, and in the quick "readings" it gives with its fine, business-like 7-inch meter. A quick spin of the illuminated Roll-Dex Speed Chart will give you the settings in a flash. Entire chart scanned in less than 10 seconds. Has all tube sockets including Loctals, Bantam Jr., and the new Miniature. Tests High Voltage series including 117Z6G; also Gasous Rectifiers and Ballast tubes. Future tubes provided for by filament voltages from 1.1 to 1.17 volts. Has Neon Shorts test; Noise test jack, and separate line voltage control meter. Suede finish Silver Grey and Maroon seamless Case and Panel of heavy, streamlined steel. Dealer Net Price.....\$29.84

Model 1613 Portable Tester. . . Same as above but has detachable cover with handle. . . Sloping panel.

Dealer Net Price.....\$34.84



MODEL 1200-A

Contains separate AC and DC instruments in tilting case, accuracy of each within 2%. Two RED•DOT Lifetime Guaranteed Instruments. . . Sturdy Portable Metal Case with black suede enamel finish. . . Dealer Net Price...\$21.84

Write for Catalog!—
Section 191 Harmon Av.

THE TRIPLET ELECTRICAL INSTRUMENT CO.
Bluffton, Ohio



NEW SERVICE EQUIPMENT

*Products for more profitable sales
and for faster repair methods*



Sprague noise locator

★ Model IL-2 interference locator operates from 115 volts AC/DC or from self-contained batteries. Either built-in directional loop or a telescopic pole antenna may be used. Three tuning ranges, 500 kc. to 32 mc. Built-in output meter and speaker provide double check on intensity. Net, \$79.90. Sprague Products Co., N. Adams, Mass.—**RADIO TODAY.**



Harvey-Wells aircraft set

★ Compact 4-tube receiver, AR-2-A, weighs 9 lbs. with heavy duty batteries, battery case, cables and headphones. Sensitive superhet circuit, R.F. stage. Tuning range from 198 to 405 kc. Front panel "Tune Tower" switch. 6 in. x 4 3/4 x 4 in. deep. Harvey Wells Communications, Inc., Southbridge, Mass.—**RADIO TODAY.**

Radex signal tracers

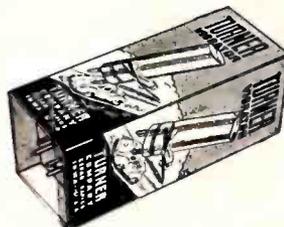
★ Two new signal tracers, model 20 and 21. Model 21, 3-tube AC, 110-120 v., 60 cycle with volume control. Complete with instructions, less head-set and tubes, \$9.95 net. Model 20, battery unit, easily portable. Uses No. 2 flashlight batteries—1 1/2 v. and No. 738 "B" battery. \$6.95 net, with instructions, less head-set, tubes and batteries. Radex Corp., 1733 Milwaukee Ave., Chi., Ill.—**RADIO TODAY.**

Sickles loop checker

★ Dual wand-type inductance changer quickly raises or lowers resonant frequency of loop antennas to check tracking. Indicates the direction of adjustment for trimmer. Convenient folding design makes the Loop Checker easy to carry. F. W. Sickles Co., 165 Front St., Chicopee, Mass.—**RADIO TODAY.**

Alesi & Fener Vertrod

★ New vertical antenna for home reception mounts in only four inches of space, has rotary base to permit mounting at any angle. Solid duraluminum parts. Noise reducing lead-in system patented by Amy, Aceeves, & King. Supplied in convenient, compact carton. Alesi & Fener, 132 Nassau St., New York, N. Y.—**RADIO TODAY.**



Turner vibrators

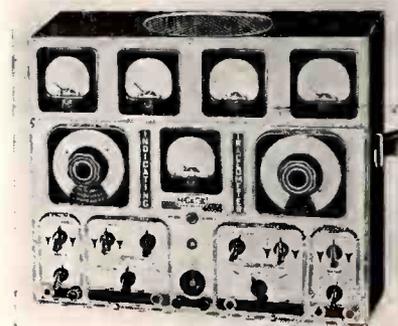
★ Using the push-pull principle of operation, this new line of power vibrators is claimed to have less RF "hash," pitting of contacts, and chattering. Adjustable contact screws permits accurate factory adjustment of each unit. All replacement types. Turner Co., Cedar Rapids, Iowa.—**RADIO TODAY.**

Ansley direction finder

★ Compact battery operated direction finder for small boat owners has one-degree accuracy. Tunes 275 to 325 kc. Self-contained set, complete with batteries and headphones, \$69.50. Built of non-magnetic materials; will not affect magnetic compass. Ansley Radio Corp., 4377 Bronx Blvd., New York, N. Y.—**RADIO TODAY.**

Philco station setter

★ Model 014 wireless push-button station setter which has 8 adjustable frequencies. 400-cycle note is easily identified. No connections are necessary between set and oscillator. Philco Radio and Tele. Corp., Philadelphia, Pa.—**RADIO TODAY.**



Hickok Traceometer

★ Model 155 signal tracer now includes built-in speaker for monitoring of RF, IF, or audio channels. Five indicating meters read RF-IF microvolts, audio volts, oscillator volts, DC volts, and wattage. AC volts in a power supply circuit may also be measured. Hickok Electrical Inst. Co., 10305 Dupont Ave., Cleveland, Ohio.—**RADIO TODAY.**

C-D noise filters

★ Two "Quietone" noise filters with spade type mounting lug. IF-24 for application in 110 v. AC-DC circuits, is 2 in. long, 7/8 in. diameter and entirely sealed in metal. 75c. Type IF-25, for 220 v., AC-DC measures 3 1/2 in. long, 1 1/2 in. diameter, is completely sealed in heavier casing, has additional ground and provides 2-hole mounting. Cornell-Dubilier Elec. Corp., So. Plainfield, N. J.—**RADIO TODAY.**



Precision AC ammeter

★ Series-J multi-range AC ammeter can be used on line frequencies, 25 to 60 cycles. 300 ma. to 60 amps in 8 ranges. 4 5/8-inch square meter, accuracy 2 percent. For use in radio servicing, appliance and refrigeration work. Available in three models. Precision Apparatus Co., 647 Kent Ave., Brookly, N. Y.—**RADIO TODAY.**

Flexibility WITH THORDARSON



PRE-AMPLIFIER

This basic unit for low or high power installations has five input channels, three for microphone and two for phono input. Features Thordarson Dual Tone Control — boosts or attenuates treble or bass as desired.

T-30W04 — Pre-amplifier. \$125 list (with selected tubes, less cabinet. For relay rack mounting.).

BOOSTER AMPLIFIERS

Thordarson Booster Amplifiers meet almost any power requirement. From one to eighteen units may be used to deliver power outputs ranging from 25 to 900 watts.

T-30W25 — Booster Amplifier, 25 watts. \$85 list (with selected tubes, less cabinet. For relay rack mounting.).

T-30W50 — Booster Amplifier, 50 watts. \$110 list (with selected tubes, less cabinet. For relay rack mounting.).



THORDARSON

ELECTRIC MFG. CO.

500 WEST HURON CHICAGO, ILL., U.S.A.

Cable address "THORDELCO" Chicago • Transformer specialists since 1895



- ★ If you're a juggler or magician, then skip this. You already know that any control can somehow be juggled or tricked into a set as a replacement. But, confidentially, that's not the kind of servicing that keeps you in business.
- ★ Clarostat replacements are designed for specific sets. They fit—mechanically and electrically. For simplified stock or for rush jobs, Clarostat universal types will often do.
- ★ See how simple and satisfactory this all is, by asking your jobber for the Clarostat Service Manual. Or write Clarostat Mfg. Co., Inc., Dept. RT-1, 281 N. 6th St., Brooklyn, N. Y.



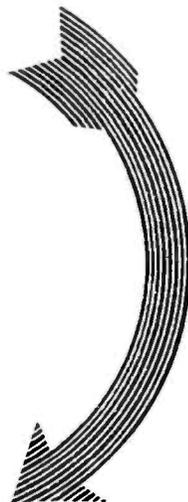
Free

LISTING OF YOUR PRODUCTS
IN RADIO'S MOST WIDELY
USED TRADE DIRECTORY
AND BUYERS GUIDE

1941-42 RADIO YEAR BOOK Including RADIO TRADE DIRECTORY

Fifth annual edition, complete in one issue, published in March as an integral section of RADIO TODAY

This questionnaire will greatly simplify your part in the compilation of the next directory. It is intended to save you from the necessity of studying elaborate forms and rechecking of last year's data. Your advertisement in the directory section of the Year Book, opposite your free editorial listing, will give you year-round contact with buyers in every branch of the radio and electronic industry,



FILL OUT AND MAIL TODAY

RADIO TODAY

480 Lexington Avenue, New York

Data for 1941-42 RADIO YEAR BOOK and
RADIO TRADE DIRECTORY.

Our listings in the March 1940 Radio Trade Directory
should be repeated "as is"

We are listing below and sending literature on new
radio products added since March 1940

We have discontinued the following products listed
in the March 1940 issue

Undersigned is a manufacturer not previously listed.
We enclose literature. Our products are:

Company name _____

Your title or position _____

Street address _____

City _____ State _____

REFRIGERATOR PARADE

(Continued from page 24)

"Cold Ban," and all-steel cabinet; all-glass "Cold-mist Freshener" compartment, refrigerating coils in the walls and 2 glass doors. Also presented are 5 different cold zones, Polar Light behind freezer door, 5-way "Magic Shelf" for different arrangements and double-width dessert tray.

New units offered by Leonard Division of Nash-Kelvinator include five 6 3/4 cu. ft. models and two 8 3/4 cu. ft. ones. Two units feature an improved "Hi-Humid" system of controlled humidity. Lowest price is \$114.75 but

the fully equipped 6 3/4 cu. ft. job at \$124.95 is featured. Leonard prices have also been dropped as much as \$30 this year.

HOLLYWOOD BEAUTIES

The Quiet-Flo Rollator refrigerators of Norge's 1941 line come in 3 groupings, five 9 ft. models, four 6.6 cu. ft. and three 6 ft. models, with "Hollywood Beauty" styling throughout. A brand new feature is the "Night Watch" fully-automatic defroster which turns off the cold-maker every night long enough to melt the slight coating of frost. Others offered are the Cellaret—an unrefrigerated storage compartment, the Handfroster and sliding Coldpack meat and Hydro-voir vegetable drawers, and a flexible shelf arrangement.

Fifteen models are contained in Frigidaire's new refrigerator line, 9 of which are 6 cu. ft., 1 model of 8 cu. ft. and 2 others, 9 cu. ft. single door units. One 3, 4 and 13.5 cu. ft. models are also included. A separate outside design is used for each of the 4-model series. Seven models include the Cold-Wall feature, in the deluxe models of which the freezer is horizontal, filling the space between the sides above the Cold-Wall compartment, and there is an enlarged moist cold storage space and adjustable shelves. In the regular Cold-Wall units the freezer is on the left and in the conventional refrigerators the freezers are still in the center. Sliding glass-top hydrators, enlarged meat tender, "Quickkub" trays are among the features. A more powerful meter-miser mechanism has also been developed.

Starting Something



Stirring up more interest in the refrigerator market now is the big Crosley campaign on "Twice as much food to the front." Shown with jumbo ad here is L. Martin Krautter, ad manager, and Beatrice Blaxton, model.

sized frozen food compartment, extra plastic trims, improved Conservador, etc. Philco officials explained all these features and emphasized the new promotion plans behind the refrigerators. The executives laid heavy stress on the Philco Company's all year 'round profit program on radio, refrigeration, air conditioning and window ventilation, "offering one of the most valuable franchises in the appliance field."

CAMPAIGNS DESCRIBED

Addresses were made by James T. Buckley, president; L. E. Gubb, executive vice-president; Tom Kennally, sales manager; Sayre Ramsdell, vice-president in charge of advertising; Paul Jones, in charge of refrigeration; J. H. Carmine; Robert F. Herr, Charles E. Carpenter and others.

In addition to an extensive popular-magazine advertising program, Philco will resume radio broadcasts shortly with Frazier Hunt on 108 to 150 stations, through transcriptions at popular local times, each program closing with local news announcements and addresses of Philco dealers.

Over two million Philco radios were sold in 1940, and the company's business totalled \$53,500,000 for the year.

DON'T LET ONE OF THE *400 STUMP YOU!



They don't seem to faze him at all!

No matter whether it's Mrs. Twiddleby-Gottricks, with her "Imperial-Splendid", or Gertie McSczytovarisich, with her "Week-end Six-fifty Special", Homer G. Snoopshaw, B. R. S., (Battery Replacement Specialist), can solve the battery problem. It's his job. He's the Replacement Adviser in Bud's Radio Shop. Of course, it may take him a week or two, but he finally gets 'em. His employer has learned to rely on Homer—and last week made him Vice-President-In-Charge-of-Replacements.

*Over 400 portable radios are listed in the replacement guide. See your local distributor or write Burgess Battery Company, Freeport, Illinois.

BURGESS

The Complete Replacement Line

Philco Shows New Lines at Chicago Meet

To see the new designs of the 1941 Philco refrigerator line, some 900 distributors, field representatives and Philco plant officials were guests at the Edgewater Beach Hotel in Chicago, Jan. 6 and 7. The mid-winter national convention drew appliance men from all parts of U. S., and several foreign countries.

The eight new boxes in the line, which are described in detail elsewhere in this issue, were seen to have many improvements, including a giant-

RADIO MEN! You've Been Asking for a Chance to CRASH THIS PROFITABLE NEW MARKET. FLUORESCENT LIGHTING!

HERE IT IS!

From our complete line of Fluorescent Lighting Fixtures, we have selected the 20 most popular styles for Home, Office, Store and Factory. These we have arranged in a special knock down sales kit containing all essential fixture parts; included are enough ballasts, sockets and tubes to assemble up to 10 complete fixtures. Parts are selected so that you may assemble any one of the 20 fixtures or up to 10 complete fixtures. Our purpose is to make available to you a complete line of fixtures for immediate resale requiring the smallest possible investment, and to deliver these at the lowest cost. Even with our low list prices, your mark up will range from 100 per cent to 137 per cent. Kit Includes: 11 Deluxe fixtures with beautiful chromium plated end caps. 9 Sturdy Factory and Utility fixtures—18" to 48" long. 15 to 160 Watts. Enough electrical parts to assemble up to 10 complete fixtures with tubes. AND! Our complete training course covering the entire field of assembling, servicing and Selling Fluorescent Lighting, a course easily worth \$35 to \$40.

Total assembled list price fixtures electrical parts and tubes\$214.95
Training course\$50.00

(Note: All ballasts and tubes made by General Electric Co.) TOTAL \$249.95

Under our special offer—good for a limited time only—all the above is made available to representative dealers for the unbelievable low price of\$85.00

We reserve the right to limit number of dealers in any sales district. Write now to insure being first in your district!

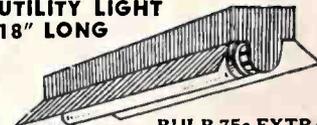
NATIONAL FLUORESCENT SALES AND SERVICE COMPANY

404 North Wells Street

Department H

Chicago, Illinois

SPECIAL TRIAL FIXTURE UTILITY LIGHT 18" LONG



BULB 75c EXTRA PLUS POSTAGE F.O.B. CHICAGO \$1.95

GE Stages Show Series for Newest Lines

The 1941 lines of the General Electric Co. were given a series of dramatic previews last month in 9 key cities of the U.S., with GE's sales and promotion execs unveiling 8 new table model radios, along with spectacular showings of the firm's new automatic washer and the 1941 lines of refrigerators and ranges.

With ballrooms in each city used for stages, and a lively theatrical technique worked out by merchandising manager A. L. Scaife, the new lines and the fresh promotional plans for GE products drew heavy applause. The new "J" line of small radios were shown by A. A. Brandt, radio and television sales manager, and Harry Deines, advertising manager. Two of the sets, which are new versions of the receiver which was given an award by *Modern Plastics*, have been reduced in price, and will be the center of a new "Blue Ribbon" merchandising leader campaign.

Carter Buys Magmotor

It has been announced by the Carter Motor Co., 1608 Milwaukee Ave., Chicago, that it has purchased the Magmotor Police Radio Power Division of the American Bosch Corp., Springfield, Mass. Carter makes dynamotors and convertors for general use as well as for aircraft, police and marine radio.

Florida Distributor Expands All Over the State

Better service to Florida dealers is offered now by Major Appliances, Inc., with the opening of this branch at Orlando, Fla. R. J. McAllister is in charge of the showroom and warehouse here. The company has others in Miami, Tampa and Jacksonville. W. D. Rowlands is president.



Radio Men at Credit Congress

The electrical and radio industry will have a part in the annual Credit Congress of the National Association of Credit Men, at New Orleans in May, 1941. Credit execs of the business have picked a committee to take charge of the industry meeting and program there, including E. E. Diehl, Westinghouse Electric & Mfg. Co., St. Louis, Mo., chairman; W. W. Strickland, General Electric Supply Corp., New Orleans, La., vice-chairman; Miss Alleen Harrison, Tafel Electric Co., Louisville, Ky.; H. T. Biar, Schoellkopf Co., Dallas, Tex.; and W. R. Brown, Matthews Electric Supply Co., Birmingham, Ala.

Chairman Diehl and his committee are the official representatives of the

Electrical and Radio Industry in the National Association of Credit Men. They invite suggestions on topics which might advantageously be discussed at the Congress, as well as regarding any other credit problems on which committee action would be helpful.

Manufacturer Desires Representation

Word has been received by RADIO TODAY that a nationally known radio manufacturer dealing direct to dealers "desires representation in Texas, Virginia, Ohio, Pennsylvania, New York, New England, and Indiana."

Agents in these areas who are interested in this announcement should write to Box 13, RADIO TODAY, 480 Lexington Ave., New York City.

Important Announcement To All Servicemen! NOW YOU CAN JOIN THE NATIONAL RSA For Only \$1.00 a Year



Every Serviceman can have a voice in his destiny in his own industry! The RSA extends its services and makes it possible now for all Servicemen to enjoy the advantages of membership

in this national organization for only \$1.00 a year.

Yes—for as little as 2c a week you get the RSA Membership Certificate and receive the RSA House Organ. You have access to the RSA Technical Helps Bureau, and you are able

to participate in all the other functions and benefits which the RSA offers.

As rapidly as local chapters are formed, protected territories will be established for them. Applicants in present chapter areas will be referred to the local chapter.

This is your opportunity. Don't let it slip away. Join now with thousands of your fellow servicemen in this great organization—the organization that's doing things for you!

Fill out the coupon, attach a \$1.00 bill and mail it now!

RADIO SERVICEMEN OF AMERICA, Inc.

"Reliable Service Assured"

JOE MARTY, JR., Executive Secretary
304 S. DEARBORN STREET • CHICAGO, ILL.

RADIO SERVICEMEN OF AMERICA, INC.
304 S. Dearborn Street, Chicago, Illinois
\$1.00 enclosed for 1941 National Dues in RSA

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

Radio Today—Jan.

RECORDS

RECORDIO'S ALBUM

(Continued from page 22)

novel and convenient way for home recorder buyers to file their records. These sales-stirring albums come with the new Recordio Red Label blanks, to be sold at these prices: 6½", six for \$1; 8", six for \$1.50; and the 10", six for \$2.

In the Red Label disc, Recordio emphasizes quality, but the firm will continue to sell its Paper Base discs at present prices.



Make Home Recorders Open YOUR New Market

● Put ease of operation to work for you in new, popular home recording. Get your share of the wide popularity of the simplified GI-R70 Home Recording Unit. Designed for amateur users. Built by precision methods. Already sold, with good profit, to thousands of satisfied owners in homes—offices—music, drama and voice schools.

Easy to Install

GI-R70 Unit consists of precision-made cutting head and arm with depth adjustment; high-quality tangent-tracking crystal pick-up; weighted turntable with retractable driving pin; concealed feed-screw mechanism; big, powerful rim-drive motor. All mounted on base-plate. Order one to test.

The GENERAL INDUSTRIES CO.

Dept. 15 Elyria, Ohio

Order Playback and Cutting Needles from our affiliate The General Phonograph Mfg. Co., Putnam, Conn.

Best Bets Among New Discs

LEO REISMAN and his orchestra playing The Last Time I Saw Paris with VR by Phil Ducey—Victor 27223.

BEATRICE KAY and the Elm City Four singing Italian Street Song—Columbia 35808.

THE AIRPORT BOYS singing Bad Girl—Bluebird B10939.

JIMMY DORSEY and his orchestra playing The Bad Humor Man from the RKO picture "You'll Find Out," with VC by Helen O'Connell—Decca 3435.

FRANCES LANGFORD with Victor Young and his orchestra singing In the Cool of the Evening from the Republic Picture "Hit Parade of 1941"—Decca 3423.

EDDY DUCHIN and his orchestra playing Dream Valley with VC by Johnny Drake—Columbia 35780.

WAYNE KING and his orchestra playing Falling Leaves—Victor 26785.

CAB CALLOWAY and his orchestra playing The Worker's Train with VC by Mr. Calloway—Okeh 5874.

GUY LOMBARDO and his Royal Canadians playing A Nightingale Sang in Berkeley Square with VC by Carmen Lombardo—Decca 3453.

BENNY GOODMAN and his orchestra playing Frenesi—Columbia 35863.

Universal Cuts Recorder Line

Universal Microphone Co., Inglewood, Cal., in January has discontinued most of its line of recorders and will limit production this year to its professional model. Universal will also continue to produce the recording chassis job for manufacturers and jobbers.

Jobber's New Home Is a Showplace

A "Showplace for Merchandising" for dealers in the Chicago area is the description for the new home of the jobbers, Bruns & Collins, opened at 1455 S. Michigan Ave., Chicago. The firm has enjoyed over 20 years of successful wholesaling in the specialty and automotive field, formerly located at 2532 Cottage Grove Ave. New radios are included in the elaborate displays occupying 10,000 sq. ft. of space, and dealers are invited to use the show-

room in selling their retail prospects. Modern steel display cases and storage equipment was purchased from Aurora Equipment Co., Aurora, Ill., who have just announced new 1941 lines for stores.

Joe Freed on "FM"

"Frequency Modulation has made possible broadcast reproduction for which radio engineers need no longer make apologies," declares Joseph D. R. Freed, President, Freed Radio Corp. "For the first time in radio history there are no technical limitations to bringing crystal clear studio realism into the home.

"Frequency Modulation has brought Freed-Eisemann back to the radio set manufacturing field and the entire radio industry back to the fundamentals upon which it was founded, the bringing the world of news, music, and art to the listener in a clear undistorted manner. 1941 is looked forward to, by all who have celebrated more than twenty years in the field, as marking another vital milestone in radio progress. We all salute Major E. H. Armstrong for making it possible."

Three Radios Get Design Awards

Three of the newest compact radios offered by General Electric, Philco, and Kadette, have been given awards in the Communications Group of the Fifth Annual Modern Plastics Competition sponsored by Modern Plastics Magazine.

The GE winner is model 501W, with a cabinet of ivory Plaskon, designed by Gerald Johnson Associates of New York City. The Philco set chosen by the judges is the "candid camera" portable, "injection" molded of Tenite. The "Topper" model made by Kadette, another winner, was designed by Barnes & Reinecke, Chicago, and is made of Durez and Beetle.

Baer in Virginia

Just named for the post of district sales agent in the state of Virginia for the Janette Mfg. Co. of Chicago, is Herbert J. Baer, 430 W. Franklin St., Richmond, Va.

ESPEY

Introduces . . . the first small, low-priced electric phonograph with fine tone quality and volume!

DESIGNED
ESPECIALLY FOR
REPRODUCING
RECORDED
MUSIC

ESPEY MFG. CO. INC.

Manufacturer of
Phonographs and Radios

305 E. 63rd St.

New York

Make way for a brilliant new leader in small electric phonographs. It makes your market wider than ever.

This ESPEY model AWO-3 is AN INSTRUMENT—a remarkable performer, considering its size and price. You needn't blush when you demonstrate it. When your customers see and hear it they won't be satisfied with anything less.

SPECIFICATIONS—MOTOR, rim drive, synchronous, constant speed 78 R.P.M., self-starting, air-cooled, 115 Volts A.C., 60 Cycles. TURNTABLE, 9" dia., plays 10" or 12" records. PICKUP & TONEARM, temperature treated crystal in perfectly balanced, true tangent arm for high fidelity and minimum record wear. AMPLIFIER, specially designed for record reproduction, good quality, low distortion. SPEAKER, 3" high effi-



ciency, extra heavy PM speaker and transformer carefully matched. CONTROL, tapered volume control with on-off switch. SIZE, 11¼" x 9" x 5¼".

WRITE TODAY FOR COMPLETE DETAILS

Licensee of RCA—HAZELTINE—ARMSTRONG Wide Swing Frequency Modulation Patents

Flying Author



Alfred A. Ghirardi, prominent radio author, shown at NY airport before flying west to get field data for new Radio Handbook, to be out this month.

Plastic Sales Angles Outlined

How more and more products are being given new sales appeal, and how manufacturers are given new chances to produce a variety of products, through the use of Durez, is attractively outlined in a new booklet "It's a New Business Custom," released by Durez Plastics & Chemicals, Inc., North Towanda, N. Y. The related experiences of well known manufacturers who were alert to advantages of new materials are featured.

New Jersey Dealer Wins Emerson Contest

Royal Radio Co., Hoboken, N. J., was named the winner in the big "Buying Trend" contest sponsored by Emerson Radio & Phonograph Corp., and was awarded first prize of \$500. In the contest, radio men were asked to estimate the number of table models, consoles, and console combinations sold during the month of September, 1940. The winning entry placed table

models at 700,000; consoles at 98,500, and console phonos at 61,500.

Gabe's Radio & Appliances, Green Bay, Wis., placed second and won \$250; third prize of \$100 went to Radio Doctors, Milwaukee, Wis. Three dealers, Royal Radio & Television, New York City; Fuller Bros., Foxboro, Mass.; and Malarkey's Music Store, Pottsville, Pa., won \$50 each. Many other awards of \$25 and \$10 were given to dealers; the total was \$1,500.

Father's Day Promotion Starts

Plans for the celebration of Father's Day, on June 15, 1941, are already well under way, according to news from the National Council for the Promotion of Father's Day, 9 E. 41st St., New York City. The official 1941 poster painted by McClelland Barclay has been released, and along with a series of additional dealer helps, is available at cost to retailers.

Parts Men Crowd First "Know Your Stuff" Meet

Forty-one parts men from ten different jobber organizations went to the first of the series of "Know Your Stuff" meetings, held in Philadelphia for RCA tube and equipment distributors. Practical demonstrations of equipment, and outlines of new sales methods were featured by a group of leading RCA executives who addressed the gathering.

More "Know Your Stuff" meetings will follow at various cities throughout the country. New York jobbers met at the Hotel New Yorker, New York City, and those of the Boston area at Boston's Hotel Bradford.

Dealer Opens in Philadelphia

A big, new retail store for radio and appliances has been opened at 6715 Inc. Frank L. Berger, formerly a Crosley Inc. Frank Berger, formerly a Crosley district rep and a well known figure in jobbing circles in Philadelphia, is president of the firm. Stocks include Philco, Crosley and RCA receivers, Philco and Crosley refrigerators, and other lines of appliances.

Donley to Westinghouse New York Office

The new merchandise sales manager for Westinghouse Electric Supply Co., 150 Varick St., New York City is H. B. Donley. He was formerly manager of the appliance dept., merchandising division, of the Westinghouse Elec. & Mfg. Co., and has been with the company for 18 years.

SC in the South

William L. Mollands is Stromberg-Carlson's new southeastern sales representative, to call on the trade in Alabama, Georgia, Florida and South Carolina.

BRACH Antennae

Automobile
Home — All types
F-M Systems
Television
Police • Marine
Multiple Systems
Complete Kits
Accessories

Made by World's Oldest and Largest
Manufacturers of Radio Aerial Systems

L. S. BRACH MFG. CORP.
55 DICKERSON STREET
NEWARK, N. J.

Announcing the improved 1941 RECORD BAR*



The new high fidelity unit is fully equipped for finer reproduction through the use of the latest type of high fidelity amplifier, feather-weight pickup and sapphire needle.

Features of the new Bitter Record Bar give added merchandising power to this sensational unit, in which all stock keeping, selling and demonstrating activities are centered in one compact, inexpensive fixture—giving utmost economy in equipment and floor space.

Send for Free Folder

A. BITTER CONSTRUCTION CORP.
2701 Bridge Plaza North Long Island City, N. Y.

*Reg. and copyrighted U.S. Patent Office 1940.

Record Rack No. 100 may be used separately or as a unit of a large record dept. Capacity 500 10" records, 500 12" records and 75 albums.
Price \$44.00
F.O.B. Factory

Established 1920



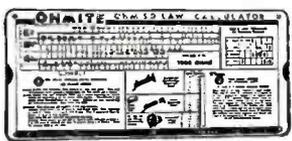


For the Best of Service
OHMITE
 RESISTANCE UNITS

*I*T'S extra assurance for the job when you use these famous Ohmite Parts. Servicemen and Engineers everywhere have standardized on Ohmite Resistance Units for dependable, trouble-free performance.

See Your Jobber For:

Cordobms—replace internal voltage dropping resistor in A.C.-D.C. radio sets. Tapped Cords for pilot light also available. *Dividohm Resistors*—Easily adjusted to resistance you want—or tapped where needed. Sizes from 10 to 200 watts in complete range of resistance values. *Brown Devils*—10 and 20 watt vitreous-enameled resistors for voltage dropping, bias, units, bleeders, etc. Resistance values from 1 to 100,000 ohms. Also Power Line Chokes, Rheostats, and other Ohmite Units.



NEW!
 OHMITE
 OHM'S LAW
 CALCULATOR

Solves any Ohm's Law problem with one setting of the slide! No slide rule knowledge required! All direct readings. Only 10c to cover handling cost. At your jobber or send coupon.

OHMITE MANUFACTURING CO.
 4874 Flournoy St., Chicago, U.S.A.
 10c enclosed. Send Ohm's Law Calculator. (Please Print Clearly)

Name

Address

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

Occupation

Radio Today—Jan.



NEW BOOKLETS

Additional supplement (41-107B) to Radio Parts Catalog, No. 41-107 and previous supplement 21-107A gives list of radio service parts for all models released since May. Complete catalog and supplements for 25c from Stewart Warner Corp., 1826 Diversey Pkwy., Chi., Ill.

Loose-leaf catalog presents complete line of General Industries (Elyria, Ohio) phono-motors, record changers and home recording units. Copies and price list may be had on request.

Premax Prods. Div. of Chisholm-Ryder Co., Niagara Falls, N. Y. have issued a new Premax catalog No. R-41 on antennas and antenna accessories.

Weston Electromatic catalog on receiving sets is available in an English-Spanish edition, or English or Spanish only. Electromatic Distributors, Inc., 88 University Pl., N.Y.C.

No. 185A, Cornell-Dubilier's (S. Plainfield, N. J.) 1941 abridged catalog covers every radio capacitor need and capacitors suited to other electrical fields as well, in a concise form.

Meissner's 1941, 32-page general catalog of precision-built products includes data on recorders and FM equipment as well as on kits, coils, transformers, condensers, etc. Available from Meissner Co., Mt. Carwel, Ill.

A Manual of Radio Interference Elimination available from the Sprague Products Co., North Adams, Mass. for 25c, contains interference elimination from fluorescent lighting, use of new model IL-2 interference locator and various new filter procedures—a complete guide from a study of noise-reducing antennas to locating and remedying all types of man-made radio noise.

Available on request from Sun Radio Co., 212 Fulton St., N. Y. C., is an illustrated 24-page public address booklet containing information on all types of amplifiers, sound systems and accessories.

The 28th edition of the catalog of the Aurora Equip. Co., Aurora, Ill. contains complete details of the 1941 line of Aurora steel storage and display equipment.

Stancor's catalog No. 140B gives technical and mechanical data, price list and buying data on entire line of transformers, transmitter kits and packs. Free of charge from Standard Transformer Corp., 1500 N. Halstead St., Chi., Ill.

A copy of new bulletin with data sheet, illustrations and description of line of dielectric paper coil bobbins may be obtained from Precision Paper Tube Co., 2033 W. Charleston St., Chi., Ill.

Catalog No. 41 presents descriptions of the enlarged and improved range of Alpha wire and wire products. Alpha Wire Corp., 50 Howard St., N. Y. C.

Hexacon Elec. Co., Roselle Park, N. J., describes electric soldering irons in new catalog which combines previous separate sheets on screw tip and plug tip irons and the tip service catalog under one cover.

Isolantite Inc., 233 Broadway, New York City, offers a new circular, No. 101-E on their 3/8 in. diameter coaxial transmission line.

Public address equipment catalog includes PA systems, tuners, mikes, speakers, record players, and accessories. Terminal Radio Corp., 68 W. 45th St., New York, N. Y.

A 1941 radio parts and accessories catalog containing specifications and prices is available from Insuline Corp. of America, 30-30 Northern Blvd., Long Island City, N. Y.

A circular introducing a new R.F. transmitting switch, type 88 is furnished by Communication Products Co., 245 Custer Ave., Jersey City, N. J.

American VR2 microphone is described in new bulletin, No. 36 by the American Microphone Co., Inc., 1915 S. Western Ave., Los Angeles, Calif.

A folder, No. 11-A, containing info on Carrier microphones and transformers has been released by Carrier Microphone Co., 439 So. La Brea Ave., Inglewood, Calif.

"Make mine an OXFORD, Joe"

In the morning line-up at your jobber's counter speak right up and insist on OXFORD . . . the choice of thousands of servicemen who know what they are talking about. If you MUST get technical, these speakers have all the necessary response that makes them stand up "ace high" on the testing panel . . . but better still (from your standpoint) they enable you to make more money on every service job that calls for "speaker repairs." It is easier and better to put in a new OXFORD than to "tinker" with the old one.

Get wise to yourself the OXFORD way.

OXFORD-TARTAN
 RADIO CORPORATION
 915 W. VAN BUREN ST. • CHICAGO, U. S. A.

• INDEX •

TO ADVERTISERS

| | Page |
|--|---------------|
| AERVOX CORP. | 34 |
| AMPERITE CO. | 52 |
| BITTER CONSTRUCTION CORP., A | 49 |
| BRACH MFG. CORP., L. S. | 49 |
| BURGESS BATTERY CO. | 46 |
| CENTRALAB | 4 |
| CLAROSTAT MFG. CO., INC. | 45 |
| CROSLLEY CORP. | 1 |
| ELECTROVOX CO. | 42 |
| ESPEY MFG. CO., INC. | 48 |
| FARNSWORTH TELEV. & RADIO CORP. | 25 |
| GALVIN MFG. CORP. | Cover IV |
| GENERAL INDUSTRIES CO. | 48 |
| HOWARD RADIO CO. | 40 |
| HYGRADE SYLVANIA CORP. | 28 |
| INTERNATIONAL RESISTANCE CO. | 39 |
| JENSEN RADIO MFG. CO. | 7 |
| KEN-RAD TUBE & LAMP CO. | 41 |
| MALLORY & CO., INC., P. R. | Cover II |
| MEISSNER MFG. CO. | 41 |
| NATIONAL FLUORESCENT SALES & SERVICE CO. | 46 |
| NATIONAL UNION RADIO CORP. | 6 |
| OHMITE MFG. CO. | 50 |
| OXFORD-TARTAK RADIO CORP. | 50 |
| PHILCO RADIO & TELEV. CORP. | 26, 27 |
| POSTAL TELEGRAPH | 52 |
| PRECISION APPARATUS CO. | 31 |
| PRESTO RECORDING CORP. | 23 |
| RADIO CORP. OF AMERICA. | 2, 3 |
| RADIO PARTS NAT'L TRADE SHOW. | 52 |
| RADIO SERVICEMEN OF AMERICA. | 47 |
| RAYTHEON PRODUCTION CORP. | 5 |
| RCA MFG. CO., INC. | 19, Cover III |
| SIMPSON ELECTRIC CO. | 35 |
| STROMBERG-CARLSON TELE. MFG. CO. | 8 |
| SUNDT ENGINEERING CO. | 51 |
| THORDARSON ELEC. MFG. CO. | 45 |
| TRIPLETT ELEC. INSTRUMENT CO. | 43 |
| UTAH RADIO PRODUCTS CO. | 21 |
| WILCOX-GAY CORP. | 43 |
| ZOPHAR MILLS, INC. | 51 |

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

RCA's handy booklet, "Preferred Tube Types, What They Mean to You," emphasizes four important advantages to the radio dealer and distributor under the Preferred Tube Type program.

A 16-page catalog, No. 124, covering complete line of 1941 radio and electrical test equipment may be obtained without charge from Radio City Prod's. Co., Inc., 88 Park Pl., N. Y. C.

"The Radio Control Instruction Manual" compiled by Clinton B. DeSoto of Radio Control Headquarters, Granby, Conn., contains complete data on circuits, systems and apparatus for radio control of models.

A colorful brochure, "Snapshots in Sound" listing three grades of home recording blanks—Semi-professional, Economical and Amateur, has been released by The Record Disc Corp., 395 Broadway, N. Y. C.

Jensen Radio Mfg. Co., 6601 S. Laramie Ave., Chi., have just issued a new Data Sheet (No. 199) describing a group of new extended-range high fidelity loudspeakers.

A new catalog page featuring Gardiner Rosin-Core solder may be had by writing Gardiner Metal Co., 4820 S. Campbell Ave., Chicago, Ill.

New catalog of direct coupled amplifier models may be had on request from Amplifier Co., of America, 19 W. 20th St., New York, N. Y. Descriptions, photos, and full technical data are included.

The 13th edition of the Raytheon Characteristic Data Chart, completely revised, and with new material added including information on all receiving tube types in the Raytheon line, diagrams, drawings, etc. may be obtained upon application to any of the Raytheon Sales Offices.

A 32-page booklet, "Manual of Radio Servicing" contains hints on radio operation and servicing, and may be had free of charge by writing directly to Supreme Publications, 3727-29 W. 13th St., Chicago, Ill.

"Receiving Tube Handbook—Recommended Types for New Receivers," an informative book showing the ratings, characteristics and curves on types of receiving tubes, has been published by Ken-Rad Tube & Lamp Corp., Owensboro, Kentucky.

A new 24-page indexed booklet contains complete data on Steatite and Ultra-Steatite low-loss insulators, coil forms, bases, etc. It is issued by General Ceramics Co., 30 Rockefeller Plaza, New York, and may be obtained on request by asking for Catalog 1000.

Ideal Commutator Dresser Co., Sycamore, Ill., announces their new "Instant Heat" electric solderer in a new folder.

Photo-electric operated relays are described in new catalog by the Worner Products Corp., 1019 W. Lake St., Chicago, Ill.



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

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

Zophar MILLS, Inc.
FOUNDED 1846
120-26th ST., BROOKLYN, N. Y.



SELECTED sacred and semi-sacred compositions—the favorites of millions. Meet the present amazing demand for selections of a serious type. Reproduced in acetate low-scratch materials. Advertised in an influential list of religious publications.

Prospective customers for these records know what they want, and only perfected renditions are necessary to sell them. It is also a fact that such renditions of sacred songs, hymns, suitable for all denominations, are extremely rare. Equip yourself to meet this situation. You can—with profit.

A number of these records are made especially for musical towers or carillons—no scratch, two-sided acetate 12" transcriptions. All suitable for both Catholic and Protestant churches, religious organizations, lodges, etc.

Write for list.

SUNDT ENGINEERING CO.
4763 RAVENSWOOD AVE. CHICAGO, ILL.

SUNDT ENGINEERING CO.
4763 Ravenswood Ave.
Chicago, Ill.

Please send list of records, and further information on music for carillons, etc.

Name

Company

Address

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

Gimplest

WAY TO REPLACE BALLASTS

- 4 STANDARD TYPES of Amperite Regulators replace over 200 types of AC-DC Ballast Tubes now in use.
- Not to be confused with ordinary dropping resistors. Amperite actually regulates.
- Amperite Regulators are equipped with a patented Automatic Starting Resistor which prevents initial surge and saves pilot lights.
- Amperite AC-DC Regulators; List \$1.00. Amperite Replacements for 2V Battery Set ballasts List \$1.25

WRITE FOR REPLACEMENT CHART "S"

AMPERITE Co. 561 Broadway, N. Y. C.

AMPERITE

COMING!

1944 Radio Parts
NATIONAL TRADE
SHOW

Stevens Hotel • Chicago

TUESDAY TO FRIDAY
JUNE 10 TO 13

JOBBER DAYS

TUESDAY, JUNE 10
TO THURSDAY, JUNE 12

OPEN HOUSE

THURS. EVE. FRIDAY
JUNE 12 JUNE 13

Radio Parts
National Trade Show
Executive Office
53 West Jackson Boulevard • Chicago

Dealer Will Exchange Call Letters

Editor, Radio Today:

Have you published an article on the exchange of unused station call letters between radio dealers? Located here in the Empire State we use only local calls such as WTRY, WGY, WOKO, WABY, WABC, WEAJ, WJZ, WOR & WTIC. These are either Capital District or Metropolitan District calls.

Our shelves contain a hundred packages of call letters which are useless to us because the stations we use are not to be found there. However, they are full of value to fellow dealers and servicemen who are located in a different part of this great country of ours.

I would like to exchange call letter packages with some other dealers and servicemen, who do not use the same calls as I use. These are for Philco sets only. If the dealers would advise what they have, I am sure we could both profit by the exchange.

Very truly yours.

Edward Scribner
Schoharie, N. Y.

Rainbault Named Manager of GE Air Conditioning

John P. Rainbault is now manager of the air conditioning and commercial refrigeration department of General Electric, according to H. L. Andrews, vice president. Formerly manager of the company's electric clock section in Bridgeport, Conn., Mr. Rainbault succeeds Stuart M. Crocker, who was recently named a vice president concerned with customer relations.

Bliss-Strawn Is RCA Distrib in Detroit

Complete string of home entertainment products of RCA Victor will now be distributed in the Detroit area by Bliss-Strawn Distributing Co., who operates branches in Detroit, Toledo and Grand Rapids to serve the lower Michigan and northwest Ohio areas. Radios, Victrolas, Victor and Bluebird records, tubes and parts will be handled.

To Whirl Your Sets



Radio displays need motion, and now dealers may buy this AC Display Turntable at new price of \$6, from Goodman Rotary Display Specialties, 19 W. 34th St., NYC. Turns at proper speed, carries up to 50 lbs., costs about 1c a day to run.

Westinghouse Appliance Ads to Increase

Advertising on Westinghouse appliances will be increased from 10 to 15 per cent in 1941, over the schedules used in 1940, according to news from Roger H. Bolin, manager of advertising and sales promotion in the merchandising division. Extra space will be used in key city newspapers as well as in national magazines.

Engineer Has New Office

Ralph H. Langley, E. E., consulting engineer and specialist in patent matters, has moved his office to 50 E. 42nd St., New York, N. Y., telephone VANDerbilt 6-6276. His laboratory continues at 47 Cassilis Ave, Bronxville, N. Y.

Jobber Issues Catalog

News from Radio Inspection Service Co., prominent jobbers of Hartford, Conn., is that their new catalog of 300 pages of radio parts and equipment is now ready for the trade. Address is 227 Asylum St.

\$241 IDEA FREE TO TELEGRAM USERS!

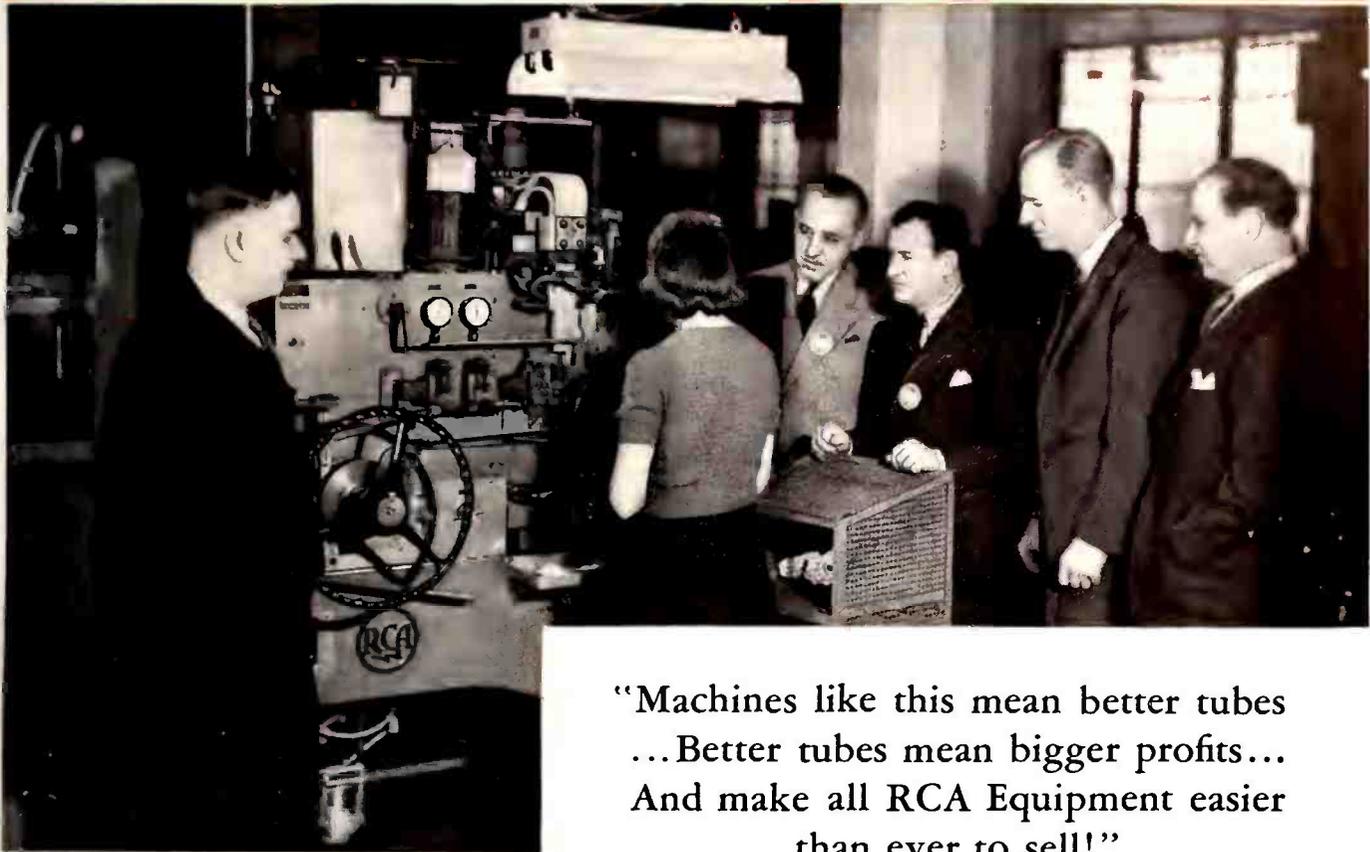
Just by having Postal Telegraph survey telegraph costs, one firm (name on request) saved \$241 on telegrams last year! Ask for this free telegraph cost analysis and see how you save! It uncovers huge waste and provides easy-to-follow plan to stop it!

For information about free telegraph cost analysis —wire collect: A. A. Kramer, Postal Telegraph, 253 Broadway, N. Y. C. No obligation!

WIRE COLLECT:

Postal Telegraph

"Precision means Profits!"



"AARON LIPMAN (third from right) of Newark, N. J., nationally-known RCA Tube and Equipment Distributor, visits RCA's Harrison Tube Plant to learn first hand from engineering and factory executives why RCA preferred type tubes are better."

"Machines like this mean better tubes
... Better tubes mean bigger profits...
And make all RCA Equipment easier
than ever to sell!"

Highly specialized automatic machines of amazing speed and precision! They reach a new peak of development as the Preferred Type Tubes Program concentrates the great facilities of RCA on making *more* tubes of *fewer* types; and making them *better!*

Does that help *you?* Distributors who have visited the RCA Tube Plant in Harrison vote "YES!" For you and they get

faster turnover of fewer tube-types as the 27,000,000 *Preferred Type* tubes in new 1940 receivers call for replacement!

And you get the good-will that comes of selling *better* tubes . . . prestige that makes *all* your RCA Equipment still *easier* to sell! Better business-builders in 1941 than ever before are RCA Power Tubes, Receiving Tubes, Test Equipment, Amateur Equipment!



Over 380 million RCA radio tubes have been purchased by radio users . . . In tubes, as in test equipment and accessories, it pays to go RCA All the Way.

WHERE ELSE CAN YOU GET THIS SUPPORT?

Grow
with the



TUBE AND
EQUIPMENT

FRANCHISE

RCA Manufacturing Co., Inc., Camden, N. J. • A Service of the Radio Corporation of America
In Canada, RCA Victor Co., Ltd., Montreal

Motorola



\$19⁹⁵

SLIGHTLY
HIGHER
IN WEST

Here's the
"HOTTEST" PERSONAL RADIO!

Motorola

MODEL A1 "PLAYBOY" PORTABLE

Small as a Pocketbook — Light as a Camera

Beautiful streamlined personal radio that logs more stations than most big portables. Brings 'em in with rich tone and volume to spare. On high-speed trains, in motorboats, indoors or out, this little package of radio "dynamite" will positively astound you.

It's really SMALL! Only 6 1/4" x 4 5/8" x 3 1/2". Weighs 4 1/4 lbs. Automatic switch starts music when lid is opened. Maroon streamlined case is crackle finished metal with shimmering chrome trim. Front cover of plastic. Four latest type miniature tubes in a superhet circuit that REALLY delivers!

Wire or Write Your MOTOROLA Distributor

**Nationally
Advertised**

to

20,000,000

Readers of

Sat. Eve. Post

Life . Colliers



GALVIN MFG. CORPORATION • CHICAGO

ONE OF SEVERAL NEW *Motorola* HOME RADIOS JUST ANNOUNCED!