What It Costs to Sell Radio at Retail
— stores that made profits
— average "expense ratios"
— lessons from failures

Check-List for Merchants
— look your business over
— see what your store needs

Fights and Radio
— effects on receiver sales
— tube and service pick-up

Sell Sets as "Furniture"
— feminine appeal of woods
— cabinetry and finish
— knowing "period stuff"

Servicing the New Lines

Merchandising "Sound"

Robinson-Patman Quandary

What the Manufacturers Offer

Oscillator Specifications

— At right... Analysis of 81 profitable radio businesses, showing percentages of sales receipts applicable to various expenses and to profit. See page 14.

AUGUST 1936
FIRST ROW ORCHESTRA

or last row balcony?

Ask your prospects where they'd rather sit to hear their favorite NBC network programs... it helps to sell the better sets!

The difference in reception between an average receiving set and a very good one is the same as the difference between a Row A orchestra seat, and one in the rear of the "peanut gallery." The gap is just that wide... the loss of pleasure as great.

Millions of listeners have a tremendous loyalty for certain all-star NBC network programs. Alert dealers have discovered this vital human interest... an interest which underlies all receiving set specifications, and colors the buying outlook.

That's why these dealers say, "Paul Whiteman, eh? Why, he gets my vote, too. But you ought to hear him on this model—there's no comparison. He's twice as good, if you can imagine such a thing!" Or it may be Jessica Dragonette... or Showboat... or Fred Allen.

NBC network programs are consistent winners of the nation's radio popularity polls, in all classifications. And this year's 10th Anniversary Program schedule far outstrips all others. Talk up these programs—make your prospects feel that such entertainment deserves the best possible sets they can afford. It pays off!

National Broadcasting Company, Inc.

A Radio Corporation of America Service

New York • Washington • Chicago • San Francisco
THE trade has already ordered over 4 times as many American-Bosch Centromatic Radio sets as a year ago. American-Bosch must have something worthy of your investigation.

It certainly has! ... It has the "Automatic Maestro," latest and greatest radio engineering development. It has a market-measured line that embraces every price class. It has the exclusive band-stand baffle, over-size speakers, super-size black dials, woman-captivating cabinets, amazing prices—these and other selling advantages total 24 all-star features that are making American-Bosch Centromatic Radio the fastest moving line of the year.

And it has the year's outstanding promotions—both in point-of-sale and consumer advertising. National advertising stars great orchestra conductors, to emphasize the role of the "Automatic Maestro." Point-of-sale advertising features Paramount movie stars, living room backgrounds, challenging literature and the most beautiful, sales-compelling demonstration display stand in radio history.

American-Bosch is hitting a winning stride—in a big way. You can find greater success in the radio business with American-Bosch. Mail coupon below and learn why.

UNITED AMERICAN BOSCH CORP.
SPRINGFIELD, MASS. New York, Chicago, Detroit
American-Bosch Radio is listed under mail order applications at U. S. A. and Housing Corp.

RADIO TODAY, August, 1936, Vol. II, No. 8, published monthly by Caldwell-Clements, Inc. 469 Lexington Ave., New York, N. Y. Subscription yearly $1.00 in U. S. and Latin American countries; $1.25 in Canada; $2.00 all other countries; single copy, 15c. Entered as second-class matter July 24, 1936, at the post office at New York, N. Y., under the Act of March 3, 1879. Printed in U. S. A. Copyright 1936 by Caldwell-Clements, Inc.

Index to advertisements on page 73
Pan-American Airways...swift transportation system linking the United States with 33 foreign countries. Similarly, RCA Communications joins 32 large American cities and 47 nations with fast radiotelegraph service...Above is pictured the famous China Clipper, Pan-American Airway's mighty transpacific airliner, one of a fleet of new and super-powered sky giants.
TWENTY-FOUR HOURS EACH DAY, the Radio Corporation of America, through RCA Communications, Inc., provides the world with dependable, efficient, economical domestic and international radiotelegraph service.

Messages sent "Via RCA" flash across nations with the speed of light, winging along invisibly over snow-capped mountain peaks, scorching deserts, mighty seas and sunken valleys, to swiftly bring together thousands separated by time, distance or raging elements.

The communications systems with which RCA achieves this far-flung service extend across thousands of miles, forming an invisible bridge between 32 important metropolitan centers in this country and 47 foreign lands. At Rocky Point, Long Island, RCA owns and operates Radio Central, world's largest and most powerful radio station. From this point and several others, domestic and trans-oceanic messages are shot into space. Next time you send a message anywhere—send it "Via RCA."

This, however, is but one of the RCA's radio services. This organization alone is engaged in every phase of radio. That's why the American public regards RCA as a house deserving of the utmost confidence. And because of this confidence, any product trade-marked "RCA" sells well.

Hence, RCA dealers do a better business—enjoy finer profits. They are connected with Radio's Leader—the institution that has been first with radio's greatest sound achievements—the organization that some day will thrill the world with radio sight—RCA!
'round the World by Radio

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RCA MANUFACTURING CO., INC. • NATIONAL BROADCASTING CO., INC.
RCA COMMUNICATIONS, INC.
RADIOMARINE CORPORATION OF AMERICA • RCA INSTITUTES, INC.

Covering the World "Via RCA"
RCA Communications, Inc., offers direct radiotelegraph service between:

32 AMERICAN CITIES
including:
New York New Orleans Boston Detroit
Philadelphia Chicago Camden San Francisco
Baltimore Los Angeles Washingtn Seatt

47 FOREIGN COUNTRIES
Argentina Italy Belgium Japan
Brazil Macao Chile Mexico
China Colombia Norway Cuba Panama
Canara Philippines Comoros People
Dominican Rep Britain Portugal Dutch East Indies Nether Rino
Dutch Guiana Russia Fiji Islands
Fiji Islands Siam "Via RCA" Hawaiian "Via RCA" Mexican
France Society Islands French Indo-China FVG RCA Hawaiian
Germany Syria India Greece
Great Britian Sweden Guatemala
Haiti Switzerland India
Hawaii Spain

the Magic Key of RCA on NBC Blue
Network every Sunday, 3:00 to 3:30 P.M., E.D.S.T.

--plus rapid transfer service to all other points in the world!
HERE is no precedent in the radio industry for this announcement. No manufacturer of radio sets ever before has announced a policy of concentrate mass production.

Ford did it in the automobile business. But now Grunow does it in radio!

Every item in the 1937 line of Grunow radios will be a price and quality LEADER. The Grunow dealer will be enabled thereby to concentrate on a few fast-selling, strongly advertised sets.

Starting immediately, Grunow advertising spotlights attention both on TELEDIAL, the No. 1 radio sensation of the year—the new self-tuning radio that brings in 15 stations in 15 seconds, perfectly tuned; and on the new, patented "VIOLIN-SHAPED" cabinets which move the last trace of cabinet resonance.

The last word in All-Wave, All-World radios, plus TELEDIAL and "VIOLIN-SHAPED" cabinets!

And that's not all the story. Look at prices. Low price levels never before reached in radio. TELEDIAL sets price way down under conventional sets with TELEDIAL. Mail-order-chain, private brand competition stopped cold by the own kind of prices on more attractive and higher-quality products.

Backed by powerful promotion, Grunow will write radio history in 1937. Let send you full details of this advanced in radio merchandising. Write today.

And SHIRLEY TEMPLE

Shirley is the Grunow Teledial girl! At the same time you read this, the first ads in a smashing national magazine drive will appear directed to over 12 million homes—featuring the lovely little 20th Century-Fox's whose newest release is "The Poor Little Rich Girl". By special arrangement with the studio, a local tie-in promotion which will net hundreds of prospect cards available to all Grunow dealers, from your distribu...
A quality, 11-tube set with Metal tubes, "Violin-Shaped" Cabinet, and II-Wave, All-World reception at the price of a "Six"

$69.95

Look at This "GRUNOW ELEVEN" Chassis

This tells the quality story! The cleanest chassis for service you've ever seen! Its size and metal tubes are impressive selling features.
There is no precedent in the radio industry for this announcement. No manufacturer of radio sets ever before has announced a policy of concentrated mass production. Ford did it in the automobile business. Now Grunow does it in radio!

Every item in the line of Grunow radios will be a price and quality leader. The Grunow dealer will thereby be enabled to concentrate on a few fast-selling, strongly advertised sets.

Starting immediately, Grunow advertising spotlights attention both on TELEDIAL, the No. 1 radio sensation of the year—the new self-tuning radio that brings in 15 stations in 15 seconds, perfectly tuned; and on the new, patented "VIOLIN-SHAPED" cabinets which remove the last trace of cabinet resonance. The last word in All-Wave, All-World radios, plus TELEDIAL and "VIOLIN-SHAPED" cabinets!

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Backed by powerful promotion, Grunow will write radio history in 1937. Let us send you full details of this advanced step in radio merchandising. Write today.

And Shirley Temple!
Shirley is the Grunow Teledial girl! At the same time you read this, the first set in a smashing national radio drive will appear directed to over 12 million homes—featuring the lovely little 2oth Century-Fox whose newest release is "The Poor Little Rich Girl." By special arrangement with the studio, a local promotion which will net hundreds of premiums available to all Grunow dealers, from your distributor.
THE SECOND
"big parade"
OF 1936 IS ON!

In Radio—As in Refrigeration—You’ll Ride the
Band-Wagon if You Ride with Stewart-Warner!

MASSIVE NEW COPPER
PHOTO-TONE
SPEAKER

Radio's Biggest Money's Worth!
Here's "The Most of the Best" In Real
Features—Real Enjoyment

★ TWIN Copper PHOTO-TONE Speakers
★ ELECTRON BEAM Power Amplifiers in Push-Pull with
  Driver stage giving 20-watt undistorted output
★ SHADOW BEAM Tuner using new-type Cathode Ray
  Tube
★ 12-Tube Duo-Circuit FERRODYNE Chassis—19 tuned
  circuits
★ Huge 7-inch MAGIC DIAL with new Automatic Band
  Indicator
★ True ALL-WAVE, including Weather Band
★ New Tidalwave AUTOMATIC VOLUME CONTROL
★ New 5-point TONE CONTROL giving both bass and
  treble control including true Hi-Fidelity
★ Independent SELECTIVITY CONTROL
★ Dual BASS COMPENSATION
★ Automatic Antenna Control
★ Antenna and Power Line Filters
★ Hand-rubbed CRAFT-BUILT Cabinets
★ And Many Other Improvements

EVEN you hard-boiled radio dealers will cheer when you hear
and see this great new Stewart-Warner line. What Stewart-
Warner did in refrigeration—with the stand-out models of 1936
and a sales gain of 127% over the preceding season—Stewart-
Warner has done again in both AC and farm radio. And smart
dealers all over America have already told us they'll go to town
with Stewart-Warner this fall.

That great new Copper PHOTO-TONE Speaker alone is enough
to sell most prospects—because a brand new kind of construction
sets a brand new standard of tone mellowness and perfection. But
it's just one of the most impressive list of features we've ever
wrapped up in one radio. These sets have everything!

And they—and you—are backed up with the most amazing
finance plan the industry has ever seen—plus the most powerful
merchandising in Stewart-Warner history. It includes everything
from envelope stuffers to a national radio broadcast series featuring
Horace Heidt and his popular Alemite Brigadiers. Get on
the band wagon now! Your distributor has the whole story—and
it's worth listening to.

STEWART-WARNER CORPORATION
CHICAGO, ILLINOIS

Radio Today
NEW! AMAZING NON-RECOVERY FINANCE PLAN
NOW READY!

You'll scoop competition plenty with Stewart-Warner's brand new finance plan! It's as far ahead of the field as Stewart-Warner's refrigerator finance plan was last spring! Non-recovery—100% advance—very low financing charge. Administered through all 144 C.I.T. offices. Ask nearest C.I.T. office or Stewart-Warner distributor for the complete details.

ON THE AIR for Stewart-Warner Radio I Horace Heidt and his Alemite Brigadiers

STEWART-WARNER

August, 1936
Every Philco advertisement in the great national weekly and monthly magazines carries that message... "Look for the Philco Dealer!"

Millions read it... and heed it. And because they do... and will continue to do so with even greater interest this season... Philco is bending every effort to see that Philco dealers will have the million sets necessary to fill the orders of the million men and women who are eagerly asking "How soon can you have my Philco installed?"

Remember... only Philco has the Spread-Band Dial with all important foreign stations named and located... plus completely automatic tuning of favorite American stations... plus the Philco Foreign Tuning System! That's why Philco is not talking in terms of "prospects." Philco is sending one million BUYERS to Philco dealers!
GENERAL MUSIC

* Merry outlay of current business indexes indicates that general trade activity ranges boldly along high levels. Sunniest aspects of today’s situation are (1) Building activity is running about 100 per cent above last year, (2) Second quarter net profits of over 200 companies were found to average 64 per cent above a year ago, (3) Employment and payroll reach new highs, (4) Stock market averages are the highest in over two years.

Less dazzling are the facts that the weather man has upset some crop outlooks; organized labor actions are pending. With these corrected, trade totals could sail to heaven.

UPSURGE IN BUYING POWER

* After a statistical look-in on the affairs of 25 manufacturing industries, the National Industrial Conference Board reports cheerful gains in employment, hours worked, and money earnings during last June. Pipe the figures:

<table>
<thead>
<tr>
<th>Item</th>
<th>Per Cent Gains Over a Year Ago</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hourly earnings</td>
<td>2.8</td>
</tr>
<tr>
<td>Average hours per week</td>
<td>8.9</td>
</tr>
<tr>
<td>Employment</td>
<td>7.4</td>
</tr>
<tr>
<td>Total man-hours</td>
<td>16.5</td>
</tr>
<tr>
<td>Payrolls</td>
<td>21.3</td>
</tr>
</tbody>
</table>

AND 90% HAVE RADIOS!

* A large fact-finding organization recently completed a survey of 998,000 American homes, to study habits of living, ownership of homes and facilities, electrical devices in use, etc. Here are the figures from the final summary:

- Own their own homes: 47.6%
- Own automobiles: 49.4%
- Have telephones: 31.9%
- Own vacuum cleaners: 50.5%
- Own electric washers: 42.3%
- Have savings accounts: 14.3%
- Have electric refrigerators: 15.0%
- Reached by newspapers: 57.3%
- Have radio sets: 90.0%

BROADCASTERS’ $86,492,653 PAYROLL $26,911,352

* W. L. Austin, director of the U.S. Census, has just completed a survey of 1935 business done by the 561 commercial broadcasting stations and eight networks, showing total sales of $86,492,653. Items are as follows:

- Network advertisers: $10,737,867
- Spot advertisers: 13,803,200
- Local sponsors: 26,974,476
- Total sale of time: $79,011,343
- Sale of talent, etc.: 8,875,120
- Total payroll: $26,911,352

The total broadcasting payroll is reported as $86,492,653, divided among 14,561 employees. Executives average $360 per week; station artists $41; technicians $35; announcers $29.

BUSINESS CYCLES, RADIO CYCLES

* Old fans recall that in broadcasting’s early years, 1921-23, cross-continent listening was easy. Later, about ’27-’28, far-off stations were rarely heard. But in ’32-’33 long-distance DX came in strong again. Now in 1936, the wall against DX is once more going up.

Curiously, this shift in listening conditions corresponds exactly with the solar cycle or change in the number of sunspots, as shown by accompanying curve.

When the “radio reflecting layer” 100 miles up is not disturbed by sunspot radiations or emanations, it forms a splendid mirror for distant signals. But then it also reflects transmitter sky-waves back down to nearby listeners (40 to 75 miles away), and these sky-waves, coming in on top of the ground-waves cause distortion. So we have bad “mushing” and fading, at those periods when DX is especially good.

Radio short-waves also show wide shifts in characteristics with the sunspot cycle. Weather, tree-growth, lake-levels, crops, animal life, all reveal similar cycles.

And the chart strikingly indicates that past business depressions (’29, ’21, ’07, ’93, and ’44 each followed within a year or so of a sunspot maximum. On the other hand minimums or bottoms on the sunspot curve have usually been harbingers of recovery or prosperity. See chart.
A. D. Silva, for years Atwater Kent engineer, now joins Noblit-­‐Sparks on Arvin design.

MUTER APPOINTS

* President Muter of the Radio Manufacturers Association has confirmed a number of committee championships, including some new names, for the coming year, as follows:

Credit Committee—Arthur Moss, New York.


Western—F. C. Lenz, Chicago.

Engineering—W. R. Baker, Bridgeport.


Legislative—A. H. Gardner, Buffalo.

Membership—Paul V. Galvin, Chicago.

Eastern—N. P. Bloom, Louisville.

Western—Henry C. Forster, Chicago.

Traffic—J. C. Warner, Harrison, N. J.

Fair Trade Practice—E. F. McDonald, Jr., Chicago.


CONVENTION ON WHEELS

* Something new in factory radio conventions was pulled by Art Haugh, Sparton sales manager, during his recent 30-day 7,000-mile dash through 21 states with the “Sparton Special,” a Pullman equipped with his company’s 1937 radios.

“We visited 20 cities,” says Art. “Instead of trying to see an executive in his office, with his phone distracting his attention, we had him aboard the Pullman in comfort. He inspected the models at leisure, played each one, talked business, visited, and usually spent at least two hours aboard—instead of giving 15 or 20 interrupted minutes in his office. We also conducted school sessions to train local salesmen.

“I had a staff of nine. We took care of office routine, our own chef prepared lunches for our visitors, and we lived just about as we would at home and the office—except that we were traveling constantly, meeting new faces, learning new conditions in the field. We signed up some 1,500 new dealers, several distributors and took orders for nearly $1,000,000 worth of new business.”

DR. GOLDSMITH’S EARLY FLAT RECEIVER

* The proposal of a “radio flat” on page 12 of April Radio Today, attracted the interest of Dr. A. N. Goldsmith, well-known radio engineer, who tells us that in 1929 he applied for a patent on a flat receiver to be used as the lid of the phonograph in an early “combination.” This patent, No. 1,721,151, was granted in July, 1929, and considerable quantities of these flat receivers were built by the Wireless Specialty Apparatus Company for RCA.

“It has been my belief for the last fifteen years that the flat receiver used in the lids of equipment, in doors, on walls, or in similar cases where area rather than thickness is available has a genuine place in the radio field,” comments Dr. Goldsmith.

“I do not regard the flat receiver as a substitute for either the console or table models which, in many cases, can be at least as conveniently installed and used as could the flat receiver. There are, however, numerous instances where wall space or other unused areas are all that is available to the radio listener for the installation of his receiver. In these cases the flat receiver has a definite utility and should find a good public response.”

Ira J. Owen, new president of Utah Radio Products, Chicago, and industrial counselor, who is author of the “Merchants Check List,” page 19.
CONTINENTAL COUNT

* The not-usually-so-busy International Broadcasting Office at Geneva, Switzerland, has gathered up the dope on the radio listening population of the world's several countries. Total world figure is 225,000,000 persons dialing 56,168,451 sets. Here's the radio set count for some chief countries (Denmark ranks eighth, but she has the greatest density of all—194.41 receivers per thousand Danes):

<table>
<thead>
<tr>
<th>Country</th>
<th>Receivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Britain</td>
<td>2,482,169</td>
</tr>
<tr>
<td>Germany</td>
<td>2,748,527</td>
</tr>
<tr>
<td>France</td>
<td>1,686,547</td>
</tr>
<tr>
<td>Holland</td>
<td>946,544</td>
</tr>
<tr>
<td>Sweden</td>
<td>884,143</td>
</tr>
<tr>
<td>Czechoslovakia</td>
<td>847,365</td>
</tr>
<tr>
<td>Belgium</td>
<td>746,896</td>
</tr>
<tr>
<td>Denmark</td>
<td>608,426</td>
</tr>
<tr>
<td>Austria</td>
<td>560,120</td>
</tr>
<tr>
<td>Italy</td>
<td>510,900</td>
</tr>
<tr>
<td>Poland</td>
<td>491,523</td>
</tr>
<tr>
<td>Switzerland</td>
<td>416,859</td>
</tr>
<tr>
<td>Hungary</td>
<td>357,807</td>
</tr>
<tr>
<td>Spain</td>
<td>396,443</td>
</tr>
<tr>
<td>Norway</td>
<td>191,378</td>
</tr>
<tr>
<td>Finland</td>
<td>134,721</td>
</tr>
<tr>
<td>Roumania</td>
<td>127,041</td>
</tr>
<tr>
<td>Yugoslavia</td>
<td>81,336</td>
</tr>
<tr>
<td>Latvia</td>
<td>56,126</td>
</tr>
<tr>
<td>Irish Free State</td>
<td>52,075</td>
</tr>
<tr>
<td>Algiers</td>
<td>41,544</td>
</tr>
<tr>
<td>Portugal</td>
<td>40,469</td>
</tr>
<tr>
<td>Danzig</td>
<td>29,090</td>
</tr>
<tr>
<td>Egypt</td>
<td>41,370</td>
</tr>
<tr>
<td>Lithuania</td>
<td>26,763</td>
</tr>
<tr>
<td>Morocco</td>
<td>25,079</td>
</tr>
<tr>
<td>Estonia</td>
<td>24,943</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>13,000</td>
</tr>
<tr>
<td>Iceland</td>
<td>12,183</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>12,089</td>
</tr>
<tr>
<td>Tunisia</td>
<td>10,562</td>
</tr>
<tr>
<td>Turkey</td>
<td>8,175</td>
</tr>
<tr>
<td>Palestine</td>
<td>12,340</td>
</tr>
<tr>
<td>Greece</td>
<td>8,137</td>
</tr>
<tr>
<td>Syria</td>
<td>4,307</td>
</tr>
</tbody>
</table>

WHAT IN THE WORLD

* Our fine-featured friends, the broadcasters, have made a costly pledge: to present to American radio listeners all of the unusual happenings abroad. NBC's schedule, for instance, calls for more than 500 foreign broadcasts during the current year, while last year this total was exactly 327. Major or minor mix-ups anywhere in the world are in store for American fans—sports, politics, special events—anything of genuine interest to the public, feature or fundamental.

Technique and skill involved in broadcasting the reports of the maiden voyage of the Queen Mary, not to mention the earlier airings from the Zeppelin Hindenburg, are stirring samples of how completely and expertly events are picked up for radio. Networks now have their representatives rushing all over the world in order not to miss anything that would intrigue the public. Due to the size and importance of the American radio audience, everybody cooperates with them, so that listeners may definitely count on a whole series of international thrills.

RADIO SHOW BUZZ, NEW YORK, SEPT. 9-20

* Exciting list of radio events is headed by the National Radio and Electrical Exposition at Grand Central Palace, New York City, Sept, 9 to 19. Giant group of exhibitors has been cooperating with the management in a special way, and Ralph Neumuller, key man of the Electrical Ass'n of N. Y., expects an event of unbeatable quality.

Exposition is scheduled “to tell the advance story of radio," and otherwise to feature lighting, refrigeration, heating, ranges, air conditioning, oil burners, laundry equipment, domestic and industrial appliances.

Plans for the 4th Annual Convention of the Institute of Radio Service Men at the Hotel Pennsylvania, New York City, Sept. 15-20, are advancing with exceptional progress from headquarters at 510 N. Dearborn St., Chicago, presided over by Boss Hathamway.

RADIO REPORTER

* Series of whiz gadgets recently installed at National Broadcasting Co. have given those studios a split-second method of handling news broadcasts. Onto the desk of the supervisor of announcers went some new mikes, an automatic volume control panel, various other instruments, so that he may "fade in" a hot news bulletin on the air any time.

Formerly, bulletins were dragged by messenger boys from the supervisor's office to the broadcast studio. Now, the chief announcer can broadcast the transcendent flashes within a few seconds after they are received.

Fred H. Wiebe, sales manager Brown Supply Co., St. Louis; Clyde E. Whitehill, director General Household Utilities Company; William C. Grumow, president of General Household, and W. C. Griffith, distributor, Indianapolis, Ind.

August, 1936
EASY-TO-SELL FEATURES

Squared off on this page, what we hear and are to hear among broadcast importants:

BERENICE ACKERMAN, directly above, a quality songstress on the Mutual network.

LOUISE MASSEY, upper left, gifted trouper with The Westerners, re-featured on NBC.

ELECTRIC MAP, middle left, whereby a German operator master-switched 100 field microphones, covering the Olympic Games, into 37 broadcast channels.

FRED ASTAIRE, bottom left, fleet-footed star to start a new series in September.

HOMER RODEHEAVER, directly below, leading a “community sing” broadcast on CBS; a likely trend in big-time programming.
PROFITS FROM FIGHTS

— radio sales, service follow the trail of the champs
— broadcast drag inspires more vigorous promotions

* EXTRA crop of tough guys has battled its way into the champ class, and radio has learned to regard heavyweight boxing as a smash asset to all branches of the business.

Generally agreed it is that in point of tuned sets and listener interest, the prize fight shares honors only with major league baseball. National political events connected with the campaign mix-up draw millions of listeners, and the regular million-dollar broadcast features are a constant tonic, but for genuinely spectacular single draws, the ring's the thing.

Few types of broadcast features have received so much promotional attention from salesmen of tubes and sets, and from radio servicemen, as the leading boxing events of the past year. Rush of business, resulting from aired matches, has been so important that manufacturers, jobbers and dealers have begun to study its characteristics.

Out-and-out profit

Promotion plans can be based upon the assumption that as many as 40,000,000 listeners will tune in on a big fight. One fight sponsor (B. F. Goodrich Rubber Co. on NBC) counted on that many listeners two years ago, before popular interest in the champ situation zoomed to its present level.

Following the most recent big-time event, the researching Cooperative Analysis of Broadcasting issued the statement that "the radio audience reached record-breaking proportions ... 57 per cent of the set owners interviewed reported hearing the fight." Same research revealed that 88 per cent of families who tuned in their sets at any time after 5 p.m. on the night of the match reported listening to the brawl.

Three weeks after this event, the sponsor had received more than 10,000 letters, cards and telegrams. Interesting angle, too, was that more than 10 per cent of these came from business execs and professional persons ... the very type of listener who may be a good prospect for a new console.

Service and repair people have reported volume increases as high as 300 per cent during periods influenced by broadcasts of important matches. Merchandisers of new sets have reported boosts of 75 per cent and radio tube promoters declare that business is doubled during such periods.

Perhaps the most vital aspect of the whole matter is that since radio men contact millions of extra listeners during the hoopla of a broadcast from the ring, all of these contacts may be used as prospects for 1937 models. Amazing what the boxing business has done to build up the radio dealer’s prospect lists.

Many smart merchants have seized this opportunity to put new sets out on trial; servicemen have deftly explained the reception advantages of modern receivers. Tube makers virtually advertise their products as “tops item as a fight bringer-in.”

Consistent characteristic of a radio fight audience is that several persons listen to one set. When fight sponsor, Buick Motor Car Co., looked over its “fan” response, it was discovered that 26 per cent of the communications were signed by more than one listener. The rest of Buick’s report was: "Five or six signatures were not uncommon for a letter or card. One letter from Buffalo carried 100 signed names expressing appreciation for bringing the match to radio listeners."

Fact that people listen in groups certainly means one thing to the radio biz: the owner of the set is going to be darned sure that the receiver is in good condition. Reception failure at a dramatic moment could be intensely annoying to the owner-host surrounded by a group of guests. One unfortunate incident of this sort and several persons are likely to be prospects for a new set.

CASH IN—ON THE NEXT RING BATTLE

Use extra service calls to build prospect lists.

Dramatize the advantages of new models as fight bringers-in.

During post-fight service calls, pick up the names of non-radio-owners who had listened to your patrons' sets.

Plug the improved radio tube as a key to dependable reception of the match.

COMING EVENTS

At this point radio men may congratulate themselves that rarely has the heavyweight championship been such a disputed and widely discussed affair. Upsets are in order and unexpected batterings seem likely; Bradock will meet Schmeling in late September, but there is the popular feeling that there are fighters who can outstay either of them.

Neither Joe Louis nor Max Baer can be described as out of the running and Jack Sharkey has an important following. Meanwhile the radio dealer at last gets to the prospect who was never a good bet until this situation came along.

A PRIZE-FIGHT'S IMPACT ON RADIO

August, 1936
TEMPERED yardsticks, with which radio dealers may neatly determine the general nature of their chances for a profitable business, appear in important numbers in Dun & Bradstreet's 1936 Retail Survey.

An unbeatable analysis of the 1935 operations of 131 radio stores, with servicing or repairing, revealed that 81 of them were making a profit; these were scrutinized separately so that differences in management and expense control could be accurately noted with a view of teaching a real lesson in store budgeting.

Aggregate net sales of all concerns involved added up to $1,501,300, and the typical net sales figure among all radio dealers was found to be $6,500.

Interesting angle is among those operating at a profit, the typical net sales figure was $6,500.

HOW DO YOUR RATIOS STACK UP WITH THESE?

<table>
<thead>
<tr>
<th>SIZE OF CONCERN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1935 Sales (in Thousands of Dollars)</td>
</tr>
<tr>
<td>ALL CONCERNS</td>
</tr>
<tr>
<td>-</td>
</tr>
<tr>
<td>Number of Concerns Reporting</td>
</tr>
</tbody>
</table>

PROFIT AND LOSS STATEMENT (in Percentages of Net Sales):

<table>
<thead>
<tr>
<th>Cost of Goods Sold</th>
<th>44.1</th>
<th>52.9</th>
<th>51.6</th>
<th>65.6</th>
<th>41.7</th>
<th>52.3</th>
<th>60.9</th>
<th>64.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/ Overhead Expenditures: Total</td>
<td>49.2</td>
<td>58.1</td>
<td>62.4</td>
<td>62.6</td>
<td>54.0</td>
<td>58.9</td>
<td>52.0</td>
<td>32.2</td>
</tr>
<tr>
<td>2) Salaries of Owners and Officers</td>
<td>26.3</td>
<td>14.0</td>
<td>17.0</td>
<td>7.6</td>
<td>21.1</td>
<td>13.4</td>
<td>7.6</td>
<td>7.6</td>
</tr>
<tr>
<td>3) Salaries and Wages of Employes</td>
<td>7.8</td>
<td>10.4</td>
<td>12.7</td>
<td>12.7</td>
<td>7.1</td>
<td>10.2</td>
<td>12.7</td>
<td>12.7</td>
</tr>
<tr>
<td>4) Rent</td>
<td>4.9</td>
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<td>4.4</td>
<td>2.1</td>
<td>4.4</td>
<td>4.4</td>
<td>4.4</td>
<td>4.4</td>
</tr>
<tr>
<td>5) Advertising</td>
<td>1.7</td>
<td>1.4</td>
<td>1.9</td>
<td>2.0</td>
<td>1.8</td>
<td>1.4</td>
<td>1.8</td>
<td>1.8</td>
</tr>
<tr>
<td>6) Light and Heat</td>
<td>1.8</td>
<td>1.1</td>
<td>0.8</td>
<td>0.6</td>
<td>1.8</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>7) Taxes</td>
<td>0.6</td>
<td>0.4</td>
<td>0.6</td>
<td>0.4</td>
<td>0.6</td>
<td>0.2</td>
<td>0.4</td>
<td>0.4</td>
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<tr>
<td>8) Other Expenses</td>
<td>7.2</td>
<td>7.2</td>
<td>5.0</td>
<td>7.2</td>
<td>9.1</td>
<td>8.6</td>
<td>9.1</td>
<td>22.4</td>
</tr>
<tr>
<td>Profit (Loss)</td>
<td>7.0</td>
<td>9.0</td>
<td>6.1</td>
<td>4.0</td>
<td>12.3</td>
<td>9.7</td>
<td>6.1</td>
<td>4.7</td>
</tr>
</tbody>
</table>

MERCHANDISE RATIOS:

| Cross Margin (Percent of Net Sales) | 56.9 | 47.1 | 56.5 | 56.6 | 58.3 | 57.7 | 49.1 | 37.9 |
| Realized Markup (Percent of Cost) | 127.0 | 89.2 | 94.6 | 67.6 | 140.0 | 91.3 | 98.6 | 61.1 |

ACCOUNTS RECEIVABLE RATIO:

| Inventory Turnover (Times per Year) | 2.7 | 3.4 | 4.4 | 5.6 | 7.2 | 8.8 | 4.7 | 7.6 |
| Other Net Sales to Closing Inventory | 6.3 | 7.5 | 7.5 | 10.5 | 16.0 | 9.7 | 7.6 | 11.0 |

OTHER INFORMATION:

| Typical % Change in Sales 1934-35 | +33.1 | +29.2 | +17.6 | +20.3 | +17.4 | +16.6 | +17.6 | +26.7 |

EXPENSES IN PERCENTAGES OF NET SALES:

<table>
<thead>
<tr>
<th>Salaries: owners and officers</th>
<th>25.3%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees' wages</td>
<td>10.7%</td>
</tr>
<tr>
<td>Rent</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

These are typical radio dealer experiences, charted from median figures.

What the radio seller needs to watch, if he wants to improve his prospects, shows up in the profit and loss statement listed in percentages of net sales for the year, under the dollar volume classification where his business happens to fall. To illustrate, if you are doing a yearly volume of under $10,000, your total overhead expense should be around 46% of your net sales; if it is over that amount, the various expenses constituting your overhead costs will at least bear investigating. The whole story is in the table on this page.

Radio dealer's cue

Dun & Bradstreet's "typical" figures are medians, rather than averages, of the figures reported to them by the radio stores. Percentages from the various reports are arranged in order of their size and the one half way down the list is the median.

The dealer who reads the survey with a view of finding out how to budget a profitable business should, however, allow for conditions peculiar to his own business area. The research experts warn you: "A typical expense or merchandising ratio is a starting point for study, not a mold into which you should pour business."

Make allowances

Point is, if your rent is a larger-than-average percentage of net sales, it may mean that you're foolish on that score, or it may mean that what you are paying is justified by a selling location of extra advantages. In the latter case your costs may be considerably reduced in other ways, and you'd better stick.

In all tables presented on this and the following page. "All Other Expense" means such items as insurance, repairs, office supplies, etc. "Realized Markup" is the same as gross margin, but expressed in percentage of cost, rather than sales. "Inventory Turnover" means: "Cost of Goods Sold" divided by the average of "Opening and Closing Inventories."
ON RETAIL SELLING COSTS
radio dealers compiled by Dun & Bradstreet

Sharp reflections of radio trade conditions in various sections of the country are apparent in the "census area" table presented below. It will be noted that all regions are appropriately represented in the analysis of national trends. Regional figures on the operating ratios of the radio business must be considered in the light of geographic differences in wages and transportation costs. Some dealers of course operate in regions far removed from radio production centers, or perhaps in areas where wage standards are influenced by local conditions of a peculiar nature. These will find their "Cost of Goods Sold" higher than the average.

HERES THE INFO ON RADIO SELLING, CUT BY ZONE LINES

<table>
<thead>
<tr>
<th>MERCHANDISE RATIOS:</th>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
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<tbody>
<tr>
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<td>1</td>
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<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
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<tr>
<td></td>
<td>New</td>
<td>Middle</td>
<td>East</td>
<td>West</td>
<td>South</td>
<td>East</td>
<td>West</td>
<td>Mountain</td>
</tr>
<tr>
<td></td>
<td>England</td>
<td>Atlantic</td>
<td>North</td>
<td>North</td>
<td>Atlantic</td>
<td>South</td>
<td>North</td>
<td>Channel</td>
</tr>
<tr>
<td>Cost of Goods Sold</td>
<td>46.3</td>
<td>56.2</td>
<td>62.8</td>
<td>44.2</td>
<td>43.6</td>
<td>41.1</td>
<td>43.5</td>
<td>48.6</td>
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<tr>
<td>Overhead Expense:</td>
<td>47.4</td>
<td>40.8</td>
<td>39.1</td>
<td>61.6</td>
<td>62.4</td>
<td>44.2</td>
<td>44.2</td>
<td>39.9</td>
</tr>
<tr>
<td>Profit (or Loss)</td>
<td>6.3</td>
<td>3.3</td>
<td>3.5</td>
<td>4.0</td>
<td>3.6</td>
<td>3.7</td>
<td>3.6</td>
<td>9.7</td>
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</tbody>
</table>

OTHER INFORMATION:

9 Typical % Change in Sales 1934-35 (+ or --)  

<table>
<thead>
<tr>
<th>Profitable</th>
<th>Total Number</th>
<th>Profitable</th>
<th>Total Volume</th>
</tr>
</thead>
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<tr>
<td></td>
<td>(a)</td>
<td>(b)</td>
<td>(a)</td>
</tr>
<tr>
<td>1.0</td>
<td>88</td>
<td>90</td>
<td>68</td>
</tr>
<tr>
<td>2.0</td>
<td>35</td>
<td>50</td>
<td>57</td>
</tr>
<tr>
<td>3.0</td>
<td>2.0</td>
<td>6.5</td>
<td>10.0</td>
</tr>
<tr>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>5.7</td>
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<tr>
<td>5.0</td>
<td>5.7</td>
<td>4.0</td>
<td>3.6</td>
</tr>
<tr>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>2.9</td>
</tr>
<tr>
<td>7.0</td>
<td>7.0</td>
<td>7.0</td>
<td>5.7</td>
</tr>
</tbody>
</table>

* This figure is the sum of the number of concerns in the combined areas. Number of concerns reporting from these several areas appear in parentheses in their proper columns.

Summary of Typical Experience for 1935

For Comparison with Other Trades

<table>
<thead>
<tr>
<th></th>
<th>All Concerns Reporting</th>
<th>Profitable Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Number of Concerns Reporting</td>
<td>26</td>
<td>21</td>
</tr>
<tr>
<td>(b) Aggregate Net Sales</td>
<td>$1,007,200</td>
<td>$360,800</td>
</tr>
<tr>
<td>(c) Typical Net Sales</td>
<td>$16,600</td>
<td>$18,600</td>
</tr>
</tbody>
</table>

MERCHANDISE RATIOS:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>New</td>
<td>Middle</td>
<td>East</td>
<td>West</td>
<td>South</td>
<td>East</td>
<td>West</td>
<td>Mountain</td>
</tr>
<tr>
<td></td>
<td>England</td>
<td>Atlantic</td>
<td>North</td>
<td>North</td>
<td>Atlantic</td>
<td>South</td>
<td>North</td>
<td>Channel</td>
</tr>
<tr>
<td>Gross Margin (Percent of Net Sales)</td>
<td>36.4%</td>
<td>62.4%</td>
<td>26.7%</td>
<td>57.3%</td>
<td>36.4%</td>
<td>57.3%</td>
<td>36.4%</td>
<td>57.3%</td>
</tr>
<tr>
<td>Upper Limit</td>
<td>42.2%</td>
<td>62.4%</td>
<td>36.5%</td>
<td>73.1%</td>
<td>42.2%</td>
<td>73.1%</td>
<td>42.2%</td>
<td>73.1%</td>
</tr>
<tr>
<td>Lower Limit</td>
<td>26.7%</td>
<td>57.3%</td>
<td>36.5%</td>
<td>73.1%</td>
<td>26.7%</td>
<td>73.1%</td>
<td>26.7%</td>
<td>73.1%</td>
</tr>
<tr>
<td>Realized Markup (Percent of Cost)</td>
<td>4.0</td>
<td>3.7</td>
<td>10.0</td>
<td>2.9</td>
<td>4.0</td>
<td>3.7</td>
<td>10.0</td>
<td>2.9</td>
</tr>
<tr>
<td>Inventory Turnover (Times per Year)</td>
<td>7.2</td>
<td>10.3</td>
<td>7.2</td>
<td>10.3</td>
<td>7.2</td>
<td>10.3</td>
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OTHER INFORMATION:

Typical Percent Change:

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<td>Atlantic</td>
<td>South</td>
<td>North</td>
<td>Channel</td>
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<tr>
<td></td>
<td>Increase</td>
<td>Decrease</td>
<td>Increase</td>
<td>Decrease</td>
<td>Increase</td>
<td>Decrease</td>
<td>Increase</td>
<td>Decrease</td>
</tr>
<tr>
<td>(a) in Sales 1934-35</td>
<td>+13.2%</td>
<td>+13.2%</td>
<td>+13.2%</td>
<td>+13.2%</td>
<td>+13.2%</td>
<td>+13.2%</td>
<td>+13.2%</td>
<td>+13.2%</td>
</tr>
<tr>
<td>(b) in Inventory during 1935</td>
<td>+25.0%</td>
<td>+45.0%</td>
<td>+25.0%</td>
<td>+45.0%</td>
<td>+25.0%</td>
<td>+45.0%</td>
<td>+25.0%</td>
<td>+45.0%</td>
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Credit Policies:

<table>
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<tr>
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<td>North</td>
<td>North</td>
<td>Atlantic</td>
<td>South</td>
<td>North</td>
<td>Channel</td>
</tr>
<tr>
<td></td>
<td>Number of &quot;Cash&quot; Concerns over 90% Cash</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Number of Concerns Selling on Open Credit</td>
<td>20</td>
<td>9</td>
<td>20</td>
<td>9</td>
<td>20</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>(c) Their Typical Proportion of Credit Sales</td>
<td>28%</td>
<td>40%</td>
<td>28%</td>
<td>40%</td>
<td>28%</td>
<td>40%</td>
<td>28%</td>
<td>40%</td>
</tr>
<tr>
<td>(d) Number of Concerns Selling on Installment</td>
<td>21</td>
<td>7</td>
<td>21</td>
<td>7</td>
<td>21</td>
<td>7</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>(e) Their Typical Proportion of Installment Sales</td>
<td>45%</td>
<td>80%</td>
<td>45%</td>
<td>80%</td>
<td>45%</td>
<td>80%</td>
<td>45%</td>
<td>80%</td>
</tr>
</tbody>
</table>

And to complete the retail-cost picture, herewith Dun & Bradstreet's analysis of the 1935 operations of 2% refrigerator concerns. Less than half made a profit; see table at left.

August, 1936
WHAT THE PUBLIC WANTS IN RECEIVERS

"Mind of the buyer" as revealed by answers to questionnaire

* FOR several years leading automobile makers have carefully sound- ed out public tastes in car equipment, to learn what points particularly in terest prospective buyers. Through questionnaires, the auto manufacturers have thus been able to get advance hints on effective sales arguments for themselves and for their dealers. Trends in public taste have been detected even before they fully crystallized.

The radio broadcasters have similarly watched public reaction to their programs, and have cooperated with women's clubs and women's committees in testing out individual family opinions as gathered by the women's organizations from all parts of the nation. Such samplings of listening tastes have resulted in important conclusions which have been applied in shaping program policies and in selecting talent.

Collect opinions

Why not apply the same kind of opinion-collecting machinery to get at what the public wants — or "thinks it wants" — in its radio receivers, asked Thomas R. Sterck, sales promotion manager, Westinghouse Radio, New York City.

So Mr. Sterck wrote out a set of questions. And with the cooperation of a national women's radio group representing women's organizations totalling 7,000,000 in membership, copies of this questionnaire were sent into 15,217 typical American homes.

Into 15,217 homes

A summary of the answers follows. From the replies it is apparent that the comments expressed represent the whole cross-section of American family life, and that the women who drew up the replies, consulted with husbands, sons and daughters in obtaining the answers to the questions asked.

One of the most important questions asked in the questionnaire was: "In your next radio, what type of cabinet would you prefer?" Various types of consoles, table models, furniture models and compacts were illustrated. The readers filled in their first, second and third choices.

While certain horizontal models of compacts drew a high vote, the console group polled 47% of the total vote of all types of cabinets.

Of the 12 radio-set models shown, 9 were voted on as follows:

<table>
<thead>
<tr>
<th>Model</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highboy</td>
<td>25%</td>
</tr>
<tr>
<td>Armchair</td>
<td>19%</td>
</tr>
<tr>
<td>Large Conventional</td>
<td>16%</td>
</tr>
<tr>
<td>Horizontal</td>
<td>16%</td>
</tr>
<tr>
<td>Lowboy</td>
<td>6%</td>
</tr>
<tr>
<td>End Table</td>
<td>6%</td>
</tr>
<tr>
<td>Baby Grand</td>
<td>6%</td>
</tr>
<tr>
<td>Secretary</td>
<td>3%</td>
</tr>
<tr>
<td>Upright</td>
<td>3%</td>
</tr>
<tr>
<td>Conventional Small</td>
<td>No vote</td>
</tr>
<tr>
<td>Modern Upright</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Modern Oval</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Other (Oak)</td>
<td>2%</td>
</tr>
<tr>
<td>Other finishes</td>
<td>100%</td>
</tr>
</tbody>
</table>

Would a radio cabinet designed as a definite piece of furniture appeal to you, if you could replace the radio mechanism in it from time to time as improvements were introduced? 70% Answered Yes.

Where would you locate an auxiliary set in your home?

74% Bedroom
13% Kitchen
9% Sun Porch
4% Outdoors

Should the tuning dial and control knobs be exposed or concealed?

60% prefer the dial and knobs exposed.

Would you prefer a radio with remote-control device?

77% prefer remote control.

In your next radio would the size of the speaker influence your purchase?

54% would not be influenced.

If so, what size speaker would you prefer?

30% prefer 10-inch speaker
96% " 14 "
92% " 12 "
93% " 6 "
9% " 8 "

Do you think more than one speaker is needed?

90% No

What tones do you prefer to have predominate? Bass notes? High notes?

Radio Today
RADIO DATES AHEAD

National Radio and Electrical Exposition, New York...Sept. 9-19
IRSM Convention, New York, Sept. 18-20
Schmeling-Braddock Bout...Sept. 24
President Roosevelt at World Power Conference, Washington, D. C., Sept. 11

WE PLAY AGAIN

* Spectacular salesdrift in piano sales has been laid frankly and gratefully at radio's door. Sales are up 300 per cent during the past year over the figures for 1933, say the music trades unless in recent letters to National Broadcasting Co., and broadcasting is listed as "one of the major reasons."

More than once during the past decade the piano makers bit the dust; the debonair newcomer, radio, seemed to sweep the field. But the facts are that radio reached millions of new listeners, gave them a new interest in musical forms, moved them to participate. The piano is basic and its promoters gradually cashed in on the growth of musical culture, as did other instrument makers in their turn.

SOUND EFFECTS

* Ray Kelley, who gets up artificial thunder and galloping horses and crackling fires for NBC, admits there are some sounds he cannot reproduce over the radio. . . . Such as (chuckles George Clark) the shake of a lamb's tail . . . or the clasp of a hand . . . or a girl powdering her nose. How about coming through the eye, Ray? . . . or three of a kind beating two pair . . . or ending up, quite appropriately, with holding one's tongue.

In France, where the fire-laddies live in houses around town, short-wave radios spread the alarm. Radio set below tin-hat.

"VERITHIN" RECEIVER

* Slender, circular, pin-up radio set has been designed by Nathan George Horwitt, long-time devotee to the "flat" style trend in radio design. Horwitt is Director of Plan at Design Engineers, Inc., New York City, and has applied for a patent on his "Verithin" innovation.

This discus-shaped model is dedicated to the contemporary tendency toward compact radios, to be suspended from walls, to be fitted into small corners, or to be built into walls. The trick design, as finally patented, will use 7 or more tubes, and will have a new dial screen upon which are projected station call letters; kilocycle markings are out.

More novelties in radio-set design. Even the speakers find new positions—pointing upward or backward—in this (left) Airite Sengbusch combined desk radio-clock-inkstand and moulded of Bakelite, and (right) Wilco-Gay boudoir receiver.
Jobber-salesman peps up a dealer's crew (they listen at the left) with a fresh batch of sales ideas. Like these:

Salestip 1 (middle, left): Dealer learns the trick of dragging the whole prospect family in on the sale.

Salestip 2 (middle, right): Outside salesmen discover pleasant methods of using old patrons to find new.

Salestip 3 (bottom, left): Why customers walk out explained in terms of enlightened rules on interview control.

Salestip 4 (bottom, right): "Closing" methods worked out in detail to avoid last-minute failures to sell.
### RADIO MERCHANT'S CHECK-UP CHART

<table>
<thead>
<tr>
<th>Item No.</th>
<th>ITEMS TO BE CHECKED Follow Instructions</th>
<th>FIRM NAME</th>
<th>CHECK MADE BY</th>
<th>ADDRESS</th>
<th>DATE</th>
</tr>
</thead>
</table>
| 1        | APPEARANCE
        - Store Front
        - Entrance
        - Window Display
        - Arrangement of Store Fixtures | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 2        | CLEANLINESS
        - Sidewalk
        - Entrance
        - Store | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 3        | LIGHTING
        - Store Front
        - Windows
        - Store | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 4        | SIGNS
        - Outside
        - Inside | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 5        | MERCHANDISE
        - Quality
        - Appearance
        - Display
        - Change in Displays | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 6        | EMPLOYEES
        - Appearance & Neatness
        - Courtey
        - Interest and Loyalty
        - Co-operation
        - Salesmanship
        - Attendance | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 7        | INVENTORY
        - Turnover
        - Slow Moving Stock
        - Sales
        - Storage
        - Dead Stock | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |

<table>
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<th>Date Finished</th>
</tr>
</thead>
</table>
| 8        | BUYING
        - Purchased Last Month
        - Purchased This Month | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 9        | PRICE EFFICIENCY | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 10       | DELAYS
        - In Ordering Goods
        - In Filling Orders
        - In Placing Goods on Display | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 11       | COMPLAINTS
        - Quality of Goods
        - Service
        - Prices | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 12       | DELIVERY
        - Cash and Carry
        - Trucks
        - Delays | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 13       | ADVERTISING
        - Local Papers
        - Dodgers
        - Window
        - Store Signs | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 14       | TELEPHONE SERVICE | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |
| 15       | ACCOUNTING
        - Accounts Receivable
        - Accounts Payable
        - Credits
        - Collections This Month
        - Collections Last Month
        - Sales This Month
        - Sales Last Month
        - Overhead Expense
        - Bills Mailed Out
        - Mistakes | Rating Per Cent | NOTES ON CHECK-UP Changes and Improvements To Be Made—Items to Be Watched | Date Finished |

**TOTAL**

| STORE RATING (Divide Total by 56) |

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* This chart can be used advantageously by any radio dealer who is willing to spend a little time now and then in checking up fundamental factors of his business. The success or failure of the chart is based solely upon the dealer's honesty with himself. If he will carefully check up each and every item in the fifteen divisions, without personal prejudice or bias, and investigate thoroughly the reasons for determining every percentage before he places it on the chart, he will have an accurate, vital analysis of his entire business. However, the dealer should not be satisfied with merely drawing up this chart for his own information and use; copies should also be given to the heads of the various departments whose activities include part of the check up. In turn these department heads should pass along comprehensive merchandising surveys for some of the country's largest manufacturers, including Cutler-Hammer, Bissell Carpet Sweeper, Pepsodent, Federal Match Co., Western Electric and Universal Match Co.

August, 1936
RADIOS AS "FURNITURE"

— remember the feminine appeal of woods and cabinetry

— learn the selling lingo for standard period-art

"RADIO DEALER who is not using the 'furniture-interest' in his radio cabinets, to clinch sales, is overlooking a profitable sales-appeal," comments H. W. Frohne, famous merchandising authority in the furniture field. "Opportunity to use it is increasing, as women are becoming more and more important in the radio sales-picture."

A close analogy is to be found in the automobile industry, continues Mr. Frohne. The growing importance of the feminine style-appeal in motor cars was recognized a few years ago and ever since has been successfully used.

What women want to know

Experience shows that popular interest wanes, after a time, in products depending upon scientific invention. After the novelty of the invention has worn off and the products have reached a high state of mechanical perfection people show lessened interest in what makes the wheels go round. When that happens it becomes necessary to find a new sales-appeal.

This is the kind of questions women will ask about the furniture features of radios:

"Are your radios styled right and will they remain in style? Will they harmonize with my furniture? Are your radios sturdily built? Of what woods are they made? Is the finish lasting and easily kept in prime condition? Is the mechanism protected against dust?"

Talk cabinet woods

The dealer with the right answers to these and like questions pertaining to the style, materials and workmanship of radio cabinets is in a strong position to profit by popular interest in the furniture values residing in radio cabinets. By making intelligent use of the furniture-appeal, the dealer will clinch many a sale to women that might otherwise be lost.

The 1937 cabinets offer the informed dealer plenty of furniture selling-points. The manufacturers' printed announcements, unfortunately, have, so far, largely neglected the selling-value of the furniture-appeal in their cabinets. Most of them dismiss the subject with mere mention of the finish-woods and the size of the cabinet. Instead, manufacturers could so effectively set the stage for the furniture-appeal by adding something like this to their printed announcements:

"These superb sound-reproducing instruments are fittingly encased in cabinets of correspondingly fine cabinetwork. Styled by the world's outstanding designers, these cabinets represent the same lasting qualities of style-rightness found only in the most worthy contemporary American furniture. Built by highly skilled craftsmen, of the finest cabinet woods and finished in rare, exotic figured veneers, these cabinets gracefully take their place beside other fine easypieces in the home of discrimination."

"For the most part, the 1937 radio cabinets follow the most advanced ideas in modern styling. In line, form and finish, they have been conceived to harmonize with the formal European and American periods of furniture-art, as well as the contemporary modern mode. Most of them closely hug the floor, are streamlined, in graceful massing and delicate moulding, contrasting with richly figured plain surfaces. In their more pronounced modern form, they make chaste use of brilliant metal-inlaying, exotic marquetry and colorful enameling. Their richlyfigured surfaces are transparently finished, in the current mode, to give the rare cabinet-woods full opportunity to display their ornamental richness.

Furniture styles

"Where models follow the more traditional styles, as in present-day furniture production, the later eighteenth century English Hepplewhite, Sheraton and Georgian design-types are adopted, occasionally the French Louis XVI, Regency and Napoleonic, and the American Duncan Phyffe."

To acquaint the radio dealer with some of the hidden constructional values of cabinets, so he may point these out to furniture-conscious prospects, simply drawn diagrams of jointing and veneering might be profitably incorporated in the radio manufacturer's printed trade and consumer announcements. Equipped with such practical supplemental information on cabinet-construction, the alert radio dealer should be able to formulate an effective sales-appeal along furniture lines, for use where the scientific merits of receiving-sets as sound-reproducing instruments, alone, may be insufficient to effect sales, or as clinchers to this and other sales-appeals now successfully used.
America's Most Copied Radio

—again a year ahead!

—with the biggest selling feature in years

THE ACOUSTIC ADAPTER

FITS THE RADIO TONE TO ANY ROOM SIZE

Going over big! That's the news we get from dealers and distributors everywhere on this remarkable new 1937 Zenith Super-Feature. By a simple adjustment that can be made either by dealer or customer, the instrument is balanced to provide the best tone quality for the particular room in which it is placed. So, through ACOUSTIC ADAPTION, the same Zenith performs equally well whether it is in a spacious living room or a tiny bedroom—or anything in-between. Only Zenith has it, only Zenith dealers may sell it. It is one of the many ingenious new features found on the 1937 Zenith line. Investigate—see your Zenith distributor.

ZENITH MODEL 12-U-159

$175.00

Prices slightly higher in West

ZENITH RADIO CORPORATION

CHICAGO, ILLINOIS

August, 1936
THRU THE LAB KEYHOLE

— television pictures shown in Philadelphia home
— Philco engineers transmit from 1-kw. station 7 miles
— experimental receivers deliver 345-line pictures

* TELEVISION PICTURES of great clarity and brilliance—steady and absolutely unflecked by blemishes were transmitted to a Philadelphia home, 7 miles from the Philco television laboratories, August 11, for the inspection of a group of newspaper men.

In the studios different girls sang different types of songs in contrasting fashion, and the distant audience voted its choice. A boxing bout and a male quartet were also televisioned.

Boake Carter addressed his fellow newspaper men on “The Freedom of the Air,” and then, called by telephone, was interviewed by members of the audience, while the rest “looked on” on both sides of the conversation. A motion-picture film followed by television.

A 36-tube set

The experimental home television receivers used contain 36 tubes in all, and are of the cathode-ray type, with vertical cathode-tube viewed in a 45-deg. mirror. The three knobs for control of the 51-megacycle “picture” are grouped on one side of the console front; the three “sound” knobs on the other. The 51 mc. “picture” and 51.25-mc. “sound” are tuned separately for flexibility, but single-knob control can easily be accomplished. So simple is the tuning, that inexperienced persons can quickly bring in good pictures. Once tuned and framed, the pictures were stable on the screen. In general, the new television receivers resemble ordinary large home consoles.

Sayre Ramsdell, Philco vice-president, presided at the tests, and with A. F. Murray, television engineer, issued detail specifications of the Philco television system, as follows:

- Channel width: 6 mc.
- Spacing between television and sound carriers: 3.25 mc. approx.
- Polarity of transmission: Negative
- Number of lines: 345
- Number of pictures per second: 60 interlaced
- Aspect ratio: 4:3
- Percentage of television signal devoted to synchronizing: 20%
- Synchronizing signal: Narrow vertical
- Carrier frequency of picture transmitter: 51 mc.
- Carrier frequency of sound transmitter: 54.25 mc.
- Picture: 7 in. by 9½ in.
- Color: Black & white

Larry Gubb, Philco president, commented that commercial television “will not come in 1936.” Home receivers at the beginning may cost $500, he estimated.

Experimental home-television set by Philco, front and rear. Cathode-ray screen is viewed in 45-deg. mirror. Sound knobs on left, picture-control knobs on viewers’ right. Pictures black-and-white, 345 lines, 6-mc channel.

Radio Today
CONSUMER PREFERENCE for Fairbanks-Morse Radio

Masked demonstrations give F-M overwhelming majority over three other nationally known makes

Recently 977 typical radio prospects were shown four radio sets. All were leading makes. All were covered with cloth, which left only the back of the cabinets exposed. All identification marks were removed. Only cards lettered "A," "B," "C," and "D" marked these four radios. Each one of the 977 persons, men and women, was asked:

If you were considering the purchase of a radio, which one of these radios would you investigate first?

Of the 977 persons interviewed, 658 or 67.35% expressed preference for Letter "D," the Fairbanks-Morse radio; 208 or 21.29% for make "A"; 56 or 5.73% for "B"; 55 or 5.63% for "C."

Why 3-to-1 preference for Fairbanks-Morse?
The answer is easy. The Fairbanks-Morse Turret Shield and Tone Projector are features which every person can see, feel, hear, and understand. Features that sell themselves.

Radio engineers conduct chassis performance tests inside an ELECTRICALLY SHIELDED CAGE. The principle of the laboratory screen room is applied in the Fairbanks-Morse Turret Shielded Chassis, as the chassis also operates inside an electrically shielded cage. Noise and interference are screened out.

The Fairbanks-Morse Tone Projector is an enlarged cone, 22 inches in diameter, attached to the front of the speaker, making possible the largest baffle employed in any radio today. It projects and makes audible musical overtones ordinarily lost.

In addition to these two outstanding sales features and the exclusive Semaphore Dial, new Fairbanks-Morse radios contain 36 other features which add to salability.

What side of the 3-to-1 selling odds do you want to be on? Write for full information on the reasons for, and proof of, this 3-to-1 preference! Address your Fairbanks-Morse distributor or Fairbanks, Morse & Co., Home Appliance Division, 2060 Northwestern Ave., Indianapolis, Indiana.
RADIO'S PRICE PUZZLE

—mild cases of Robinson-Patman jitters
— experts speculate on practical effects

* ONLY incidental squirming
has been noted among price discrimi-
nators of the radio industry as a re-
result of the enactment of the Robin-
son-Patman Anti-Price Discrimina-
tion Act, passed at the last session of
Congress.

Radio execs divide their time be-
tween (1) muttering at their legal
advisors, (2) eyeing the movements of
the Federal Trade Commission, (3) wait-
ing for a radio test in the courts, (4) won-
dering whether the next Con-
gress will revise the law, and (5) specu-
lating on what appropriation will be made by Congress for the en-
forcement of the law.

Radio Today has actively interested
itself in what the practical effect of
the law will be within the next
twelve months. Above some well-
known names of the industry the
editors have received spirited replies
to that query, presented herewith.

Geddes speaks

From Bond Geddes, member of the
Federal Bar, executive vice-president
and general manager of the Radio
Manufacturer's Association:

"You may quote me as stating that
the new law presents some most com-
plex merchandising problems, which
will take months, if not years, to
clarify. All RMA members were ad-
vised when the Robinson-Patman Bill
was before Congress. They were sent
copies of the new law and an analysis
of the National Association of Man-
ufacturers. Also our members have
received a digest of the new law from
the RMA counsel, Judge Van Allen
of Buffalo. Executives of radio com-
panies with their counsel are engaged
in an exhaustive study of the new law.

"Today no company knows, with-
out any doubt, whether it is operating
in violation of the law or not. I am
advised that the Federal Trade Com-
misision will not issue any rules or
regulations of general application but
that it will administer it similarly to
the original Clayton Act by rulings
on cases as they arise under the Act.
The Commission also will not give
any informal opinions upon the legal
status of matters presented on basis
of hypothetical or ex parte statements
of fact. In the months to come I be-
lieve that considerable changes in

radio merchandising and practices
will result. I also venture the per-
sonal prediction that the Act will be
revised by Congress and probably at
the next session."*

Neagle's views

From a statement prepared by F.
E. Neagle, and approved by the Execu-
tive Committee of the National
Electrical Manufacturer's Association.

for distribution to all members of
NEMA for their information and
guidance:

"Business men must not believe
that they can do nothing to bring
their activities into line with the new
law. That will, in time, certainly
lead to trouble.

"It seems reasonable to conclude
that each member of the industry
should at once, if he has not done so
already, present the facts of his busi-
ness policies, in so far as they deal
with questions arising under the Rob-
inson-Patman Act, in as full detail
as possible to his counsel so that he
may obtain from him a definite and
specific opinion on the facts as to the

application of the law to his business.

"The Federal Trade Commission
cannot be looked to for advice on
what the law means. Even were it
the function of the Commission to
give such advice it has been quoted
as stating that it would not attempt
to advise in specific cases as to the
meaning of the law. Its interpreta-
tion will come only by way of cease
and desist orders in specific cases and
then its view is subject to the review
of the courts.

"Views of lawyers as to the mean-
ing of the Act differ. Unanimity of
opinion as to the interpretation of the
act does not exist. For that reason it
is repeated that individual cases need
individual advice based upon the spe-
cific state of facts that exists.

"There is no question that the en-
forcing agencies of the government
are as much in the dark as business is.
They are not supernmen or gifted
with clairvoyance. They must move
slowly and cautiously and it is be-
lieved that they will. Business men
should not rush headlong into new
and untried ways of doing business.
They too should move cautiously and
carefully."

Neilson's angle

From Franz Neilson, prominent
New York attorney, counsel to nu-
merous electrical and other open-price
trade associations:

"Notwithstanding the yearning of
business men for advance advice and
opinions from the Federal Trade
Commission on operative policies of
sellers and buyers under the act, that
Commission, if it follows all past
precedent, will not issue such advice
and opinions. This for the very good
reason that it could not undertake
to examine in advance into the tens
of thousands of situations all over the
country. What it cannot do for all it
cannot do for one. In the past it has
said, in effect: 'There is the
law. Do not violate it. If complaints
are filed with us against you for vio-
lation then and then only we appear
in the picture. The only exception
to our rule against taking any ini-
tiative being that under Sec. 2 (a)
we may in due time and on our own
prompting examine into the reason-
ableness of quantity differentials in
given situations.'

"Although organizations of whole-
salers aided in getting the law across,
they may well find themselves at a dis-
advantage, for there now appears no
sound reason against big-scale re-
tailers buying on the same discounts
enjoyed by wholesale buyers buying in
the same quantities."
Tubes must be made right in order to be sold successfully on such a basis. Tung-Sol tubes were the first and are today the only line sold nationally on consignment.

There are still desirable locations where independent service organizations who can meet requirements may be appointed as Tung-Sol agents. Ask your nearest Tung-Sol tube wholesaler who will supply details.
DEALERS SEIZE '37 SALES CHANCES

New lines inspire a smooth series of original selling devices

30% TO THE GOOD

* Pictorial display of radio artists, both the entertainers and the announcers, has made a Philadelphia radio dealer's window a real magnet for radio prospects.

Dave Krantz, specializing in tubes and service, put his main appeal in the center of the window on a placard headed, "Don't Be Cheated Out Of Your Favorite Radio Program." On one side was an attractive group of photos of radio stars, bunched around the sentiment, "On the Air Now—Your Favorite Radio Star." Other side showed a series of pictures of radio announcers, portraits of the best known ones.

Results are described by Mr. Krantz: "The first two weeks of this display our business increase was approximately 30 per cent in sales of radio tubes and service. Our display has impressed people who we hope will be our future customers. I find that an average of eight out of ten people who pass our window stop and admire these photographs."

PATRONS BY THE HUNDRED

* Jenson Bros., Terre Haute, Ind., are using a store-interest device which has results "that would surprise you." Plastered on a side wall is a long list of names of townspeople, conspicuous and easily readable. Just at present, the display is headlined "Our First Hundred Norge Customers" and carries the names of 100 refrigerator buyers, but it may be changed to other departments, and other hundreds of customers.

Other dealers have tried parading the names of their satisfied customers, but were faced with the problem of keeping the list up to date. Jenson's method of going at it by the hundred appears to be a solution.

GOOD-WILL METHOD

* Radio dealers rarely put in display windows with no receivers in them, but Jack Talbot, Guthrie, Okla., does it under special circumstances and gets himself a nice reputation for being a town booster.

City of Guthrie celebrates annually a pioneer event for which the town is famous in the Southwest. Talbot cooperates with the city officials and works right in with their plans—puts in unusual windows, featuring the "early days" and does not include in the display a single electric appliance. "Welcome" sentiments are painted on the windows, and Guthrie folk get the idea that Jack Talbot's first thought is civic, rather than commercial.

Of course, the Talbot displays are faced with the usual house ads, and naturally the store's standing is boosted in the long run.

DRAMATIC EXHIBIT

* That the set salesmen will be greatly aided in his work on the sales floor if the receiver he is selling is "framed" by attractive decorative effects is the conclusion arrived at in the Kistler Electric Shop, Emporia, Kan.

Kistler uses lights, drapes, canopies, and the results are so encouraging that the fittings are being revamped for further use. Along the side of the shop are nine gilded canopies, each a separate unit, each containing a single console or two gadgets. Belief is that in spite of the extra trouble, it actually pays to play three lights on each set. Bulbs are concealed so that the effect is theatrical, and rich drapes hang at the side of each canopy. Whole series of arched units makes the store look impressive.

Radio Today
We told you that June shipments were greater than June, July and August last year. Now here's more good news.

July shipments of RCA Victor 1937 radios were more than 3 times greater than those for the same month last year! In every American city, town and hamlet enthusiastic prospects are seeing—hearing—and BUYING these great radios!

And no wonder! For RCA Victor is offering sensational values—values that SELL! And prospects are turned into buyers through a widespread advertising campaign in four colors in the Saturday Evening Post and Collier's, as well as powerful advertising in many other national magazines. The Magic Key radio program...the vast array of sales helps supplied to dealers, all back this forceful campaign—and produce results!

Be sure you get your share of the business! Feature the MAGIC VOICE SERIES (from $129.95 up) and the EXTRA VALUE SERIES of 28 sets under $100. Push them for all they're worth—and they'll be worth plenty to you!

Above—MAGIC VOICE Model 9K-2. Acoustically sealed tone chamber has been opened to show you the new tone control pipes reflected in mirror...$129.95

Right—New RCA Victor Table Model 5-X, 2-band AC or DC set. Domestic programs, short wave (40m), police, aviation, amateur calls. $32.95 Also in porcelain white finish and in other handsome cabinets.

RCA Victor

RCA Manufacturing Co., Inc., Camden, N. J. • A service of the Radio Corporation of America
SELLING MORE DISCS

—record makers hike plugs 50%
—radio, movies offer more aid

* WAX biz has developed itself some new grooves, in the midst of considerable chatter about "the record come-back."

News for dealers is that some of the leading recorders have come out with the statement that advertising appropriations for the current year will be 50 per cent over last season. This will add a wave of strength to the record dealer's merchandising efforts, a fine background for local campaigns to get the new recordings across to the public.

Another important development is the fact that popular music has taken on a great many new forms. Band leaders of the day have decided that they must have a distinct style of their own—they "ripple," they "swing" or get otherwise "hot" in some highly individualistic fashion.

Situation of this sort stimulates the collectors of records. Fans are likely to get interested in one of the instrumental styles and buy every record which comes under that head.

Hit parade

The broadcast features, "Your Hit Parade," have done a great deal to interest the public in success stories of current tunes. The stint has interested thousands of persons in the popular ratings of hit songs; people become favorite-conscious and sooner or later show up at the record shop to get the best sellers in wax.

Motion picture companies have been unmercifully plugging records in big way. For their movie shorts, they feature record artists in one-reel pictures with a novelty slant—theatre fans get a sample of an artist's work and are not happy until they hear more of the favorite. They've learned to look for it on the record lists.

NEW GUIDE TO RECORDED MUSIC

* An enormously interesting volume which is clearly a key book on "serious" recordings, has been published by The Gramaphone Shop, 18 East 48th St., New York City, titled its "Encyclopedia of Recorded Music." Blue-bound volume has 547 pages, compiled by R. D. Darrell and with a forward by Lawrence Gilman, who refers to modern sound recorders as "miracle-workers."

Romantically readable for its smartly written notes on masters, this book is chiefly busy with a list of composers, presented with their available records. Aside from this exhaustive list, the volume includes sections on album sets, language study records, diction and literature recordings, national music and folksongs.

More than 3 dozen foreign and domestic record brands and makes are found among the order numbers. A total of 651 composers are represented, all of them edited into the lists for other works than salon or "popular" compositions. Mild let-down comes, then, when the name of the white hot Negro jazzist, Duke Ellington, rates a column on such items as the "Birmingham Breakdown." Editorial explanations: "... the compiler would be stupid indeed arbitrarily to rule out a considerable number of works of this type ..., which reveal incomparable powers of rhapsodic melodic invention and an instinct for tonal nuances and orchestral ingenuities equal to the most brilliant flights of Rimsky-Korsakov's or Richard Strauss' imagination."

BEST SELLERS AS WE GO TO PRESS

BLUEBIRD

Do You or Don't You Love Me?—Fox trot. On the Beach at Bali Hall—Fox trot. Both with Shep Fields and his Rippling Rhythm—B6147.

You Started Me Dreaming—Fox trot. Tormented—Fox trot. Both with Wingy Mannone and his orchestra—B6809.

There's A Small Hotel!—Fox trot. On Your Toes—Fox trot. Both with Bob Pope and his orchestra—B6152.

BRUNSWICK

There's A Small Hotel!—Fox trot. VC by Maxine Grey. It's Cotta Be Love—Fox trot. VC by Benny Goodman. Both with "On Your Toes," both with Hall Kemp and his orchestra—B6341.

Three Foolish Things Reunited Me—Fox trot. VC by Marjory Logan; From the revue "Spread It Abroad. Take My Heart!—Fox trot. VC by Benny Clark. Both with Nat Brandwynne and his Stork Club orchestra—B4764.

Christopher Columbus—Fox trot. All My Life—Fox trot. VC by Ella Fitzgerald. From the revue "Laughing Irish Eyes." Both with Teddy Wilson and his orchestra—B7460.

COLUMBIA

Red Rhythm—Fox trot. St. Louis White Rhythm—Fox trot. Both with Mills Blue Rhythm Band—B135D.

These Foolish Things Reunited Me—Fox trot. VC by Caroll Gibbons and the Savoy Hotel Orphenes. You Started Me Dreaming—Fox trot. VC Ref. with Henry Hall and his orchestra—B314D.

Ride, Red, Ride—Fox trot. Congo Caravan—Fox trot. Both with Mills Blue Rhythm Band, directed by Lucky Millinder—B308D.

DECCA

Christopher Columbus—Fox trot. Fringer Bottom—Fox trot. VC. Both with Andy Kirk and his 12 Clouds of Joy—721.

Until The Real Thing Comes Along—Fox trot. VC by Pha Terrell, Waikin' and Swingin.—Fox trot. Both with Andy Kirk and his 12 Clouds of Joy—B690.

On the Beach at Bali Hall—Fox trot. I Met My Waterboy—Fox trot. Both with Connie Boswell, both with Bob Crosby and his orchestra—B29.

VICTOR

I've Found A New Baby—Fox trot. Swingtime in The Rockies—Fox trot. Both with Benny Goodman and his orchestra—B2552.

When Did You Leave Heaven—Fox trot. Sweet Misery Of Love—Fox trot. Both with Guy Lombardo and his Royal Canadians—B2557.

It's A Sin To Tell A Lie—Fox trot. Big Chief De Soto—Fox trot. Both with "Fats" Waller and his Rhythm—B2115.

SMASH ALBUM

* Arturo Toscanini, who is perhaps the most excessively careful conductor in the world, has recently consented to make recordings and the result is that Victor has a stunning Wagnerian album breaking all sales records for music dealers. Toscanini has persistently declined to make records because he felt that his work was something less than perfect and therefore must not be perpetuated. Recently he was convinced, however, that his interpretations could be of great help to young musicians. So he made the already-famous Wagner album, which includes the Siegfried Idyll, Preludes to the first and third acts of Lohengrin, Dawn and Siegfried's Rhine Journey from Götterdämmerung. 
Get in on the

Westinghouse landslide!

the right models!
the right features!
the right prices!

Sound business is like sound politics. You can't win without popular appeal.

A pre-season poll of thousands of prospective radio buyers has already given Westinghouse the popular vote. Based on a nation-wide survey, we know that this new line has what the people want... not just a single "appeal"... but all the worthwhile developments of radio science, built into a complete line of good-looking sets, priced at just the right level for profitable sales.

For complete information, call your nearest Westinghouse Radio Distributor or write Merchandising Headquarters, Westinghouse Radio, 150 Varick Street, New York.

FEATURE PLANKS in the WINNING
Westinghouse PROFIT PLATFORM

PRECISION TUNER
PRECISION EYE
PRECISION HAND
ALL-METAL TUBES
SPECTRUM DIAL
SPOT-LITE TUNING
STATION STABILIZER
DUAL SELECTOR DRIVE
AUDITORIUM SPEAKER
PUSH-PULL OUTPUT
LOW VOLUME
BASS COMPENSATION
THREE-POSITION BASS TONE CONTROL
THREE-POSITION TREBLE TONE CONTROL
HIGH FIDELITY CONTROL
BEAM POWER AMPLIFIER
MASSED EFFORT TO SELL RADIO

Set-makers come through with additional hundreds of flashy dealer-aids

* RESOURCEFUL manufacturers, their books splashed with big advertising appropriations, their display artists working overtime, continue to tone the industry with pointed promotional efforts.

Effect of this action reaches every unit of the trade, quickens the volume of dealer, distributor, serviceman alike. Details of the campaign, as undertaken by individual manufacturers, are at a premium because full knowledge of tie-in possibilities will, under current conditions, give the set retailer a powerful advantage.

Half a dozen big promotion campaigns from named manufacturers were outlined in Radio Today for July; the vigorous drives of RCA, GE, American-Bosch, Zenith, Strouberg and Kadette made good news for dealers and distributors. Those campaigns were reported by the advertising specialists who framed them, and are followed herewith by similar news from other busy camps. General tone of all reports from big shot advertising managers continues with this issue to have a commanding quality from the standpoint of neatly merchandising 1937 receivers.

**Fairbanks-Morse ready to aid dealers**

Parker H. Erickson is manager of radio sales for Fairbanks-Morse. Report from his direction:

"... a complete program of aggressive, helpful advertising and sales promotion has been launched. This program will include dominant magazine advertising in America's favorite popular magazines, backed by smashing direct-mail advertising, compelling display material, helpful sales manuals, distinctive newspaper advertising material, etc."

One of the featured FM window posters is a large three-color affair dramatically plugging the "Turret Shielded" radio. It shows a group of prospects admiring a model and invites passersby into the dealer's store for a demonstration. FM has also prepared a new envelope stuffer for dealer use.

Additional features of the FM campaign are listed by W. R. Ceperly, company's advertising and sales promotion manager. FM has had 6 big mailings of broadsides to a group of 14,666 picked dealers; also among the dealer aids are a Jumbo Newspaper for consumer use, de luxe brochures, a console platform, neon signs in 3 sizes, special mailing pieces for battery lines.

FM also reports: "The first set of the window display service carries the headline 'Our Platform' and cashes in on the interest generated in connection with an election year. It carries the illustration of the donkey and the elephant, and the side card urges the prospect to look at the back of the set."

365 days picked for plugging

"No formula has yet been developed for determining when a radio prospect is ready to be transformed into an actual radio buyer. That's why Philco advertising is a year-round proposition, and that's why Philco advertising uses all media at all times." In these words Ernest B. Loveman, advertising manager of the Philco Radio & Television Corporation, sums up Philco's advertising plans for the 1936-1937 season.

Following the policy which Philco has established over the years, the magazine schedule will continue on the twelve-months-a-year basis, without any reduction in what are ordinarily considered "slack seasons." Philco feels that there is no particular radio "season" and that it is just as important to keep its name and features before the prospective buyer in summer as in the pre-Christmas weeks. For this reason, Philco's national magazine schedule has no blank spots and Philco advertising continues without interruption every month in the year in the Saturday Evening Post, Collier's, Liberty, Time, Cosmopolitan, American, Good Housekeeping, Red Book, True Story, News-Week and Etude.

**Philco's proud promotion**

In broadcasting, a medium which has become increasingly important, as replacement sales have become by far radio's greatest market, Boake Carter will carry on for Philco five nights a week over key Columbia stations. At a time when politics and foreign affairs occupy so prominent a place in the public mind, Boake Carter enters his fourth consecutive year as Philco's editorialist of the air with a greater actual and a greater potential audience than he has ever before commanded.

While Philco magazine advertising would seem to provide more than adequate coverage in every city, town and hamlet, it will be supported by large-size weekly space in 200 newspapers throughout the country. In recent years, reports from impartial outside sources have shown that Philco newspaper advertising has totaled more than the rest of the industry combined, and Mr. Loveman feels this ratio will undoubtedly be maintained through 1937.

The farm market will also receive the same intensive cultivation Philco has given it in the past, with a co-

(Continued on page 32)

Radio Today


KADETTE 66X—6 tube AC-DC Superheterodyne. Standard broadcast, amateur, airplane and all police bands. 5" electro-dynamic speaker—full, glorious tone, high output. American walnut veneer cabinet. 9" high, 13 3/4" wide, 6" deep. Net weight 8 lbs. List .......... $29.95

KADETTE WILL AGAIN CHANGE THE RADIO TREND

This year we will place our entire merchandising efforts behind the "Kadette" name. Kadette will use both national magazines and large newspaper space this year. Individual mailing pieces, envelope stuffers, complete line folders, four color window displays, bright metal and enamel counter signs and display stands, etc., are now ready. Also effective dealer mailings, catalog pages, newspaper mats, selling portfolios, etc., for distributors.

There has been a constant strengthening of our distribution organization. Our organization has been active in eliminating unused trade practices in the industry. These facts, coupled with a greater use of advertising during 1937, are Kadette's expression of confidence in the future of the radio business. Kadette invites aggressive merchants to join them in merchandising the best radio value of 1937 and pledges wholehearted support in their endeavors.

If you want to be identified with the greatest radio values of 1937, if you believe in handling merchandise that is in advance of competition, if you want to sell radios that are styled for 1937 and carry a decided price advantage... you will write for full information immediately.

INTERNATIONAL RADIO CORPORATION, ANN ARBOR, MICH., U.S.A.
MILLIONS SPENT TO PROMOTE SALES

(Continued from page 30)

operative campaign in leading sectional and state farm papers stressing the features of Philco's extensive line of battery sets.

Backimg up its dominating advertising campaigns, Philco has prepared and is supplying the most extensive and comprehensive variety of display material and dealer helps ever offered.

Four thousand key dealers have already ordered the new permanent Philco floor display, one of the most elaborate and distinctive settings for the display of sets ever devised.

Eight thousand dealers are buying the dealer kit service which provides new window display material monthly through the fall and winter. Strikingly effective outdoor and indoor neon signs are already brightening store-fronts and interiors, and are proving among the most popular display pieces ever offered radio dealers.

In addition to these more spectacular dealer helps, Philco will round out its advertising efforts with the advertising mat service to dealers which has proved so tremendously popular and effective. Orders for this service have already eclipsed all former years, and with the political campaign, sports events and, special promotions planned for this fall, Philco dealer advertising seems destined to reach new heights in lineage and results.

One special promotion which is commanding special attention at this time is the new Election Edition of the Philco Political Radio Atlas, a book covering every angle of the Presidential campaign which is proving a great traffic-builder and sales-maker for Philco dealers.

Additional sales and advertising helps include 24-sheet outdoor posters, a variety of direct mail pieces and novelties, radio "logs," four-colored newspaper sections, rotogravure sections, consumer folders, radio guides, movie slides and many other effective sales aids.

Westinghouse says to win in a walk

After attracting considerable attention with some extensive pre-season poll-making on the matter of radio preferences, Westinghouse found its campaign stride and now the industry hears a lot of Tom Sterck, company's sales promotion manager.

Sterck's plans include "31,410,000 advertisements in leading national magazines," including Time, The American, The Saturday Evening Post, Collier's, and The American Home. A special series of newspaper ads has also been worked out.

Among the dealer helps offered by the company are "radio shorts" in the form of recordings, for use on the air as broadcast plugs; a de luxe batch of "sales literature" composed chiefly of folders and circulars; window streamers, specially-built window displays, talking slide films for store meetings, elaborate counter displays, and several illuminated exhibits for window and counter.

Fada has "streamline"

In a strong drive to make its new streamline radio a "buyword" with progressive dealers, Fada gets under way with J. M. Marks, general manager, spokesman:

"In our promotional and sales program we furnish dealers with large descriptive sales portfolios, authorized dealer signs in gold and black, large window cards in easel form, large and small window strips, handsome broadsides in colors, prepared advertising copy, mats of all sizes and description.

"In addition, we also are preparing special background displays for windows, counters and decorative use, and at different times of the season, special floor displays."

Mr. Marks further declares that Fada's advertising and promotional activities to the public will be given more accent as the company's sales volume continues to increase.

Sparton has special plans

From Sparks-Withington comes the assurance from advertising manager Guy C. Core that the company will have bigger and better plans as the year swings along; his statement continues, however:

"We shall have 32-page plastic-bound sales manuals 8½ x 11 for dealer use in the home. Also 16-page folders, a 12-page self-mailer, and a 28 x 42 broadside as well as illuminated world globes and many other premiums.

"A separate battery folder is likely and also another on our novelty models. We shall also have a series of from four to six window displays and two perhaps animated. Naturally radio set proof sheets as well as ad proof sheets, display cards, etc., will be available."

Catch-customer displays are ready for RCA dealers who need background pieces.

Radio Today
Up goes the Curve of RAYTHEON profits to dealers and service men!

The EASIEST TUBE to SELL for REPLACEMENT

Raytheon tube sales are climbing fast. No wonder! More radio manufacturers have equipped their sets with Raytheon Tubes than with any other. This makes it easy for dealers to make replacements with identical equipment.

More satisfied customers. More permanent profits!

Raytheon 4-pillar construction permits micro-accurate spacing of tube elements and holds them in permanent alignment. They are almost immune from rough handling.

Raytheon metal tubes are made with equally high standards of manufacturing and are easy to sell because Raytheon's acceptance is universal.

Write for franchise details and name of nearest distributor.

RAYTHEON PRODUCTION CORPORATION
All types of metal and glass tubes

555 Howard St. . . San Francisco, Calif. 415 Peachtree St. N. E . . Atlanta, Ga.
"SOUND" TRENDS
— seasonal trix in sales and service
— development news in the P. A. field

THE "ELECTRIC BUTLER"
* Novel feature of the Beaux Arts Ball held under auspices of Westchester Workshop, County Center, White Plains, N. Y., was an "electric butler" to announce the arrival of guests. This consists of a public-address system, so installed as to permit freedom of movement of the microphone through the foyer of the building. As guests arrived they were introduced over the "mike" which relayed the proceedings through powerful loudspeakers in the auditorium.

PAIN IN THE AVERAGE EAR
* Merchandisers of sound equipment have found that owners and managers of any kind of race track are likely prospects for P. A. sales and service. It is often necessary to make announcements or to give instructions to the participants on any part of the track, and to make the amplification strong enough to be heard in the midst of a race.

Prize example of such installation is what Western Electric is doing with a job at the new Roosevelt Automobile Raceway at Mineola, Long Island, N. Y. Mounted on a steel tower will be 19 loudspeakers facing in all directions: estimates are that the installation will produce a total sound of about 140 decibels. To listen to any sound over 130 decibels is actually painful to the average ear, and since the loudest man-made noise so far is in airplanes rated at 123 decibels (still only about one per cent of the new tower, in absolute power ratios) Western Electric will probably have the loudest device of any kind ever built by man.

WHERE TO SPOT PORTABLE OUTFITS IN VACATION TIME

<table>
<thead>
<tr>
<th>Airports</th>
<th>Amusement Parks</th>
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<tr>
<td>Cabarets</td>
<td>Athletic Fields</td>
</tr>
<tr>
<td>Carnivals</td>
<td>Auction Rooms</td>
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<td>Clubs</td>
<td>Basketball Courts</td>
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<td>Conventions</td>
<td>Civic Centers</td>
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<td>Exhibitions</td>
<td>Dance Halls</td>
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<td>Factories</td>
<td>Department Stores</td>
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<td>Fairs</td>
<td>Industrial Plants</td>
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<td>Lodges</td>
<td>Outdoor Entertainments</td>
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<td>Offices</td>
<td>Paging Systems</td>
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<td>Auditoriums</td>
<td>Political Meetings</td>
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<td>Railroad Stations</td>
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<td>Drug Stores</td>
<td>Steamship Piers</td>
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<td>Gymnasiums</td>
<td>Swimming Pools</td>
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<td>Restaurants</td>
<td>Tennis Courts</td>
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<td>Ships</td>
<td>Window Demonstration</td>
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<td>Retail Stores</td>
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IT SHAKES THE BONES IN THE HEAD!
* Counts of the deafened, made by medical authorities, show that there are at least 5,000,000 persons completely lost to the talking pictures because of inability to hear. Another 15,000,000 persons have impaired hearing.

To serve this great group, a number of leading sound-picture theatres are now installing outlets for "bone oscillators" which can be plugged in on the theatre sound circuits. The hard-of-hearing person applies to the box-office for a bone-oscillator, plugs in the contact at his seat, and then holds the lorgnettle-like device against his skull just behind the ear. In this way the vibrations of speakers—diaphragm are impressed mechanically on the skull bones and transmitted directly to the inner ear. In a large percentage of the cases of deafness, the inner ear mechanism is not impaired, and vibrations brought in mechanically in this way, are heard as in normal hearing.

AUTO CO. PROSPECTS
* Motor-car manufacturers have openly recognized the value of various types of sound equipment in several branches of vehicle manufacture.

Chevrolet equipped, at one time, over 200 new model sedans with special automatic sound system mobile units, through which to advertise the company's products. Several months later, Oldsmobile made a similar sweeping gesture. Nash has outlined for car dealers a special plan using sound in passenger cars.

Some auto makers have combined automatic record changers with car radios, in order to present sales talks on records. This stunt has the advantage of being heard by the prospect while he is inside the car.

REACHING THE MOB
* Extraordinary method of covering "acres of spectators" was illustrated at the Olympic Stadium when German P. A. experts managed to reach all of 125,000 persons.

Dozens of "mushroom" speakers dotted the Stadium area. This huge sound system was fed by announcers operating anywhere on the grounds, using an ultra short wave transmitter of the knapsack type. Special master switchboard on the main system was necessary to plug in the short wave broadcasts from any section of the field.

"Sound" stunt of the year — moving short-wavers cover the Olympic Stadium in Berlin, their words picked up by a central receiver hooked to a huge network of "mushroom" amplifiers.

34
He's Your Prospect

... He is one of 6,000,000 Farmers who need radio—your greatest opportunity for sales and profit.

... He is one of the 5,158,000 Farmers reading about the sensational Sentinel 1937 Farm Radio in the leading farm papers.

... His neighbor owns one of the hundreds of thousands of Sentinel Farm Radios now in service.

... His family has heard the marvelous tone quality of Sentinel's new Dynamic Speaker—has admired the beauty of the superb Sentinel cabinets.

... His son wants to tune in European stations on the distinctive Sentinel Dial.

... He is thrifty and Sentinel's tremendous value and low prices appeal to him.

... He knows the Sentinel line is complete—that there is a Sentinel Radio to suit his requirements whatever they are.

He's "Sentinel Minded!"

SELL THIS MAN!
He knows this Pioneer Farm Radio! He can't resist the amazing performance, the beauty of this sensational many-featured, low-priced but high quality 1937 Sentinel Line. It's the surest, soundest road to substantial dealer profits. Write today for full details of the new Sentinel Farm Radio and the Sentinel Sales Program for 1937.

MAIL THIS COUPON TODAY

SENTINEL RADIO CORPORATION
2222 Diversey Pkwy., Dept. R.T.-A., Chicago

Gentlemen:
Please rush me complete details of the 1937 Sentinel Farm Radio Line.

Name

Sentinel
RADIO CORPORATION
2222 DIVERSEY PARKWAY CHICAGO ILL.

"THE PIONEER OF FARM RADIO"
Goodbye! Back Benders!

Admiral Tilt-Tuner

METAL TU

Model AM889, 17 tu

A sensation from coast-to-coast: "goodbye to back-and-fortune..."
And no wonder... especially with "fly-wheel" sensitivity...
double pointers for clock... visual wave bars... features, too... such as watts undistorted push-pull compensation... automatic bands (16.4 to 2000 m)...
2 microvolt sensitivity.

Also 8 and 10 tu priced at $
4-TUBE, 6-VOLT “LAYDOWN” MODEL

AT THE UNHEARD OF LOW PRICE OF $29.95

Now... an Admiral battery radio that “gets everything” at a price any farmer can pay! 43 to 550 meters... 6" permanent magnet dynamic speaker... illuminated 5½" airplane dial... automatic volume control... and the lowest battery drain on record! (Less than 1.2 amps). Uses only a 6 volt storage battery... no “B” or “C” batteries. Costs about ½¢ per hour to operate. Model B325, Admiral 4 tube, 6 volt “Laydown”... List price $29.95.

Admiral Model B125—5 tube AC “Laydown”. Same cabinet as above. A sensation at $19.95 list.

Admiral Model B225—6 tube AC-DC “Laydown”... $27.50 list.

Admiral offers a complete line for home, farm and auto... AC, AC-DC, Battery and Auto... 15 models... 4 to 17 tubes... 16.4 to 2000 meters... $19.95 to $175.00... the biggest value in radio today!

CONTINENTAL RADIO & TELEVISION CORP.
325 W. HURON ST., CHICAGO, ILL.

MAIL THIS COUPON FOR FREE BOOK

Our new booklet gives detailed specifications covering all the new Admiral Models. Mail this coupon for your copy today. There is no obligation. Send to Continental Radio & Television Corp., 325 W. Huron St., Chicago.

Name ____________________________
Address __________________________

Dealers!
Jobbers!

MAIL THIS COUPON FOR FREE BOOK
Admiral TILT-TUNER

4-TUBE, 6-VOLT "LAYDOWN" MODEL

AT THE UNHEARD OF LOW PRICE OF \$29.95 LIST

Now...an Admiral battery radio that "gets everything" at a price any farmer can pay! 43 to 550 ureters...6 permanent magnet dynamic speaker...illuminated 5½" airplane dial...automatic volume control...and the lowest battery drain on record! (Less than 1.2 amps). Uses only a 6 volt storage battery...no "B" or "C" batteries. Costs about \$1/2 per hour to operate. Model B325, Admiral 4 tube, 6 volt "Laydown"...List price \$29.95.

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Name
Address

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MAIL THIS COUPON FOR FREE BOOK

Our new booklet gives detailed specifications covering all the new Admiral Models. Mail this coupon for your copy today. There is no obligation. Send to Continental Radio & Television Corp., 325 W. Huron St., Chicago.

Name
Address
UNDERSTANDING NEW RADIO CIRCUITS

Volume range expansion — new AVC circuit — phase inverter

SPARTON TONE EXPANSION

* Some of the 1937 Sparton sets employ a volume range expander described as tone expansion in the sales literature. This is an electronic expander—a resistance type expander (Crosley expressionator) was described in Radio Today for March on page 35.

In order to serve these new circuits it is essential that the serviceman understand their operation. The basic circuit shown in Fig. 1 illustrates the principle used by Sparton.

There are two resistances in series R-1, 100,000 ohms and R-2 a variable resistance. The output from the first audio amplifier is fed through the coupling condenser C-1 to the series resistor combination. It is obvious from inspection that if R-2 were made zero ohms, no audio signal could reach grid of tube T-2. As R-2 is increased in value more and more signal voltage gets to the grid of T-2. If R-1 equals R-2, half of the voltage available from tube T-1 will go to T-2’s grid. In other words it can be stated that the audio voltage on the grid of T-2 varies inversely with the value of R-2.

In the Sparton circuit R-2 is the plate-cathode impedance of a 6K7G tube. Fig. 2 (heavy lines) shows the complete expander circuit as developed by Sparton.

The audio signal follows the path indicated by the arrowheads from the 6Q7G to the 6X6G.

The grid of the 6J7G tube is coupled to the plate of the 6Q7G through R33 and C35. The audio signal thus delivered to the grid of the 6J7G tube is amplified and passed on to a grid of the 6K7G expander tube.

Amplifier-detector

But the 6J7G is not used as an ordinary amplifier—it is biased to approximately plate current cut-off—in this way it amplifies only the positive audio peaks. In other words it is a rectifier-amplifier. The output of this amplifier-rectifier is direct coupled to the 3rd grid of the 6K7G tube. The 1 megohm resistor R16 and condenser C28 act as a filter to eliminate any audio frequency ripple—in this way the voltage impressed upon the grid is pure DC.

By varying the voltage impressed upon the grid of the 6K7G it is possible to vary the plate to cathode impedance. As the grid voltage goes negative the impedance increases, or as the grid bias is increased, the plate impedance decreases.

Changing the plate impedance is the same as varying resistor R-2 in Fig. 1. In this way we obtain an automatic variation of volume.

As a loud passage occurs a larger signal voltage is applied to the grid of the 6J7G tube. This causes the plate current in the tube to increase—therefore there is a greater voltage drop across resistance R22. Point A is negative with respect to point B. Therefore the voltage applied to the grid of the 6K7G is more negative than before the loud passage occurred. With the grid more negative, the plate impedance increases. This increase reduces the voltage drop across R20 and a greater AF voltage is applied to the 6X6G tube. As a result the volume is greater.

When soft passages occur the reverse is true.

For normal volume there must be a signal loss in this circuit so that for loud passages more volume can be obtained by reducing the loss. In order to eliminate a great change in volume when the expander is removed from the circuit, a compensating switch shunts a 56,000 ohm resistor across a 100M ohm section of the R15 volume control. This reduces the gain in the grid of the 6Q7G circuit just enough to compensate for the removal of the expander—as a result there is no marked change in the volume level of the set when changing from automatic volume expansion to normal.

Note how the plate voltage of the 6K7G is supplied through R24 and R20. R17 and C34 serve as a resistance-capacitance filter to remove power supply ripple for both the 6Q7G and 6K7G tubes.

(To page 49)
THANK YOU, RCA!

for your open letter to resistor manufacturers, pointing out the superiority of

INSULATED RESISTORS*

* Originally developed by International Resistance Company and now produced in millions.

* One of many standard types of insulated resistors both Metalized and wire wound pioneered and popularized by IRC.

* The features of design now being standardized by RCA are identical with the features of IRC insulated resistors.

Thus the experience of RCA in a great diversity of resistor applications, bears out the value and far-sightedness of IRC engineering.

Today, the same engineering talent and experience responsible for insulated resistors are available to all industrial and electrical users who have resistance problems.

REMEMBER—IRC makes resistance units of more different types—in more different shapes—for more different applications—than any other manufacturer in the world.

RCA MANUFACTURING COMPANY, INC.
A RADIO CORPORATION OF AMERICA SUBSIDIARY

RCA VICTOR DIVISION
Camden, N. J.

July 7, 1936

OPEN LETTER to RESISTOR MANUFACTURERS

Gentlemen:

Subject: Insulated Resistors

During the past eighteen months the trend in the industry has been toward the outright adoption and standardization of the insulated type of fixed carbon resistor.

The most satisfactory types based upon our investigations and tests are the units having the body insulated by a molded compound rather than those employing the use of a ceramic sleeve. These units are also more satisfactory in that they have the leads extending from the ends of the resistors in line with the axis of the body so as to provide point to point wiring. Our tests indicate that not only is the molded compound type mechanically stronger than the ceramic sleeve but in addition, will withstand a higher rating and does not require any moisture proofing treatment.

Several of the various makes of insulated units are so constructed as to provide a non-insulated unit by simply omitting the insulating operation.

We are interested in obtaining your comments on the following questions:

1. If you are not already producing an insulated unit, do you intend to do so?

2. What action have you taken toward standardizing the non and insulated types?

3. If you do not produce insulated units, do you, or could you rearrange your equipment to produce units with the leads extending from the ends of the body?

Very truly yours,

RCA Manufacturing Company, Inc.,
RCA Victor Division,

[Signature]

General Purchasing Agent.

---

INSULATED RESISTORS
Pioneered by IRC

The INSULATED RESISTOR had its origin in the pioneer work of International Resistance Company

The RECORD

Period of creative research and practical development.

1931-33 Limited production started late in year. Entire capacity sold.

1934 Increased manufacturing capacity. Sales increased to OVER 1,000,000 INSULATED UNITS.

1935 New plant and equipment—Sales first quarter compared with same period 1935.

1936 More than 20,000,000 INSULATED UNITS.

TODAY The IRC Insulated Resistor has created new design practice, now universally accepted.
20,000
THE NEW WESTON
MODEL 772
Super-sensitive analyzer...

PRICE
$46.50
NET
TO DEALERS IN U.S.A.
(carrying case included)

Model 772 is furnished mounted in a durable, brown leatherette carrying case, with plenty of room for tools and accessories.

Remember... YOU CAN'T SERVICE TELEVISION
Check all these features of Model 772
...then make your own comparison:

1. SENSITIVITY . . 20,000 OHMS PER VOLT!
...for the first time, WESTON gives you the sensitivity you must have to best analyze any receiver circuit, old or new...especially those involving A.V.C., noise suppressor circuits, tone fidelity control, etc.

2. A BIG, ULTRA-SENSITIVE WESTON METER!
...a big, standard WESTON super-sensitive meter, with a large, easy-to-read scale with widely spaced markings. Big value alone in the meter!

3. TRUE VOLTAGE READINGS
...with this ultra-sensitive meter, plate voltages in resistance coupled circuits, grid bias and other DC voltage measurements can be made with certainty...for so little current is drawn by the meter that readings will not be greatly in error as is the case with less sensitive instruments.

4. THE ULTIMATE IN CURRENT MEASUREMENT!
...with Model 772, you can measure current far below present limitations. Currents of 10 or even 5 microamperes coming from the diodes can be accurately measured. Also cathode ray tube and photo-cell currents.

5. RESISTANCE MEASUREMENTS MADE EASY
...Model 772 provides a readable deflection as high as 30 megohms, with the high resistance values above 1 megohm sufficiently spaced out to permit an accurate check on all resistors in common use. The increased deflection at high resistance values gives a more critical check for condenser leakage.

6. DESIGNED FOR RAPID USE
...a convenient system of pin-jacks, along with a rotary switch, permits rapid changes of range and function for AC and DC measurements, and for use as a sensitive output meter. Separate jacks for the 1 M.A. and 100 microampere ranges protect the instruments from accidental damage. Can be used with WESTON Socket Selectors. Precision resistors used throughout. Built to WESTON’S unequalled standards of quality and workmanship.

7. WIDER RANGE OF USEFULNESS...
INCLUDING TELEVISION
...with Model 772 you will also be equipped for servicing sound movies, amplifiers, photo-cell circuits and any circuit where current is small, even down to 1/4 microampere—as well as for television. WESTON has already built the instruments for television broadcasting, so Model 772 was designed to include television servicing.

8. PRICE $46.50 net...INCLUDING CARRYING CASE
...never before, has value of this kind been offered to the serviceman. WESTON provides it because of their large production on sensitive, quality instruments which are universally used by laboratories, and throughout industry. Investigate Model 772 today...before you buy any analyzer. See it at your jobber’s...or, return coupon for complete data.
NEW RADIO CIRCUITS

(From page 38)

The time constant of the circuit is determined by R29, C38, C29. The delay is about 30 seconds.

The range of expansion is determined in part by the ratio of R33 to R21. The expander stops working at 200 milliwatts output—a surprisingly low value, which, however, gives good results.

FADA FLASH-O-GRAPH AVC

* New AVC circuit is used in the Fada Phantom Flash-o-graph sets. Varying amounts of AVC voltage are applied to the tubes to prevent overloading and still allow for maximum sensitivity of tuning indicator.

Diagram of flash-o-graph control shows that full AVC is applied continuously to the 6K7 r-f tube. A potentiometer is across the diode load resistor—the tap supplies varying amount of AVC voltage to the 6K7 i-f tube.

When the potentiometer (phantom flash-o-graph control) is turned completely to the right, full AVC voltage is applied to the r-f tube and the 6A8 converter. In this extreme position the grid return of the 1st detector is switched to the AVC circuit.

Thus for weak signals AVC is used only on the r-f, for medium signals a partial amount of AVC is applied to the i-f, and for extremely strong signals AVC is used on three tubes.

In order to determine the proper adjustment of the flash-o-graph control, a 6E5 cathode ray indicator is tied into the circuit. The flash-o-graph shadow will just close when distortion begins due to overloading.

Consequently the proper setting of the control is made by adjusting the control just short of the overload indication—this provides maximum sensitivity of the tuning flash-o-graph.

PHASE INVERTER

* New circuit development is that of a high-gain single-tube phase inverter to drive a push-pull stage. Basic circuit is shown in Fig. 4. In the circuit point B is at ground potential with respect to audio frequency.

When the grid voltage is made less negative the plate current will increase. An increase of current in the series circuit will increase the voltage drop in the resistor. Point A is negative with respect to the B+ terminal. And point C is positive with respect to the B- terminal. Since the resistance from B to A is equal to that from B to C, the voltage drops across A-B and B-C will be equal in magnitude.

But A is negative with respect to B and C positive with respect to B. In other words there is a phase difference of 180 degrees—just what is needed for push-pull operation. The blocking condensers to the grids of the push-pull stage eliminate the effect of the B supply voltage permit only the changes in voltage to reach the grids.

Note that the grid of the 6C5 triode inverter is connected into the circuit — this provides a grid bias for the tube and at the same time cancels distortion due to the detector.

In Fig. 5 the circuit is shown as utilized in the Fada 200 receiver. Note that there is no cathode to ground by-pass condenser associated with the 6C5 inverter. To use a by-pass condenser here would render the circuit inoperative from a push-pull point of view. Referring to Fig. 4 again—a by-pass condenser from B to C would effectively short the circuit as far as a-f. is concerned, and the circuit would perform merely as a single-ended amplifier.

A more usual circuit would have a by-pass condenser connected across the 3,000 ohm cathode resistor—but in this operation there would be no cancelling effect of detector distortion. If a by-pass condenser is employed across the cathode resistor, then the other two resistors must be equal in value.

Servicemen should familiarize themselves with this new inverter circuit as it will find much application in the new sets.

CLEAN UP THE SET

* Cleaning up the chassis is an important part of every service call. The inside of the set is an effective dust collector, and the housewife, no matter how spick and span she keeps her home, will always neglect to clean the inside of the set for fear of breaking things or getting a shock.

Servicemen should utilize this angle in building up good-will. Clean the set even though you realize the set may not play any better. Call the customer's attention to the cleaning.

At the shop it is possible to use a blower to good advantage. The blower can be a vacuum cleaner with a small nozzle on the end of the hose. If you don't approve of blowing dust from one set into another, it's an easy matter to rig up a special cleaning bench with a hood and exhaust fan.

In the customer's home the serviceman will have to rely upon a small paintbrush, dust cloth, and dustpan — latter can be borrowed from the housewife.
New 1937 ADDITIONS TO POPULAR TRIPPLET MASTER SERIES

FEATURES

- EQUIPMENT - Your unit is designed so all parts are rigidly supported. Will stand up under hard usage and give permanent service.

- SOLID CONSTRUCTION - The internal construction of all Master Units is so designed that all parts are rigidly supported. Will stand up under hard usage and give service.

- UNIT IS INTERCHANGEABLE - In any case they are contained in metal cases of one size.

- PORTABILITY - Unit size is small, compact, hence light in weight and practical for the best results.

- SOLID CONSTRUCTION - The internal construction of all Master Units is so designed that all parts are rigidly supported. Will stand up under hard usage and give permanent service.

- MAXIMUM PROTECTION AGAINST OBsolescence - All designs carefully considered from the viewpoint of possible obsolescence. Being single purpose instruments in itself is great protection. Damage to one unit makes repairs simple and does not tie up other instruments.

- PRECISION BUILT - Every test shows that Master Units are outstanding in quality. Every effort made to maintain accuracy throughout. Represent the most up-to-date engineering practice in every detail.

Here are new units for owners of Triplet Master Unit Test Sets. The metal cases are the same size as used in previous models. Select your requirements now. Those and other future models will always keep your Master Units out in front—with a minimum outlay. You can always buy such additional units as your needs demand.

For those not owning Master Unit Test Sets, here is additional evidence of Master Unit advantages: A complete line of equipment fulfilling the needs of the radio service dealer and insuring the greatest return on dollar invested. Ask others. Try one now and you’ll find yourself standardizing your Service Test Equipment with Triplet Master Unit models.

See them at your jobber’s.

Mail coupon for more information.

THE TRIPPLET ELECTRICAL INSTRUMENT CO.
199 Harmon Drive, Bluffton, Ohio

I wish to purchase:

[ ] $20.00
[ ] $23.33
[ ] $25.00
[ ] $26.67
[ ] $28.33
[ ] $29.83
[ ] $33.34
[ ] $45.83

Name _____________________________
Address ________________________________
City __________________ State ________

VOLT-OMH-MILLIAMMETER

Low ohm scale reading to 50 ohms with 15 ohms center scale reading. Reads DC 10-50-250-500-1000 ohms at 2000 ohms per volt. AC 10-50-250-500-1000 ohms. 1.5 and 3 megohm back up low ohms scale 1-5-50. Dealer Price $21.67

Model 1200-H
Similar to Model 1200-A but with copper oxide AC. Dealer Price $26.67

AUDIO OSCILLATOR

Model 1200
Checks all types of condensers. Pagers, tubes or Electrolytic, from .0001 to 30 microfarads. Detects internal shorts, opens or high resistance leakages. AC and DC voltages for breakdown tests available in steps to 1000 volts. Easily read meter scale. Dealer Price $24.83

GENEERATOR

Model 1200
Generates pure sine wave without distortion or harmonics. Laboratory accuracy. Wide frequency range. Cannot furnish AC or DC voltages, except for breakdown tests available in steps to 1000 volts. Easily read meter scale. Dealer Price $29.83

OTHER MASTER MODELS

TUBE TESTER

Model 1201

A.C. SIGNAL GENERATOR

Model 1202
Large 12" direct reading dial, 6 bands from 100 to 30,000 kcs. Waveform: Sine, triangle, square, with optional output. 400 Cycle Audio Note. New with peak calibrated coils. Broadcast and intermediate bands with and without wave bands 1%, short wave bands 3% accuracy. Dealer Price $25.00

Model 1231 D.C.
Similar to Model 1232 but self-contained battery operation. Dealer Price $23.33

FREE POINT TESTER

Model 1220-A
Used with voltmeter-milliammeter for set testing. Makes all series and parallel instrument connections through five sockets with standard R.M.A. markings. May plug and cord with all adapters. Dealer Price $10.00

ELECTRICAL INSTRUMENTS
FREE
Centralab Handy
Fixed Resistor Rack

• YOU asked for it — so we repeat the offer. The Rack is yours absolutely FREE with a SPECIAL DEAL consisting of 20 1/2 watt 316 type and 20 1/2 watt 310 type CENTRALAB RESISTORS.

The Rack is of heavy sheet metal and will give years of service. The R.M.A. Color Chart is in full colors.

Hang this CENTRALAB RACK on your wall and know at a glance just where they are, and what resistance values you have on hand.

Write for descriptive information today.

CENTRALAB
Milwaukee, Wis.

CENTRALAB, Ltd.
Canterbury Road, Kilburn
London, N.W. 6, England

CENTRALAB
68-70 Rue Amelot
Paris, France

VOLUME CONTROLS
Fixed Resistors
Sound Projection Controls
Wave Change Switches

SPARTON 726 & 776 RECEIVERS

* Service data on opposite page shows schematic with values of all parts and chassis layout with trimmer condensers and alignment frequencies. Signal path through set is indicated by arrowheads—voltage for tube elements shown in white blocks.

These sets have 4 bands with trimmers for 3 only. Band 1 is broadcast (B.C. on chassis layout). Band 3 covers 3,000 to 7,900 (POL), band 4 extends to 15,000 kc. (SW). Position of switch for various bands indicated on antenna coil switch.

Broadcast band aligned first—oscillator parallel, RF, ANT at 1,350 kc. Oscillator series at 600 kc. Return to 1,350 and check previous adjustments. Next align short-wave band at 15,000 kc.—oscillator parallel, RF, ANT; check sensitivity and calibration at 9,000 kc. Band 3 or POL is aligned at 7,200 kc.—RF, ANT, there is no oscillator trimmer; check sensitivity and calibration at 3,000 kc. Band 2 has no adjustments, but check operation at 3,000 and 1,700 kc.

Voltage readings may vary as much as 15 per cent from those given—they are given for a line voltage of 120.

STROMBERG-CARLSON
MODEL 60

* Stromberg-Carlson circuit with alignment and voltage data is on opposite page. Set is a 3-band superhet with variable selectivity.

Individual trimmers are used on each band—there are no interlocking trimmers. Alignment of the oscillator parallel condenser is first on any band followed by the RF and ANT trimmers. Finally the oscillator series padder should be adjusted—they will be found on the right-hand front corner of the chassis.

Wave-trap is found in rear of chassis. Note the 10,000 cycle filter in the plate circuit of the 6K7 audio amplifier—this is to eliminate carrier beats. Trimmer is on left hand side of chassis—ordinarily there is no need for adjustment.

Socket voltages are given in white blocks—line voltage of 120.

A separate 6J7 oscillator tube is used in this set coupled to the oscillator grid of a 6AS mixer tube.

SWAP WITH CUSTOMER

* Up in Melrose, Mass., Trites Radio Service occasionally finds a customer who does not want to pay some six to ten dollars for repairs on his old set without knowing just how the set will sound after it is fixed.

To overcome this objection Mr. Trites demonstrates and offers the customer one of the turn-in sets in his shop. The terms are: customer's set plus $10. The ten dollars will more than pay for the repairs in the customer's set—it can be repaired when business is slow and used over again in a similar transaction.

Swaps are limited to consoles of reliable make—and an unconditional guarantee is given with each set. Result is that customer knows just what he is getting before spending his money—and Trites' profit is increased.

PUSH-PULL TUBE REPLACEMENTS

* If one of a pair of push-pull tubes needs replacement and the other one is relatively old, change both of the tubes. This will save a service call in the near future and give the customer better reception. Both the serviceman and customer profit by this procedure.

TAGGED RESISTORS FACILITATE SERVICING

* New line of identified service resistors provides for the first time, according to Mr. Herr, head of Philco's Parts Division, a perfect method for quickly determining the value of a resistor so as to enable the serviceman to make the correct replacement in minimum time.

The new resistors are marked in two ways to eliminate all possibility of mistaking their values. Each is fitted with a rust-proof metal tag attached to one of the leads, plainly marked with the resistance value and, in addition, is color coded according to the R.M.A. code.

"This two-fold protection of resistor values solves all the previous problems of servicemen," Mr. Herr declares. "No more straining to puzzle out faded color combinations, fussing with trick charts, codes, wheels and gadgets and wasting valuable time by having to actually measure resistor values!"

(To page 48)
YOUR potential customers are "finance-wise". They spend billions, annually, for automobiles, oil burners, radios, refrigerators, and other electric appliances of household utility. Where the unit prices are high enough to warrant, most of the purchases are made on a time payment plan. But not just any plan. They are demanding fair terms, fair treatment and fair understanding of their budget problems in the handling of collections.

This is the kind of service Commercial Credit Company offers through local offices in principal cities of the United States and Canada. It has been a valuable selling aid to a large number of leading manufacturers and their distributors. It has won the confidence and good will of millions of their customers.

For full details of Commercial Credit Company plans, write or phone headquarters or any branch office.

COMMERCIAL CREDIT COMPANY

COMMERCIAL BANKERS
CONSOLIDATED CAPITAL

HEADQUARTERS: BALTIMORE
AND SURPLUS $49,000,000

FINANCING SERVICE FOR MANUFACTURERS, DISTRIBUTORS AND DEALERS
THROUGH 170 OFFICES IN THE UNITED STATES AND CANADA
I. F.-R. F. OSCILLATORS—Compiled by Radio Today

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**CLOUGHI-BRENGLE CO., 1134 W. Austin Ave., Chicago, Ill.**

**HICKO ELECTRICAL INSTRUMENT CO., 1614 Dupont Ave., Cleveland, Ohio.**

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RADIO CONSTRUCTION LABS., 166 Liberty St., New York City

RADIO PRODUCTS CO., (Dayrad), 125 Sunrise Pl., Dayton, Ohio

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TRIUMPH MFG. CO., 4017 W. Lake St., Chicago, Ill.

WESTON ELECTRICAL INSTRUMENT CORP., 614 Frelinghuysen Ave., Newark, N. J.

---

**Notes:**
- **NS**—Information not supplied. **ARB**—Arbitrary.
- **uV**—Microvolts. Heading does not apply.
- The accompanying tabulations have been compiled from information furnished to the editors of *Radio Today* by the manufacturers whose apparatus is described.

**August, 1936**
A further feature of the new resistors is their special construction which provides extra high insulation value between resistor element and outer tubing—guaranteed 1,000 volts.

**NOISY GROUNDS**

* Intermittent reception, high hum levels, and noisy reception may be caused by poor grounding of leads to the chassis. There are a number of sets in which the ground leads are soldered to lugs which in turn are riveted to the chassis. Also this same rivet may hold a socket or some other part of the set in place.

In due time the rivet loosens or at least oxidizes providing an intermittent or high-resistance ground. When grid and filament circuits are connected this way often there will be a definite increase in the hum level in addition to noise.

The remedy, of course, is to wire all the ground connections to each other, and ground that lead securely to the chassis.—George K. Meyerink.

Stamford, Conn.

### HIGH RESISTANCE VOLT METERS

* With the newer sets employing circuits extremely high resistances in the various circuits, such as AVC, AVE, and resistance coupled stages, the need for sensitive voltmeters is acute.

Low resistance meters—under 1,000 ohms per volt—give readings which do not indicate the true voltages delivered to the tubes through high resistance coupling or filter circuits.

The term ohms per volt means that the resistance of the voltmeter is equal to the scale reading in volts times the ohms-per-volt rating. A 100-volt meter with 1,000 ohms per volt rating has a resistance of 100,000 ohms. If 100 ohms per volt — the resistance for a 100 volt meter is only 10,000 ohms.

The effect of low resistance meters can be illustrated by taking some concrete examples from a typical radio. The screen voltage is fed from a 150 volt tap through a 50,000 ohm resistor. Normal voltage to screen is 100 — normal voltage drop in resistor

### SERVICE NOTES

**(From page 44)**

<table>
<thead>
<tr>
<th>MICROPHONE TYPE</th>
<th>SINGER AT 12&quot;</th>
<th>SPEAKER AT 16&quot;</th>
<th>CONVERSATION AT 16&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCA M16225 CARBON</td>
<td>-33 DB</td>
<td>-43 DB</td>
<td>-59 DB</td>
</tr>
<tr>
<td>RCA 50-A INDUCTOR</td>
<td>-61 DB</td>
<td>-71 DB</td>
<td>-87 DB</td>
</tr>
<tr>
<td>RCA 44-A VELOCITY</td>
<td>-67 DB</td>
<td>-77 DB</td>
<td>-93 DB</td>
</tr>
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</table>

**FREQUENCY RESPONSE CURVES AND OUTPUT LEVELS OF TYPICAL CARBON, DYNAMIC, AND VELOCITY MICROPHONES AT VARIOUS DISTANCES.**

HIGH RESISTANCE VOLTMETERS

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**TO PAGE 50**
Choose WISELY

When Selling Gasoline Motor Powered Battery Chargers

Choose wisely the battery charger that you sell to your radio customers beyond the power lines. Sell them the Briggs & Stratton Power-Charger—the compact, dependable, fully engineered battery charger that keeps 6-volt and 2-volt radio batteries fully charged all the time—power for continuous radio performance—provides electric light up to 200 watts and supplies gasoline motor power for driving small equipment.

Every Power-Charger sale will mean double profit to you. You will be assured a worthwhile profit on the Power-Charger, plus your regular trade profit on 6-volt radios and at the same time know that you have delivered a product that will render complete satisfaction—one that is backed by a company of worldwide reputation for building quality products.

Power-Charger Alone has all These Features

Briggs & Stratton 4-Cycle Gasoline Motor—Air cooled—nearly ¾ million in use—trouble-free, low cost operation. Patented Built-In Flywheel Magneto—Moisture proof. Supplies motor high tension ignition current. No battery needed except for electric starting. Motor easily started.

Electric Starting—Gasoline motor is electrically cranked by turning switch. 6-volt storage battery supplies current.

Generator—Special design. 6-volt. 200 watt, high efficiency unit with ample overload capacity. Armature full ball bearing. Fan cooled.

Multiple Control Switch—4 settings—Start, Neutral, Low, High—"Low" delivers trickle charge for final charging stage, which conserves Battery Life.

Voltage Regulator Terminals—Provide for easy installation of voltage regulator which automatically controls generator output, and is available at small extra cost.

Ignition Shielding—Motor ignition is shielded. Power-Charger will not cause radio interference when running.

Power Take-Off and Emergency Starter Pulley—V-belt is provided to drive small equipment direct from motor. Pulley notched for easy emergency starting with rope.

Electric Control Box—Automatic cut-out, electrical instruments and all wiring fully enclosed and protected.

Fully Guarded—Drive belt and take-off pulley completely guarded. Sale.

Write, or mail the coupon for full information on the new field Briggs & Stratton Power-Charger opens up for you.

BRIGGS & STRATTON CORP., Milwaukee, Wis.

STANDARD EQUIPMENT

Multiple control switch—cut-out—ammeter—battery leads—voltage regulator terminals—ignition shielding—motor power take-off and starter pulley—air cleaner—muffler—stop button—choke knob—emergency starter rope—carrying handle—tools and complete instructions.

F.O.B. MILWAUKEE

$59.50

BRIGGS & STRATTON

GASOLINE MOTOR

Power-Charger

August, 1936
50 volts. Using the 10,000 ohm low resistance meter mentioned above, a reading of about 25 volts will be obtained. Using a 1,000 ohm-per-volt meter with 100 volt scale the reading will be about 75 volts. A 10,000 ohm-per-volt meter with 100 volt scale will read about 95 volts—or approximately the correct value.

The need for high resistance meters in this case is readily apparent. If low or medium resistance meters are used the errors can be corrected by applying Ohm's law. The mistake most servicemen make is to forget that the value read on the meter is not the voltage present when the meter is removed.

The example just given was for a 50,000 ohm circuit—AVC circuits use resistances in the megohm class, thereby making errors in voltage measurement even greater.

The effect of voltmeter resistance can be further minimized by using a higher voltage range. A 200 volt range will have 2½ times as much resistance as a 100 volt range—but of course, the divisions on the scale are closer together. Using a 250 volt 1,000 ohms-per-volt meter in the preceding illustration, the voltage read would be about 85. This example shows that often it is desirable to use the higher voltage range even though the scale divisions are closer together.

In keeping with the need of high resistance voltmeters, Weston has introduced a new service instrument that provides a sensitivity of 20,000 ohms per volt—the highest now available to the serviceman. Other manufacturers have meters that are some 2,000 ohms per volt but the standard is 1,000. The Weston instrument will also measure currents as small as a few microamperes.

**TRANSFORMER REPLACEMENT FILE**

* Recognizing the difficulty the serviceman has in finding the right transformer for his replacement jobs, especially when the radio receiver that he is servicing is obsolete, the Standard Transformer Corporation has made up a complete replacement guide that includes transformer data on practically every commercial receiver ever built.

The information given on index cards includes the model number of the receiver, the different styles or types of transformers, audios and chokes available, the type number and list price of same. It lists the complete line of Exact Duplicate Transformers and the other lines available.

This convenient, quick-reference file will save the serviceman hours and hours of time that he would otherwise spend hunting up data on his transformer replacement jobs. The card file is enclosed in an attractive box and is being offered free to ser-

(To page 53)
A Custom-Built ROAMIO for every car!

The passenger car registrations are about 22,640,000. Only about 10% of these cars have radios. Almost 90% of the automobile radio market is still wide open to the right radio receiver and the right kind of merchandising effort.

Crosley crashes this market with two brand-new Roamios and with custom-built controls for all modern cars. These Roamios represent the kind of performance that automobile drivers have been looking for—the kind of value that means quick sales, large volume.

Study the specifications, look over the new controls, compare the value ... and you'll realize that here's your chance to get more than your share of the automobile radio business in your territory.

CROSLEY ROAMIO A-266

Six-tube superheterodyne automobile receiver with eight-tube effectiveness...no spark plug suppressors...balanced antenna tuning system...seven tuned circuits...full wave interruptor type vibrator...newly developed automatic volume control...automatic setting of dial logging...three gang tuning condenser...single housing...full floating moving coil electro-dynamic speaker...custom-built remote control with illuminated airplane type dial. Instrument panel controls that match the dash of any car are available. If preferred, however, steering column or under-dash controls are available.

$39.95

(Crosley Radio Corporation, Cincinnati, Powel Crosley, Jr., President

August, 1936

51
Radio manufacturers, from A to Z, are now providing their dealers with the C. I. T. Budget Plan.

This makes available for radios the same quick, personalized service that has helped dealers build record sales for refrigerators and other major household appliances.

Furthermore, you can now offer your customers a combination C. I. T. Budget Plan sale of any two or more acceptable articles in one contract.

With the advantage of this new and better selling weapon the 1936-37 season should be one of the most profitable that radio dealers have ever known.

C. I. T. with Local Offices throughout the country is as near to you as your telephone. For quick credit service and the purchase of paper call the nearest C. I. T. office.

Abilene - Akron - Albany - Altoona
Amherst - Asheville - Atlanta - Augusta
Bakersfield - Baltimore - Bangor - Bay Shore
Beaumont - Beckley - Billings - Birmingham
Binghamton - Boise - Boston - Bridgeport
Bristol - Brooklyn - Buffalo - Butte - Camden
Cape Girardeau - Carbondale - Cedar Rapids - Charleston - Charlotte - Chattanooga
Chicago - Cincinnati - Clarksville - Cleveland
Columbia - Columbus - Cumberland - Dallas
Dayton - Denver - Des Moines - Detroit
El Paso - Erie - Evansville - Florence
Fort Wayne - Fort Worth - Fresno - Glens Falls
Greensboro - Greenville - Hagerstown
Harrisburg - Hartford - Hampstead - Hickory
Houston - Huntingdon, W. Va. - Indianapolis
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Reading - Reno - Richmond, Ind.
Richmond, Va. - Roanoke - Rochester
Rome, Ga. - Sacramento - St. Louis - Salisbury
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San Francisco - San Jose - Savannah - Scranton
Seattle - Spokane - Sparks - Springfield, Mass.
Springfield, Ohio - Stockton - Syracuse
Tampa - Texarkana - Toledo - Tucson - Tulsa
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Yakima - Youngstown - Zanesville

Once a Luxury for the Few-Now a Pleasure to all

With the aid of installment Buying

This advertisement is one of a series appearing in leading weekly magazines and newspapers throughout the country, having a total circulation of over 12,000,000.
SERVICE NOTES

(From page 50)

vicemen sending in a Stancor Transformer box top, or, without the box top, at a price of 25 cents to cover mailing costs.

NOVEL BUSINESS GETTER

* Good-will and confidence are promoted by “guarantee” tag used by Universal Radio Service, Albany, N. Y. Tag with string is attached to inside of radio and the customer’s attention is called to this fact.

Tag has feature that it tells customer a story — it reminds customer of when set was last serviced, it shows who the serviceman was and gives his telephone number. Some contrast to the policies of the fly-by-night gyp artist!

Good but not so effective is the idea of tacking your business card to the inside of the cabinet.

Moral is to make it easy for customer to contact you in case set fails again. This creates confidence and brings in new and repeat business through your old customers.

SIMILARITIES OF RADIO TUBES

* Accompanying tabulation (page 55) on tube types will familiarize the serviceman with the new tubes. Listing compiled by Hygrade-Sylvania Corp. shows what tubes give similar service or operation — it shows what new ones correspond to the old tubes with which the serviceman is already familiar.

The left hand, or reference, column is used for indexing purposes, while the second column gives the service or application of the tube. The three columns at the right list under the three headings, “Metal,” “G,” “Original glass,” the types which give equivalent service (not replacement) in the circuit application of these three classes. (To page 54)

---

POWER

PLUS APPEARANCE

PLUS ECONOMY

60 WATT . . . 4 POSITION AMPLIFIER

USING NEW 6L6-TUBE

MODEL 4P-60

- 60 Watts Undistorted Output
- One to Four Position Input
- High Gain 143 db.
- Handles One to 10 Permanent Magnet Speakers
- Tapped Output Impedance
- Uses 4-6C6, 2-6A6, 1-76, 1-6E6, 2-6L6, 1-83, 1-523 (furnished)

FULLY LICENSED
STRICTLY DEALER TIME PAYMENT POLICY

WEBSTER-CHICAGO engineers have designed this extraordinarily powerful amplifier to fit in a compact, sturdy, attractive cabinet.

The 6L6 is an audio amplifying tube, using the newly discovered beam principle of controlling electronic emission. Properly handled, this tube develops a new order of amplification.

Think of a sound system having 60 watts undistorted output and yet the amplifier being no larger nor weighing any more than many amplifiers that heretofore developed but one-half or less power.

As you would expect, the economy is in proportion too. You will want to learn more about P.A. systems with this Webster-Chicago development. It opens up new possibilities for all sound dealers or engineers.

The development of this amplifier is again proof of Webster-Chicago leadership in this fast moving field. Sound dealers and engineers are urged to visit displays at Webster-Chicago jobbers.

WEBSTER - CHICAGO
manufactures a complete line of synchronized public address systems, sound equipment amplifiers and accessories of all kinds.

---

August, 1936
SERVICE NOTES
(From page 53)

No implication is intended by the use of the term "equivalent" that the tubes so indicated are interchangeable. Where two or more types are listed together in any one of the group columns, it is indicated that, while there exists differences in characteristics, nevertheless the general function and classification of these two or more types are the same.

Note: The information contained in the tabulation is intended for the convenience of the serviceman in familiarizing himself with new tubes and should not be used in replacement work.

PROTECTING ANTENNA TRANSMISSION LINES

* Service note from Philco suggests using a short section of braided loom at the top nail-it-knob insulator to keep the transmission line from breaking due to swaying (see illustration). Loom prevents jerks from being applied at any single point and eliminates sharp angles in the transmission feeder. The braided loom can be purchased at any electrical supply house.

IMAGE FREQUENCIES— HOW TO USE THEM IN ALIGNING SETS

* While alignment of the oscillator and r.f. circuits of all-wave superhetas is practically the same for all bands, on the high frequencies care must be taken to align the oscillator at the correct frequency. Theoretically the oscillator frequency can be either above or below the signal frequency of the 1st detector, but for proper operation it must be the frequency for which the manufac-
### SIMILARITIES OF RADIO TUBES

<table>
<thead>
<tr>
<th>Type</th>
<th>Function of Tube</th>
<th>Metal Base</th>
<th>&quot;G&quot; Octal Base</th>
<th>Ocetal Base</th>
<th>Original Glass</th>
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#### TWO VOLT BATTERY TYPES

<table>
<thead>
<tr>
<th>Type</th>
<th>Function of Tube</th>
<th>Metal Base</th>
<th>&quot;G&quot; Octal Base</th>
<th>Ocetal Base</th>
<th>Original Glass</th>
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<tr>
<td>1A4</td>
<td>Remote cut-off R-F amplifier</td>
<td>1DG</td>
<td>1A4, 34</td>
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<tr>
<td>1A6</td>
<td>Pentagrid converter</td>
<td>1DG</td>
<td>1A6</td>
<td></td>
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<tr>
<td>1B4</td>
<td>Sharp cut-off R-F amplifier</td>
<td>1EG</td>
<td>1A4, 32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B5/2S</td>
<td>Diode medium mu triode</td>
<td>1BG</td>
<td>1B5, 2S</td>
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<tr>
<td>1C3</td>
<td>Pentagrid converter</td>
<td>1CG</td>
<td>1B6</td>
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<td>Pentagrid converter</td>
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<tr>
<td>1E7G</td>
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<td>1F6</td>
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<td>1F6</td>
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<tr>
<td>1H5D</td>
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<td>1B5, 2S</td>
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<td>R-F pentode (Heater)</td>
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#### FIVE VOLT RECTIFIERS

<table>
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<tr>
<th>Type</th>
<th>Function of Tube</th>
<th>Metal Base</th>
<th>&quot;G&quot; Octal Base</th>
<th>Ocetal Base</th>
<th>Original Glass</th>
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<td>5V4G</td>
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#### SIX VOLT TYPES

<table>
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<tr>
<td>6H7G</td>
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<td>Triode pentode</td>
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<td>6P7</td>
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<tr>
<td>6P8G</td>
<td>Cathode-ray tuning indicator</td>
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<td>Rectifier</td>
<td>6T7G</td>
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</table>

* Indicating types little used for initial equipment at present but listed to indicate superseding types.

#### SPECIAL AC-DC TYPES

<table>
<thead>
<tr>
<th>Type</th>
<th>Function of Tube</th>
<th>Metal Base</th>
<th>&quot;G&quot; Octal Base</th>
<th>Ocetal Base</th>
<th>Original Glass</th>
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<td>2A5G</td>
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<td>2C5G</td>
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</tr>
</tbody>
</table>

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"15 YEARS OF LEADERSHIP"

August, 1936
There are two simple ways to tell whether the set is aligned to the high or low beat. See accompanying diagram. If a signal is produced in the set when the dial reading is increased by an amount equal to twice the i-f. frequency, the oscillator in the act is working at a frequency lower (low beat) than the detector. This is the usual mode of operation.

If the dial setting has to be decreased by an amount equal to twice the i-f. frequency to tune in the image, the oscillator is higher than the detector in frequency. (High beat).

During these tests it will probably be necessary to increase the output of the oscillator since the signal frequency circuits are out of tune.

A simple way to remember the frequency relationship is:

- high image — low oscillator (usual)
- low image — high oscillator (unusual)

when the set is retuned for the image — not the test oscillator.

**Two settings of oscillator trimmer**

The second method of finding the beat is by adjustment of the oscillator parallel trimmer condenser. On the highest bands it will be found that there are two settings of the trimmer condenser which will give a peak. The setting with the greatest capacity — trimmer springs close together—is the low frequency peak, while the peak requiring less capacity is the high frequency one.

When aligning a set, a check should always be made to make sure that the proper beat is being employed — this means that the manufacturer's service data must be consulted. However, in about 95 per cent of the sets the oscillator works at the high frequency higher than that of the detector and t-f. circuits.

If data is not available and in doubt as to whether or not the proper oscillator beat is being used, set the oscillator at various frequencies within the tuning range of that particular band and tune the set to resonate.
JOBBERS ON THE JUMP

replacement robot...

* Steel cabinet of ingenious design is being offered to its jobbers by Aero-vox Corp., 70 Washington St., Brook-lyn, N. Y. Item has shelves and sliding doors, tells the serviceman what he needs for any given set, has a pocket for the latest replacement cata-

log, locates the necessary replacement unit, provides for automatic re-ordering of stock. Cabinet is available to jobbers stocking Aerovox exact duplica-
tate condensers, at a nominal cost.

banquet for 150...

* Emerson's distributor in Albany, N. Y., Albany Distributing Corp. recently threw a country club banquet for 150 dealers of the area. Ben Abrams, Emerson president, addressed the group, and Nate Haste, eastern sales manager, also had a feature spot on the program. Dramatic announcements were made on the company's advertising tie-up with Lowell Thomas and Fannie Brice.

jubilee supplement...

* F. B. Connelly Co., distributors of Seattle, Wash., have sent to their dealers a supplement catalog, issued as a follow-up to the Connelly Golden Jubilee book popular since last Fall.

new stocks...

* As a result of the decision by Atwater Kent to promote radio lines less vigorously, 3 more jobbers have notified RADIO TODAY about what lines they will handle in place of AK: Rumsey Electric Co., Philadelphia, will stock Fada; C. M. McClung & Co., Knoxville, Tenn., will take on Amer-

ican-Bosch; Johnson Elec. Supply Co., Cincinnati, will handle Westinghouse.

fast manager...


drive in...

* Walther Bros., Inc., Montgomery, Ala., jobbers who distribute Philco, were recently hosts to local dealers at an opening of new and improved quar-
ters. Company now has twice its former floor space and has opened an up-to-the-minute drive-in auto radio service on an adjoining street.

C-D PRODUCTION UP!

Competent observers predict that the production of radio receivers in 1936 will exceed SIX MILLION sets. And statistics show that the production of quality receivers predominates, . . . it is no longer possible to compromise with quality and be successful.

Cornell-Dubilier's sales curve has shown a steady upward climb during the past year, . . . Cornell-Dubilier still maintains its dominant position in the industry. More condensers have been produced by us in 1936 than ever before in our history.

It has been no small task to obtain this recognition . . . we have had to be ever vigilant of our engi-

neering progress . . . ever mindful of our obliga-
tion to the industry which we serve . . . "THE MAINTENANCE OF C-D QUALITY STANDARDS." Available at all C-D distributors. Catalog No. 132A supplied on request.

WET & DRY ELECTROLYTIC • PAPER
DYKANOL • NICA

CORNELL-DUBILIER CORP.
4360 Bronx Blvd., New York, N. Y.

FREE!

BIG SALES and GOOD PROFITS
with the NEW 1937
Freed-Eisemann
FAMOUS SINCE BROADCASTING BEGAN

One of
Our Many
Outstanding
Values —

LIST PRICE

$1795

STUDY THESE REMARKABLE FEATURES—
Model 59—Powerful 3 Tube Set • 5/15, 4 color, illuminated Airplane Dial • Handsome Rubbed Walnut finish 2 tone Cab-

inet • Width 12", height 8", depth 7" • Natural Tone Dynamic Speaker • Works on either AC or DC current • Self-contained serial: no ground needed • AN EXCEPTIONAL VALUE FOR QUICK, PROFITABLE SALES.

This model also available with extra band for shortwave, police and amateur calls—List Price $18.95. Other FREED-EISEMANN models, priced between $12.95 and $19.95. Prices on Export Models, for higher voltages and with long wave band on application.

DISTRIBUTORS AND DEALERS—Write for catalog and wholesale prices on complete line.

FREED MANUFACTURING CO., Inc.
44 WEST 18th STREET
NEW YORK, N. Y.
**JOBBERS auspices...**

* One hundred and fifty dealers went to the Algonquin Club in Bridgeport, Conn., recently, to be guests of the D'Elia Elec. Co., at a lively Emerson show.

**three to Bermuda...**

* Winners in the “On To Bermuda Contest,” conducted by the Apollo Distributing Co., Crosley distributor, Newark, N. J., have been named by Sidney S. Muther of Apollo: J. H. Germond, E. A. Kirch Co., Newark; J. McKnight, Roth Sauerling Co., West New York; and J. E. Fitzgerald, J. E. Fitzgerald, Inc., Union City, N. J. Hundreds of other retail salesmen won merchandise awards.

**show series...**

* Nassau Distributing Co., Inc., Newark, N. J., distributors of Grumow radios and refrigerators, are in the midst of a series of dealer shows in New Jersey. Company has attracted new dealers and will contact them with representatives. Wooley Garvey, Henry Dresner, Jack Wheat, Morty Gutov, Harry Zinn, and Kelly Kaplan, all under the supervision of the corp. president, Louis Kaplan.

Representing the Nassau Co. in Southern New Jersey is Minna Saltzman, “probably the only wholesale saleswoman in the U. S.”

**classy conference...**

* At Wichita, Kan., and under the wing of local Philco distributor Spurrer’s, Inc., more than 250 dealers and salesmen recently assembled for a big preview of 1937 sets and sales plans. They came from the Wichita, Dodge City, and Salina areas in Kansas, and from the Joplin area in Missouri. Supervisor of the event was Ray H. Turner, district rep for Philco; other company execs present were O. K. Spurrer, J. P. Stewart, E. E. Brammer, L. M. Kelly, and J. F. Leahy.

**555...**

* Frank Burke, of the Little Rock, Ark., distributing organization, 555, Inc., has reported that the company will handle a complete Deico line for the coming year.

**here’s a lift...**

* Harold W. Goldstein, chief of the Anchor Lite Appliance Co., Crosley distributors in Pittsburgh, Pa., has totaled up his radio sales for the month of June, 1936, and found that they were 500 sets ahead of the same month last year.

**200 years in Wheeling...**

* Ott-Heiskell Co., Crosley distributor of Wheeling, W. Va., is now celebrating its 100th birthday. City of Wheeling also has a centennial this year, and the radio wholesaler has worked out a tie-up in the anniversary events. Feature in Ott-Heiskell’s special broadcasts on local Station WWVA.

**ONLY Clarion OFFERS THIS NEW "year ahead" PORTABLE sound system**

* 521 W. RANDOLPH—CHICAGO

Send for the Radolek Radio Profit Guide FREE.

Name ____________________________

Address __________________________

Serviceman? □ Dealer? □ Experimenter? □

**REMOTE-O-CABLE REPLACER**

* $3724 NET TO DEALERS

Designed especially for auto radio work, the REPLACER easily and quickly removes old fittings—swivels cable to prevent unrolling—cuts cable to exact length—replaces old fittings on new cable.

Auto radio control cable and housing, same as originally used by leading set mfrs., 50, 100 and 200 ft. lengths. Plain and gay-type fittings and housing-end. Exact duplicates of size and quality. Equips you for 95% of all jobs. Write for 5-page catalog now ready.

**amplifiers by Clarion**

* TRANSFORMER CORP. OF AMERICA

67 Wooster St. • New York • N. Y.
JOBBERS

no maddening crowd...

* The Stromberg-Carlson rep- resentative in New York City, Gross Sales, Inc., has tried out a new type of dealer show to feature the company's 1937 line. Meetings are held in small groups, three or four gentlemen at a time; Gross entertains four groups a day.

This series is the first big event to be staged in Gross' new show rooms at 570 Lexington Ave. Recent guests have been interested in the attractiveness of the new quarters, which were designed, laid out and constructed specially for more effective radio demonstrations and display.

Sunset Ridge...

* Wood & Alexander, Stewart- Warner distributors of Hartford, Conn., invited their dealers to a friendly meeting recently at the local Sunset Ridge Country Club. Event was a golfing tournament, but non-participating dealers found plenty to do. Whole thing was billed as "free from ballyhoo, high pressure and long tiresome sales talks." Fred R. Gross, Stewart-Warner ad manager, air-lined to the meeting.

turret shield...

* New distributors for Fairbanks-Morse are the Capital Paper Co., Indianapolis, and the Keith-Simmons Hardware Co., Nashville, Tenn. Old FM refrigerator wholesaler, Bruno New., Inc., New York City, has announced the appointment of Stern Bros., Manhattan, as a new dealer for the line.

from 28 counties...

* Emerson jobber in Syracuse, N. Y., Graybar Elec. Co., was recently host to more than 200 dealers who came to the meeting from some 28 surrounding counties. Fred Carson, local Graybar exec., was chief host for the affair.

celebration dinner...

* Because the Philco Radio & Television Corp. of Pennsylvania has held national leadership in sales since last May, the Atlantic Sales Division of Philco honored that wholesaler with a special dinner early this month.

Peter Kain, manager, and Arthur C. Nordin, assistant manager, of the Atlantic Division, arranged for the event, and those of the Pennsylvania company who were complimented were John M. Otte (acting general manager), Clifford Malliet, Julian G. Polack, J. P. Maguire, O. J. Tillet, M. J. Jaslow, Edward Neilson, A. J. Cronin, P. T. Tillet, and Eric Brehme.

New York to Dakotas...

* Group of recently appointed distributors for Fairbanks-Morse are: Grant-Dasty Co.; for North Dakota and Northwestern Minnesota; Northeastern Radio, Inc., Providence, R. I., for Rhode Island; York Automotive Distributing Co., New York City.
SERVICE NOTES

From page 56

ance. If the set will operate over the entire band with approximately the same sensitivity, it is reasonably certain that the proper band is being used.

Another thing about checking images is that it eliminates errors in getting the right beat due to inaccurate calibration of the test oscillator. The set dial may be set for 15,000 kc. and the test oscillator may be generating a signal at 15,500 kc. instead of 15,000 kc. If the i-f were 450 kc., then this signal would produce an output in the set because 15,900–15,450 equals 450 (assuming set uses high beat-set oscillator at 15,450 kc.).

IRSM CONVENTION

* Event of the year for the radio serviceman is the New York City "1936 New York Radio Trade Show and 4th Annual Institute of Radio Service Men's N. Y. Convention," set for the Hotel Pennsylvania, Sept. 15 to 20, inclusive. Organization headquarters are at 510 N. Deearborn St., Chicago; secretary is Ken Hathaway.

READER'S WRITE IN ABOUT "RADIO'S CANCER SPOT"

Mfrs. again

"Your efforts to expose 'Radio's Cancer Spot' are certainly appreciated here. Frankly I cannot see how you can do anything about it until the big manufacturers... can find a way to void present laws against regulating retail prices." Barrow Radio, Great Neck, N. Y.

Consumer angle

"... as difficult as trying to correct the evils of Wall Street! I have a plan whereby the public and the radio manufacturers are protected. The Better Business Bureau, Federal Trade Commission, RMA, and IRSM operate only in individual cases.

Kelley Radio Service, Hempstead, N. Y.

Not so dizzy

"Here is one plan you may have missed—the 10 per cent discount plan." (This suggestion calls for legislation compelling dealers to sell to each other at a 10 per cent discount off the consumer price. Theory is that no dealer would price any item at less than he could afford to sell it for.—Ed.)

A DIZZY DEALER.

Engine numbers

"A serial number on each radio could enable manufacturers to stop price-cutting. Provided, however, that the manufacturers were really anxious to prevent this and would be willing to fight for that purpose.

New St. Hardware Co., New York City.

CUSTOM-FITTED!

For that fussy trade that insists on repairs that look as good as they work, you can bank on CLAROSTAT Exact Duplicate Controls because:

* DATA
* UNITS

Most complete listing of exact duplicate controls covering requirements of all standard sets.

FREE GUIDE Send today for that big 80-page CLAROSTAT Volume Control Replacement Guide No. 2. Meanwhile, see your local jobber about those custom-fitted CLAROSTAT controls.

VENIVIDIVICI

UNKNOWN MAGIC MAGNET SPEAKERS have brought to the radio industry a new concept of speaker performance. Manufacturers and Engineers were incredulous... unbelieving. It is greatly to the credit of the industry that foresighted manufacturers put them to every conceivable test and, when they had been proven—adopted them.

Amateurs, servicemen, public address technologists, quick to sense a revolutionary development, clamored for information and expressed their wholehearted approval with orders.

Thus, in an incredibly short space of time, CINAUDAGRAPH MAGIC MAGNET SPEAKERS came, saw and conquered.

Full technical data supplied on request.

CINAUDAGRAPH CORPORATION
Speaker Division, Dept. 1. Stamford, Connecticut

CINAUDAGRAPH

30 CHURCH ST., NEW YORK CITY
TRADE NEWS

* Earl S. Dietrich has been named manager of distributors' sales for the Raytheon Production Corp.; his headquarters will be at the company's New York City offices at 420 Lexington Ave. He will work under the general supervision of Raytheon's general sales manager, Edgar S. Riedel, whose headquarters continue at the company's Chicago offices, 445 Lake Shore Drive.

* Philco has filed suit in New York Supreme Court charging that RCA has used agents to entertain women employees of Philco in order to secure inside information about the making of the latter's radio sets. RCA vice-president and general counsel Manton Davis replied that "there is no foundation whatsoever to the charge that RCA attempted ... to obtain information as to the laboratory research, designs, distribution policies, or any other trade secrets of Philco."

* Wallace Clark, of the firm of H. W. Clark, Ltd., prominent wholesalers of Wellington, New Zealand, was a recent visitor to the Ken-Rad plants at Owensboro, Ky.


* Stanley Manson, long-time direct factory representative for Stromberg-Carlson, has been awarded a larger territory in which to function. Besides western New York state, Manson will cover the cities of Buffalo and Syracuse, and adjacent areas where Stromberg has recently appointed new jobbers.

**Perm-O-Flux**

PERMANENT MAGNET
Dynamic Speaker

Your Set Manufacturer's Requirements are Assured by Our
Unlimited Supply of a Rare New
Magnetic Metal

The metal was developed in the Continental laboratories and is manufactured right in the Continental plant. Continental engineers have brought this metal to such a degree of perfection that it is unequalled for radio speaker reproduction. Prominent set manufacturers are finding that the superior tone qualities of Continental Perm-O-FLUX Dynamic Speaker have materially contributed to increased set sales.

Among the Perm-O-FLUX features are: (1) a new type voice coil suspension that eliminates all possibility of rubbing; (2) a permanent flux density in the gap requiring no outside energy for field excitation, thereby reducing battery drain; (3) simplicity of installation; (4) no shielding required in automobile installation. The Perm-O-FLUX Speakers are available in many models and sizes. Complete literature on request.

Continental Motors Corporation
Radio Speaker Division
12801 East Jefferson Ave. - Detroit, Michigan

Polyiron Parts Give You
Greater Gain

Aladdin

Write for Bulletin 536
filed with valuable technical data. Aladdin Radio Industries, Inc., 4667 West Superior St., Chicago, Ill.
NEW Wright-Decoster 12" NOKOIL Speaker

TRADE NEWS

* Quam-Nichols Co., makers of Quam speakers, moved its factory a few weeks ago to 33rd Place and Cottage Grove Ave., Chicago. In its new home, Quam-Nichols has facilities to take care of the requirements of manufacturers and jobbers, and according to Jim Quan, president, and Miss Helen Staunland, his popular assistant, there is a welcome on the door at all times for visiting members of the industry.

* E. R. Kuhn, who was identified with the radio industry from 1932 to 1935 in important sales capacities, died at St. Joseph, Mich., July 23rd after an illness of a few days. Burial services were held at the Rose Hill Cemetery, Chicago, on July 27th and were attended by a number of prominent radio men, including Ernest A. Schuler, Joseph Saphar, David Lipsy, and others. At the time of his death, Mr. Kuhn was sales manager of the Cooper-Wellis Co., St. Joseph, Mich., hosier manufacturers. He is survived by a widow, two sons, a daughter and a brother. Paul Kuhn, head of the Burnett-Kuhn Co., Chicago, well known advertising agency.

Maximum SIGNAL..... Minimum NOISE

* TACO No. 200 System—product of years of specialized engineering... thousands of tests... present demand for the superior two-stroke engine.

* All-wave—broadcast, police, amateur, short-wave. Self-selecting—no switching for bands. Noiseless.

* Factory assembled, wired, soldered—ready to string up. No extras to buy.

Write for technical and sales data on this and other technical systems for any radio set, as well as master antenna system for modern home, apartment, hotel, etc.

TACO TECHNICAL APPLIANCE CORPORATION
Pioneers in Noiseless Antenna Systems
17 East 16th St., New York City

Ad

ONAN ALTERNATING CURRENT PLANTS OPERATE A.C. RADIO, PUBLIC ADDRESS SYSTEMS, SOUND CAR, EQUIPMENT, MOTION PICTURES. Can Be Used Anywhere
Supply Electricity for Camps, Cottages, Farms, Boats, Commercial Purposes and places where current is not available from power companies. Will Operate Water System, Refrigerator, Household Appliances.
Sizes to Suit Every Purpose
Built in sizes 350 to 96,000 watts. $115 and up. Supply 110 or 220 volt, 60 cycle, single or three phase current. Operate on Gasoline, Gas or Distillate. Also 32 volt. D.C. Models. All models furnished complete, ready to run.

Write for details
D. W. ONAN & SONS
564 Royalston Ave., Minneapolis, Minn.

Complete and Modernized Service. This Laboratory emphasizes nothing else can, the thoroughness of your work. It is ADVERTISING — SHOWMANSHIP — SALESMANSHIP all in one. Webber's complete line of Portable Radio Testing Instruments are all engineered with the same skill and care as the Official Radio Service Laboratory. Write for catalog.

EARL WEBBER COMPANY, Mfrs.
1217 Washington Blvd. Chicago, Ill.
CONFIDENT that present markets are unusually receptive and offer more than ordinary sales opportunities, the country’s leading electrical and radio manufacturers, distributors, and service organizations are cooperating in a mammoth presentation of their products and services to the vast Metropolitan New York Public in “An Exposition Created by the Industry, for the Industry, and the Public it Serves.”

The Electrical Association of New York, Inc., sponsors, take pleasure in presenting the following list of exhibitors in the 1936 National Electrical & Radio Exposition.

**RADIO**
- Ansley Radio Corp.
- Continental Motors Corp. (Speaker Div.)
- Crosley Radio Corp.
- Emerson Radio & Phone Corp.
- Fada Radio and Electric Co.
- Fairbanks, Morse & Co.
- General Electric Co.
- International Radio Corp.
- Majestic Radio & Television Co., Inc.
- Midwest Radio Corp.
- Pierce Aire Inc.
- Pilot Radio Corp.
- RCA Manufacturing Co., Inc.
- Radiobar Company of America Radio Lamp Co., Inc.
- Sparks-Withington Co.
- Stewart-Warner Corp.
- Stromberg-Carlinson Telephone Mfg. Co.
- United American Bosch Corp.
- Westinghouse Electric Sy. Co., Inc.
- Zenith Radio Corp.

**REFRIGERATION**
- Apex Rotarex Corp.
- Rex Cole Inc. (General Electric)
- Crosley Radio Corp.
- Fairbanks, Morse & Co.
- Frigidaire Corp.
- General Electric Co. (Hotpoint)
- Kelvinator Corp.
- Majestic Radio & Television Co., Inc.
- Norge Corp.
- Sears, Roebuck and Co.
- Sparks-Withington Co.
- Stewart-Warner Corp.

**VACUUM CLEANERS**
- Apex Rotarex Corp.
- Eureka Vacuum Cleaner Co., Inc.
- General Electric Co.
- The Hoover Company
- Premier Division, Electric Vacuum Cleaner Co.
- Singer Sewing Machine Co., Inc.

**OIL HEATING AND AIR CONDITIONING**
- Continental Motors Corp.
- Frigidaire Corp.
- Kelvinator Corp.

**MISCELLANEOUS**
- Bronx Gas and Electric Company
- Brooklyn Edison Company, Inc.
- General Electric Co. (RCA Mfg. Co., Inc.)
- (Fairbanks, Morse & Co.)
- Bushwick-McPherson Corp.
- (Sparks-Withington Co.)
- Caldwell-Clements, Inc.
- Davaco-City Radio, Inc.
- Electrical Testing Laboratories
- Home Furnishing Review
- Greater Society of London, Inc.
- The International Nickel Co., Inc.

**DOMESTIC APPLIANCES**
- Rex Cole Inc. (General Electric)
- The Fay Company
- General Electric Co.
- General Electric Sy. Corp.
- National Enameling & Stamping Co.
- Recluse & Schwartz Electric Co.
- Silex Company, The
- Singer Sewing Machine Co., Inc.
- Wesco Electric Co.
- Warren Telechron Company
- White Sewing Machine Company

**NATIONAL ELECTRICAL & RADIO SHOW**

Grand Central Palace, New York

Sept. 9-19 Daily incl. Sunday
11 a.m. to 11 p.m.

August, 1936
TRADE ON A GALLOP

— Westinghouse names head for new sales promotion dept.
— Majestic picks "vet" for director of sales

* Westinghouse Elec. and Mfg. Co. has named J. M. McKibbin as manager of its newly organized sales promotion department, to direct the activities of all district office sales promotion managers and to coordinate all apparatus sales promotion operations except those of the merchandising dept. McKibbin has been with Westinghouse for 16 years, has been sales promotion manager for Cleveland, Detroit, and Pittsburgh offices, moves to his new post from former managership of Industrial distribution.

* Commercial Trading Corp., Crosley dealer of Portsmouth, Va., has moved to new and modernized quarters at 702-704 High St.

GOVERNED POWER!
The Wind Successfully Harnessed At Last With the
GYROMATIC 6-VOLT WINDCHARGER

The success and life of any windcharger depends upon the efficiency of its governing device. The GYROMATIC patented principle of control efficiently, actually and visibly governs propeller speed under all conditions.

SIMPLE, STURDY CONSTRUCTION MADE POSSIBLE BY THIS PRINCIPLE REQUIRES LESS THAN HALF THE PARTS USED BY OTHERS

New Delco Remy Generator especially developed for windcharger work. The successful result of years of research and experiment. Sealed bearings that require no further lubrication.

NORMAL WIND

Radio Manufacturers write for details of NEW COUPON PLAN. There is an established demand for GYROMATIC WINDCHARGERS. Why not coupon the best?

STRONG WIND

Exporters write for details of our special export deal.

NEUTRAL OUT OF GEAR

Retail Dealers Ask how to get Highway Demonstrator that makes farm sales easy.

STEWART-WARNER PRESENTS NEW FINANCE PLAN

* Stewart-Warner Corp. is extending to its radio dealers a new nationwide non-recourse and limited recourse finance plan, according to announcement made at their national distributors' convention in Chicago last month. Under the new arrangement, dealers are relieved of total contingent liability with 100 per cent advance, or relieved of 3 months contingent liability with 100 per cent advance.

"Stewart-Warner thus becomes the first manufacturer to extend such cooperation to radio dealers," states F. A. Hiter, vice-president and general sales manager of the company. "This is in line with the plans introduced to our refrigerator dealers last March well in advance of any other manufacturer.

"When F. H. A. withdrew from the picture, the activities of First Bancredit were curtailed, and it was up to us to find some other way of helping our dealers with their financing. We have long realized the importance of some sound plan of credit selling in helping our retailers move merchandise. So we inaugurated a new plan.

"Working through the C. I. T. Corporation, Stewart-Warner now offers a retail radio finance plan along the same lines which have proved so helpful in selling refrigerators. Like the refrigerator plan, this will be administered on a sound and practical basis through the 144 branches of C. I. T."

L. J. (Lou) Stutz, one of the "veterans" of the radio industry, has been appointed sales manager of the Majestic Radio & Television Corp., Chicago, manufacturers of Majestic radio receivers. Lou Stutz entered the radio industry in its early days and for many years was a sales executive in the Fada organization, attaining outstanding success in Middle West territory. He has also been identified with prominent jobbing organizations and therefore is familiar with the merchandising of radio products on both sides of the picture.

* Ralph B. Austrian and M. F. Burns, widely known radio executives, have been elected assistant vice-presidents of the RCA Mfg. Co. Austrian, whose headquarters are at the company's 411 Fifth Ave. studios, in New York, will maintain close contact with motion picture producers and theatre circuit operators in the East, in connection with RCA Photophone's sound recording and reproducing equipment activities. Mr. Burns will establish similar contacts with the producers and large exhibitors on the West Coast, and will make his headquarters at RCA's Hollywood studios.

* Irving Sarlin, the dynamic radio merchandiser who was mentioned in July "Radio Today" as having been appointed radio buyer for the "Ludwig-Bauman chain," has more accurately received that appointment from the C. Ludwig Bauman Co., Brooklyn, N. Y.
Soon the RCA Radio Check-Up will start on its third year.

Check-Up activities will be more vigorous and resultful than ever during the new season starting in the fall.

- Spot announcements on stations that blanket the country.
- Interesting, convincing advertisements in *Saturday Evening Post* and *Collier’s*.
- Local newspaper advertising with which you can tie-in.
- Direct-mail material and lots of it.
- Window and store displays.

RCA Radio Tubes are the only ones promoted in such an aggressive manner, the only ones backed by a continuous promotion program that brings great benefits to you and your customers. It pays to stock, sell and push RCA Radio Tubes.

RCA MANUFACTURING CO., Inc.  
Camden, New Jersey  
A Service of Radio Corporation of America
Fixed resistor rack
* Sheet metal rack for holding pig tail resistors. Resistor inventory shown at a glance—easy to find any particular value. Free with purchase of 40 Centralab resistors. Centralab, Milwaukee, Wis.—Radio Today—See also advt. p. 44.

1937 Sentinel sets
* New Sentinel line is comprised of 24 receivers—both battery and AC types.

Model 66BCE illustrated above. 8 tube 8-volt battery superhet—tuning range 530-1,720, 1,600-5,800, 5,700-20,500 kc. 6E5 cathode-ray tuning indicator. Power output 11/2 watts.—battery drain 2.8 amps. Ten-inch dynamic speaker. List $89.95. 66BT table type—list $69.95.

Other Sentinel receivers:

Model Table Console

46AE 8T 3-band AC
47A 1IT 4-band AC
52AE 6T 3-band AC
57AE 9T 2-band AC
63B 4T 1-band 6V $29.95 $34.95
65B 6T 2-band 2V $39.95 $49.95
67L 6T 2-band 32V $39.95 $49.95
68B 6T 2-band 6V $44.95 $59.95
69U 5T 2-band AC-DC
70A 5T 2-band AC
71U 5T 2-band AC-DC

Tymit switch
* Clock operated switch for turning radio (or electrical appliance) on and off at any desired time over 24-hour period. Capacity of 660 watts. List $9.75 Tork Clock Co., Mt. Vernon, N. Y.—Radio Today

Simplex sound system

* Five watt portable sound system—gain of 58 DB. Heavy duty 6½-inch speaker. Two button carbon mike with 25-foot cable. All items contained in case for carrying—size, 9½ x 11½ x 4½. 110 AC operation. Model OP—list $37.95 complete. Simplex Radio Co., Sandusky, Ohio—Radio Today

Self-selecting antenna

* Deluxe antenna automatic circuit arrangement that permits maximum efficiency on broadcast or short-waves. Special armored wire with high-tension core around which copper conductors are grouped. No-loss cross bar insulator at top of antenna transformer. Complete and assembled—list $6.75. Technical Appliance Corp., 17 E. 16th St., New York City—Radio Today

Directional baffle projector

Philco de luxe aerial
* High-efficiency aerial with phosphor bronze wire, 60 foot flat top and 50 feet additional for supporting antenna supplied. Four Pyrex 8-inch insulation supplied and 4 8-inch standoffs. Special transmission line 100 feet long. Flat-top, aerial transformer, and line factory assembled. Complete with ground wire, clamp and lightning arrestor. List $32.50. Philco Radio & Television Corp., Philadelphia, Pa.—Radio Today

Inter-communicator by Holtzer-Cabot
* Two-way intercommunication system has been developed for hospital use—allows patient to call and talk directly with nurse, can be switched to reproduce radio programs, etc. Holtzer-Cabot Electric Co., 126 Armory St., Boston, Mass.—Radio Today

Tobe auto antenna

* Fish-pole type antenna for auto use. Consists of telescopic steel pole mounted on a bracket. Pole insulated from bracket by live rubber. Bracket fits on rear bumper of car. Furnished with lead-in wire. Pole is flexible enough to permit bending when car goes into garage. For use near broadcasting station antenna does not need to be extended. List $3. Tobe Deutschmann Corp., Canton, Mass.—Radio Today

Sectionalized sound system

* Sound systems for schools, hotels, stores, and institutions. Designed on section basis—each one taking care of 10 rooms. System has: radio (To page 68)
Leadership is Always on the Lookout

for

New and Better Products

Recognizing the need for better insulation for the grid cap on all metal tubes, ISOLANTITE, INC., has produced an assembly to meet this need. These manufacturers have already found that ISOLANTITE grid cap assemblies improve their tubes.

ISOLANTITE bases for special tubes where low losses are of paramount importance will be available soon.

ISOLANTITE for both ends of the metal type tubes will assure the best possible performance.

ISOLANTITE, INC., 233 BROADWAY, N. Y. C.

FACTORY AT BELLEVILLE, N. J.
**NEW THINGS**

(From page 68)

set, microphone, phonograph inputs — distribution of same. Two-way communications from central point to each point — emergency cut-in switch to all points. Webster-Chicago, 3825 W. Lafl'st, Chicago, Ill. — Radio Today — See also advt. p. 53.

**Iron-core i.f. transformers**

* I.f. transformers with iron cores and permeability tuning (movable cores) to provide stability. Primary and secondary tuned from top of can. Standard 1 1/8 inch aluminum shield. Withstand extreme conditions of temperature, humidity, vibration, and shock. Series L, Aladdin Radio Industries, Inc., 466 W. Superior St., Chicago, Ill. — Radio Today — See also advt. page 61.

**Emerson radio-phonograph**


**Gyromatic windcharger**


**West-o-therm thermometer**

* New type thermometer for household and office use. Model illustrated is wall type — solid walnut with temperature unit finished in old gold. Model 41H-1 — list $2.50. Other indoor and outdoor models from $1.50 up. Weston Electrical Instrument Corp., Newark, N. J. — Radio Today.

**Variac auto transformers**


**4-way utility mikes**

* Convenient mikes designed for use as desk, banquet stand, hand, and ring mountings. Special handle fits base making a desk stand. Easily removable for floor stand or suspension. Available with crystal (general purpose or communications) and carbon units. Gen. purpose crystal — model 701H — list $27.50. Shure Bros., 215 W. Huron St., Chicago, Ill. — Radio Today.

**Acousti-reflex speaker cabinet**


**Nokoil permo-dynamic speaker**


**Bullet dynamic microphone**


**Velotron microphone**

* Velocity microphone employing a static rather than magnetic field. Extremely high output of —50 DB. Maintains high fidelity characteristics even with close talking. High impedance but can be used with cable lengths up to 500 feet. Angle of pick-up somewhat greater than usual velocity mike. List $240. Bruno Labs., Inc., 40 W. 22nd St., New York City — Radio Today.

Radio Today
LATEST OFFERINGS OF RADIO LITERATURE

INFORMATION on any of the products listed below may be obtained promptly by using the post card herewith. Put a circle around the numbers of the items that interest you, fill out the card and mail. No postage needed.

This is an advertisers' service, free to anyone engaged in the radio business, and we ask you to mail your requests to those items in which you have a specific interest. All of these requests are forwarded to the respective manufacturers and are not filled by RADIO TODAY today.

USE THIS POSTCARD TO GET FREE INFORMATION
NO POSTAGE REQUIRED

119 Westou. Complete data on a new super-sensitive set analyzer having a sensitivity of 20,000 ohms per volt; resistance readings up to 50 megohms; current as low as .5 microampere.

120 Tung-Sol. Characteristic chart of metal "G," and glass tubes giving unusually complete data on all tube-types and diagrams of base connections using RMA numbering system.

121 C. I. T. Details of a dealer financing plan applicable to set sales or a combination of two or more acceptable articles in one contract.

122 Clough-Brengle. Bulletin on sales aids to be used by service men in conjunction with Clough-Brengle Cathode Ray Service Laboratory.


124 Transducer. Folder on the "Bullet" electro-dynamic microphone having extraordinary sensitivity in speech pickup.

125 Jefferson. Bulletin giving circuit and list of parts for 20-watt push-pull amplifier using 685 tubes. For PA and station amplifier work up to four dynamics.

126 Pioneer Gen-E-Motor. Literature on gas-electric power plants, 200 to 1,500 watts, for lighting, charging and driving light farm machinery.

127 Sentinel. Details of 1937 farm radio sets and Sentinel 1937 Sales Program.

128 Taro. Technical and sales data on antenna systems for individual sets and master antenna systems for homes, apartments, hotels, etc.


130 Stancor. Description of replacement transformer guble (card file in box). How obtainable, etc.

131 Aladdin. Bulletin 536 giving technical data on polyiron parts, notably IF transformers.

132 Dunn. Literature on gyroscopic wind-chargers using gyroscopic principle of control. Propeller speed governed visibly.

133 Electrolab. Leaflet on cathode ray oscillograph, electronic switch, direct-coupled amplifier and AC amplifier, for service and laboratory use.

134 Continental Motors. Six-page color folder presenting data on various types of Perm-O-Flux permanent magnet speakers.

135 Western Electric. Leaflet listing bulletins recently issued on numerous types of radio and sound equipment; police, marine, airport systems, etc. For broadcast station operators and sound engineers only.

136 Admiral. Literature on 1937 receivers featuring console models with "tilt tuning" and curved, inclined panels; also battery sets and auto radio.

137 RCA. Description of $3 hardbound of radio service business methods; 220 pages on administration and record-keeping. How to get book free.

138 Triumph. Details of special price offer on condenser bridge analyzers; preheaters and continuity testers.

139 Aerovox. Industrial condenser replacement bulletin No. 665, a guide to replacement condensers for condenser-start motors as used in refrigerators, oil burners and other fractional horsepower drives.

140 Tru-Jer. Circulars covering 1937 line of receivers including table and console types and two models of auto radio.

141 Ken-Rad. Sales plan to assist dealers and service men in developing better tube business.

142 Magnavox. Announcement of new 15-in. heavy duty dynamic speaker handling output of 81.6 tubes. Designed to eliminate need of dual speakers. Adaptable to PA.

FOR FREE SALES HELPS FILL OUT AND MAIL THIS CARD

Put circle around numbers upon which you desire information

To simplify your writing for dealer helps, merchandise booklets, etc., this service is offered without charge. Just fill out this card and mail promptly.

Please do not ask for literature in which you have no interest.

119 120 121 122 123 124 125 126
127 128 129 130 131 132 133 134
135 136 137 138 139 140 141 142

Your Name

Title

Name of Co.

Address

RADIO TODAY
480 LEXINGTON AVENUE
NEW YORK, N.Y.

BUSINESS REPLY CARD
FIRST CLASS PERMIT NO. 2239 NEW YORK, N.Y.

POSTAGE WILL BE PAID BY
RADIO TODAY

(Please do not remove)

Address

MAILING LIST AVAILABLE

FOR SALE or TRADE TO NON-AFFILIATED DEALERS

NO POSTAGE STAMP NEEDED IF MAILED IN THE UNITED STATES
FINGERTIP FACTS ON RADIO

RADIO TODAY'S ANNUAL RADIO TRADE DIRECTORY & DATA BOOK...SETS, PARTS AND ACCESSORIES...MANUFACTURERS AND PRODUCTS...MERCHANDISING AND SERVICING DATA.

Who's Who and Where to Buy
What Causes Interference
What Goes Wrong With Sets
What Instruments Can Do
What Voltages Are Needed
What Biasing Is Necessary

LIMITED EDITION
In handy, convenient size: 5 1/2 x 8 1/2 inches

CONTENTS: Names and Addresses of Manufacturers of Receiving Sets, coded to guide you in selecting amateur, commercial, farm and battery, home, radio-phonograph combinations and auto sets.

Names and Addresses of Manufacturers of Parts, Equipment and Instruments, segregated by lines to cover antennas, batteries, coils, condensers, generators, converters, line filters, microphones, public address equipment, resistors, speakers, etc.

SERVICING and Merchandising—CHARTS! TABLES!—just the kind of information every dealer and service man needs daily. It tells you what goes wrong with radio sets—and why; it gives you data on radio set analyzers; sources of radio noise—helps you look for interference—aids you in eliminating the trouble; it gives you tube ratings and bias resistor tables.

FILL IT IN—TEAR IT OFF—MAIL IT TODAY
Wilcox-Gay 1937 sets

* New line totals eight models—both AC and AC-DC operation. Unusual is the styling found in some of cabinets.


Other consoles:
A-20 6T 3-band AC $99.95
A-21 11T 3-band AC 99.95


Other table receivers:
A-11 6T 2-band AC $19.95
A-16 6T 2-band AC 22.50
A-17 6T 3-band AC-DC 26.95
A-18 6T 3-band AC 39.95


RCA beat oscillator


Globe Trotter radio


Admiral battery set

* 7-tube 6-volt battery receiver—only 1.7 amp battery drain. 4 tuning bands including weather—3-gang condenser. Class B audio output. 6-inch perno-dynamic speaker. Full-vision all-in-one dial. Model M551—list $59.95.

Other 6-volt battery models:
AZ583 6T 3-band cons. $69.50
B25 4T 2-band table 29.95
M578 7T 4-band cons. 79.50
2544 6T 3-band table 49.50


Speaker tester

* AC operated signal generator which delivers a variable audio signal to set. Covers audio range from 45-6,000 kc. suitable for testing all radio speakers including high fidelity. Model 055 speaker tester supplied in kit form for serviceman. Philco Radio & Television Corp., Philadelphia, Pa. — Radio Today

Weston super-sensitive analyzer

* Multi-range meter with sensitivity of 20,000 ohms per volt. 50 microammperes movement with 5-inch scale. Ranges available—voltage AC and DC, 2.5/5/10/50/100/250/1,000; current, 100 microammperes, 1/10/1/10/100 m. a.m., resistance, 0/3,000/30,000/3 mgs/30 mgs. Model 772—net $46.50 with carrying case. Weston Electrical Instrument Corp., Newark, N. J. — Radio Today — See also advt. p. 40.

Line noise filter


Velvet action mike stands

* New type microphone stand with friction clutch. Adjustment on clutch is adjusted to weight of mike—and mike can be lowered or raised without further adjustment. Rubber cushion mounting on base absorbs vibration. List—$7.50 to $12.50. Atlas Sound Corp., 1451 39th St., Brooklyn, N. Y. — Radio Today

Sportsman receiver


August, 1936 71
FOR RADIO-REFRIGERATOR DEALERS

* COOL and crisp, there comes from the Consumers' Market Section of the Department of Commerce a report on what 38,637 families are doing about refrigeration in their homes. Flat fact is that 31,685 of them are not doing anything about it—that number are without "boxes."

This series of reports is based upon conditions in 9 different cities: Austin, Tex.; Fargo, N. D.; Portland, Me.; Columbia, S. C.; Salt Lake City, Utah; Trenton, N. J.; San Diego, Cal.; Racine, Wis., and Birmingham, Ala. Washington began the survey in 1934 and will include 64 cities in the series before it is finished.

Market chances

When these investigators tabulated results, in which refrigerators were listed as only one of many items, families were divided into 9 different income groups, ranging from "no income" to $7,000 and over. There were, in the combined cities, more families listed as having an income of $41 to $499 than in any other one group. In fact, in Columbia 38.1% of the families reporting came within that classification.

Sales possibilities are revealed in the report where it can be seen that in some cities certain income groups are practically saturated with refrigerators, while in other localities the same income group has a small percentage of ownership.

For instance, in Salt Lake City and in Austin there are more families classified as receiving incomes of $500 to $999 than in any other one group. Yet in the Utah city about 25% own refrigerators, while in Austin only about 16% own them. Climate angle on this comparison is also interesting.

WHAT THE TRADE IS DOING

* Fairbanks-Morse has announced a series of new radio-refrigerator distributors: C. Kurtzmann & Co., for Buffalo and surrounding New York and Pennsylvania territory; The Olustee Co., Syracuse, N. Y., for central New York; R. B. Wall Co., for Wilkes-Barre, Pa., and area. To handle the FM Conservador refrigerator line throughout the state of Maine, Farrar-Brown Co., Portland, has been named.

* Stern & Co., Inc., Granum distributors of Hartford, Conn., have announced themselves as forthcoming hosts to refrigerator dealers on two trips: one over Labor Day on the S.S. "Evangeline" to Nova Scotia, the other after Jan. 1, 1937 by train to Chicago.

* Crosley Corp. has announced a huge contest for refrigerator salesman, prizes in which are 17 Chevrolets, 42 Shelvadors, 100 consoles, 153 wrist watches, and any number of Crosley "Fliver's." Contest opened July 10 and will end Aug. 31; affair was organized by Thomas W. Berger and is called "Hot Summer For Crosley Cold Refrigeration" prize contest.

* Among the few blessings of prolonged hot weather is the effect it has on refrigerator sales, which GE's specialty appliance sales manager A. M. Sweeney has checked up on. Carload orders from dealers and distributors have come in at an unusual rate; sales are rapidly rising among lower income groups especially.

* F. B. Connell Co., household appliance wholesaler for the Northwest with branches at Seattle and Spokane, Washington and Great Falls, Mont., and Portland, Ore., is celebrating its 50th birthday. Recent appointments in the organization are: C. A. Tabbs as manager of Spokane operations; Lowell Graut Jackson as sales representative in Idaho and Montana; R. D. Lord as sales representative in the Yakima and Wenatchee Valley.

* Electric refrigerator dealers of Sheboygan, Wis., launched a cooperative advertising and selling campaign for electric refrigerators when some 40 members of the Sheboygan Electric Refrigeration Bureau and their salesmen held a recent meeting at a local park.

Group was addressed by Gustav Marx, president, Gustav Marx Advertising Agency of Milwaukee, advertising counsel for the Milwaukee Electric Refrigeration Bureau. Officers of the Sheboygan bureau are L. L. Perry, manager; Hittei Meyer, treasurer, with F. W. Grunsel, G. W. Fedler and L. L. Perry members of the board of directors. Campaign consists of a series of newspaper advertisements, direct advertising, printed sales helps and bill boards. Prizes are offered as additional stimulation to dealers and salesmen to push the sales of electric refrigerators.

* W. Paul Jones, general manager for the home appliance division of Fairbanks-Morse & Co., has reported that shipments of FM Conservadors for the month of June past, were 207 per cent greater than for June of last year.

* Crosley Corp. has released a detailed description of a new product made by the company, a machine to grow hair, called the Xervac. Device is electrically operated, based upon the practice of using alternate periods of vacuum and pressure to restore blood circulation. Developed by Dr. Andre A. Cuen, Cincinnati physician, the machine is presented to the appliance trade as an attraction to all persons who wish to combat baldness.

Radio Today

A Tale of Nine Cities — A tep are charted the distribution percentages of families and "boxes" by income groups, averaged from a study of 9 towns made by the Consumer's Market Section of the Dept. of Commerce.

INCOME TRENDS AMONG 38,637 FAMILIES

POPULATION DISTRIBUTION

REFRIGERATOR DISTRIBUTION

72
COULD BUSINESS BE BETTER?

YOU CAN MAKE YOUR
BUSINESS BETTER BY SELLING SYLVANIA TUBES!

● One inferior tube can lose you a customer forever! Why take a chance? Sell Sylvania and be sure your customers will be pleased every time! Remember ... Sylvania quality never changes! Before a Sylvania tube ever reaches your shop ... eighty separate tests have been made for your protection! Here's what the Sylvania policy means to you: Fair list prices ... a six-months guarantee on every tube ... and valuable technical and sales help. Sylvania stands ready to make your tube business pay!

Put your tube business on a safer, more profitable basis now! For complete sales and technical information address the Hygrade Sylvania Corporation, Emporium, Pa.

SYLVANIA
THE SET-TESTED RADIO TUBE

This AUGUST ISSUE of RADIO TODAY CARRIES MORE PAGES OF ADVERTISING THAN ANY OTHER RADIO TRADE PAPER

And RADIO TODAY is just one year old!

August, 1936
General Household Utilities Co., Chicago, makers of Grunow products, early this month completed its reorganization plans and held a distributor meeting in the Windy City. Elected officers of the reorganized company were William C. Grunow, president; Allen G. Messick, vice-president; Ralph R. Trimarto, treasurer; Sidney L. Arneson, secretary.

Grunow jobbers at the convention heard about 3 additions to the radio line, the company's national advertising blanket and its tie-up with Shirley Temple. Featured exzes in the 2-day meeting were Walter Eckhardt, director of sales; Howard J. Shortle, general sales manager; Tod Reed, advertising manager; J. J. Davin, sales promotion manager.

More strengthening of the distribution set-up of the Stromberg-Carlson Telephone Mfg. Co. is seen in company. Nine distributing organizations have recently been added to the Stromberg sales organization: Parks and Huil of Baltimore, Md., serving the Baltimore area; American Sales Co. of Columbus, Ohio, covering 50 adjacent counties in Ohio; Hefty Sales of Madison, Wis.; Farrar-Brown of Portland, Me., serving the entire state of Maine; Graybar Electric Co. of Detroit for the Eastern half of the state of Michigan; Graybar Electric Co. of Pittsburgh for southwestern Pennsylvania and northern West Virginia; Graybar Electric Co. of Syracuse, N.Y. for the Syracuse area and the Graybar Electric Co. of Buffalo, N.Y.

G. K. Throckmorton, executive vice-president of the RCA Mfg. Co., announces changes and appointments in the RCA Victor executive sales organization: Paul C. Richardson has been appointed manager of field activities, with headquarters at Camden, N. J. Henry C. Houlig, formerly manager of the western division, has been transferred to Camden headquarters to take up new duties in the sales department. Vance Woodcox, formerly in the sales department, has been appointed manager of a newly created central division, with headquarters at Chicago.

Prior to his association with RCA Victor, Richardson had been engaged in special merchandising activities for the Curtis Publishing Co. and the Saturday Evening Post. He brings to his new duties several years of experience in the radio field where he served as general sales manager of the Pierce-Phelps, Inc., radio distributing company of Philadelphia. He was also advertising manager of the American Installation Corp.

* Seutinel Radio Corp., Chicago, has made extensive alterations in its present factory and has branched into another new plant; increased facilities amount to almost doubling the company's capacity.

* Parker H. Erickson, radio sales manager for the home appliance division of Fairbanks-Morse, has reported that over 1,500 radio dealers have written to the FM offices for information about the company's new radio line.

Woodall leaves McGraw-Hill to head own direct mail business

W. P. Woodall, who organized and managed the direct-mail division of McGraw-Hill for over 10 years, resigned, effective August 1st, to start in business for himself. He has organized the W. P. Woodall Company, which will specialize in advertising and selling by mail. Offices of the new company have been established in the Printing Crafts Bldg., 461 Eighth Ave., New York City. Mr. Woodall's company will handle industrial, radio trade and mail-order lists and will operate as consultants to manufacturers and advertising agencies in planning and conducting mail campaigns to complement publication advertising and direct selling campaigns. His radio lists will be operated in cooperation with Radio Today.

SALES PROMOTION MATERIAL SELLS RADIO!

- You get faster turnover with G-E Radio, because the promotion service that:
  - Attracts prospects to your store
  - Direct mail
  - Movie trailers
  - Radio broadcasts
  - Newspapers, foreign, full-line spots
  - Banners
  - Listener's Guide
  - Political Reporter
  - Newpapers

- Gives your window "buy" appeal
  - Deluxe window displays
  - Four-in-one window displays
  - Bubbling sign
  - Mounted Ad reprints
  - Streamers

- Puts across a sales message inside your store
  - Spot display
  - Feature panels
  - Pennant display
  - Domestic, foreign, full-line spots
  - Tone Tester
  - Folderv
  - Broadcast demonstration schedule
  - Feature price tags

- Trains your salesmen to make more sales
  - Sales training films
  - Sales training manuals
  - Phonograph portfolio
  - Trade-up pencil
  - Certificate of Salesmanship
  - Bandmaster Club

- Helps you plan your own promotions
  - The Bandwagon
  - Window display manual

With this complete point-of-sale service to support the hard-hitting, national G-E Radio magazine advertising that thousands of your local prospects read, you are bound to make more sales and more PROFIT!

For further details write your local G-E Radio Distributor, or General Electric Co., Radio Division, Bridgeport, Connecticut.

INDEX TO ADVERTISEMENTS-See page 73
Step-up Values That Make It Easier For Salesmen To Step Up In Price

There are EXTRA and BIGGER PROFITS in store for you when you go after the "sell up" business with General Electric Focused Tone Radio. Every step up in price is fully justified by a step up in demonstrable values. Features that the buying public can understand and appreciate. Features that are really "hot" with reason-why selling arguments. Features that fit every price bracket and meet the standard of performance demanded by every type of customer. Features your salesmen CAN show and demonstrate. It's a matter of simple salesmanship to break sales records and cash in on this "trade-up", profit-making opportunity.


FEATURES THAT HELP YOU "SELL UP" FOR PROFITS

G-E Colorama Dial—automatically flashes from red to green when the receiver is in perfect tune.

G-E Automatic Frequency Control—instantly and automatically lines up the receiver on peak of resonance with the incoming signal.

G-E Local Station Personalizer—a "custom-made" scale that flashes the station's call letters as you tune in.

G-E Silent Tuning—eliminates all noise while tuning between stations.

G-E Metal Tubes—for stabilized performance.

G-E Sentry Box—directs and controls reception.

G-E Sliding-rule Tuning Scale—lists all stations in a straight line, using a separate scale for each band. It's "as easy to read as a ruler."

GENERAL ELECTRIC

APPLIANCE AND MERCHANDISE DEPT., GENERAL ELECTRIC COMPANY, BRIDGEPORT, CONN.
UNFILLED ORDERS GREATEST IN COMPANY'S HISTORY!

Stampede to New Line puts business at Record Peak

YOU HAD BETTER SIGN THE COUPON, TOO

6 TABLE MODELS
FROM $49.95

21 CONSOLES
FROM $78.50

5 RADIO-PHONOGRAPHS
FROM $199.50

12 LABYRINTH MODELS
FROM $149.50

THIS RUSH of orders from dealers and distributors shows their appraisal of the new 1937 Stromberg-Carlsons—truly radio's magnificent line—offering not only more exclusive features, but a broader range of choice.

MORE CONSOLES, in number and variety—12 having the season's most talked-of radio feature, the Acoustical Labyrinth.

MORE TABLE MODELS—3 of them with rosewood cabinets.

MORE RADIO-PHONOGRAPHS, starting at a remarkably low price for instruments of Stromberg-Carlson quality.

WIDER PRICE RANGE—$49.95 to $985.00.

And attractive features, nearly all exclusive, such as Tri-Focal Tuning, Carpinchoe Leather Speakers, Indexed Knobs, Automatic Sensitivity Control, and Free-floating Phonograph Pick-up. There is Nothing Finer Than a Stromberg-Carlson.

Only Stromberg-Carlson has the Acoustical Labyrinth

This exclusive Stromberg-Carlson feature takes the unnatural boom out of radio voices and music, and provides deep bass notes with a new fidelity.

The long, winding passageway of the Labyrinth, lined with a special acoustical material, takes the place of the usual box-like cavity in the cabinet which is the source of the exaggerated boom in the low tones.

The air passage of the Labyrinth is so tuned and proportioned that it not only removes this exaggeration, but greatly extends the range of bass notes that are effectively reproduced. The Labyrinth also increases the volume capacity and accuracy of the loud speaker.

CUT OUT AND MAIL THE COUPON TODAY

STROMBERG-Carlson Telephone Mfg. Co.
138 Carlson Road, Rochester, N.Y.

Send me illustrated broadside of your 1937 Radio line

Name
Street
City
State

Sparrows indicate path of air column which is tuned to increase bass response.