

WILLIAM DUBILED
339 GARDEN ROAD
PALM BEACH, FLORIDA 33481

RADIO

Catalogue and Dealers'

GUIDE



WHOLESALE ONLY

TIMES APPLIANCE COMPANY, INC.

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NEW YORK CITY

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Wholesale Only

WILLIAM DUBILIER
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1925-1926

Radio Catalogue & Dealer's Guide



Introduction

Catalogues covering the following lines will be supplied upon request:

Westinghouse Heating Appliances	Westinghouse Safety Switches
" Ranges	" Panel Boards
" Fans	American Blower Ventilating Apparatus
" Mazda Lamps	Free-Westinghouse Sewing Machines
" Motors	Everhot Electric Cookers
" Lighting Fixtures	Electric Washing Machines
" Fuses	Burgess Flashlights

Index: See last pages for alphabetical index of material.

Quotations: All quotations are F. O. B. New York warehouse. Merchandise will be delivered FREE to the following points:

North—to and including Mt. Vernon and Yonkers.

East—to and including Jamaica, L. I.

South and West—to and including Perth Amboy, New Brunswick, Dunellen, Summit and Paterson, N. J.

Any shipments from our warehouse to points beyond those named are F. O. B. point of shipment.

Terms: Net thirty days, 2% discount for cash ten days. Delay in payment of invoices promptly when due will result in no further shipments being made until such invoices are paid.

Price Changes: Prices are subject to change without notice. All orders are accepted with the understanding that goods will be billed at prices in effect on date of shipment.

Telephone Calls: The reversal of telephone charges on out of town calls will not be permitted. All telephone orders should be confirmed.

Patent License: All goods are sold subject to the terms and conditions in regard to patents and patent licenses which each separate manufacturer has in effect.

Truck Deliveries: All deliveries of packages that the truckman can be reasonably expected to carry on one trip from truck to customer's premises, shall be delivered to the customer's premises; deliveries that cannot be reasonably so transported to customer's actual premises shall be made on sidewalk at designated entrance to building.

Return of Materials: All goods are sold subject to manufacturer's guarantee and conditions. No goods will be accepted for repair, adjustment, credit, or other reason unless written authority for the return has first been secured from our Repair Department.

Returned Material will be classified as follows:

1. For Repair:
Defective merchandise within the terms of the manufacturer's guarantee will be repaired free-of-charge. All other repairs will be charged for at the usual rates.
2. For Replacement:
We guarantee radio material sold by us to be free from electrical and mechanical defects. Defective material will be repaired or replaced at our option, but cannot be returned for credit.
3. For Credit or Exchange:
No merchandise will be accepted for credit or exchange without approval of Sales Manager. Such returns or exchanges which are approved will be subject to a 10% restocking charge.

Claims for Shortages: All claims for shortages or errors in shipment must be made immediately upon receipt of goods. No such claims will be allowed unless received within five days of the delivery of the shipment. Any claims for goods damaged in transit must be submitted direct to the carrier.

The Times Appliance Company, Inc., will not be responsible or liable for any loss, damage, detention or delay caused by fire, strike, civil or military authority or by insurrection or riot, or by any other cause which is unavoidable or beyond its immediate control; nor in any event for consequential damages.

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TIMES APPLIANCE COMPANY, INC.

RADIOLAS, RADIOTRONS AND ACCESSORIES

Manufactured by
RADIO CORPORATION OF AMERICA



Radiola 30

In presenting the De Luxe instrument of the RCA group of radiolas, attention is drawn to the very fine appearance of the cabinet, the practical method of mounting the component parts, the simplicity of tuning control and the master achievement of present-day radio developments, i. e., *complete operation from A. C. lighting circuits—eliminating all batteries.*

Radiola 30 embodies the new RCA eight-tube Super-Heterodyne, Radiola Loudspeaker Model 100 of the Cone type, the latter being driven by a rectifier-power amplifier unit termed a Multi-Rectron, which provides plate, grid and filament voltages for the entire combination.

Requiring no antenna, Radiola 30 operates from a self-contained loop, and because of the sensitivity and selectivity of the new eight-tube circuit, it provides unusual performance under the most exacting conditions imposed by broadcast transmitting stations.

With the new RCA Cone Loudspeaker, the new power amplifier tube and the power unit, Radiola 30 provides quality of reproduction hitherto unattained, and volume in excess of that ordinarily required. The volume can be increased or decreased to any desired degree without sacrifice of tone quality.

Radiola 30 will prove the leader in the quality field among radio receivers.

RADIOLA 30, Complete, ready for A. C. operation \$575.00

Radiola 28—a desk model of the new RCA eight-tube Super-Heterodyne, with sufficient space to accommodate all of the necessary dry batteries—represents a popular priced edition of the new RCA eight-tube circuit.

The radio mechanism of Radiola 28 is precisely the same one that is employed in Radiola 30, giving an unusual degree of selectivity and sensitivity. The new RCA uni-control tuning mechanism is employed, together with "straight line frequency" variable condensers giving equal spacing of all stations on the tuning scale. Like Radiola 30 and other Super-Heterodyne sets in the RCA line, Radiola 28 requires no antenna or external connection and provides reception over extreme distances under favorable conditions on its attached loop.

When Radiola 28 is dry battery operated, either Radiola Loudspeaker UZ-1325 or Model 100 is recommended. For those who desire increased volume, Radiola Loudspeaker Model 102 or 104 is recommended.

When Radiola 28 is used with Model 102 Loudspeaker, the set itself is dry battery operated. The Loudspeaker is driven from the lighting mains. When Radiola 28 is used with Model 104 Loudspeaker, the rectifier-amplifier unit (Multi-Rectron) which is a part of the Model 104 cabinet, may be connected to Radiola 28 by a special cable furnished by the Radio Corporation of America, so that Radiola 28 and the Loudspeaker itself are operated completely from A. C. lighting mains.

The novelty of placing super-power loudspeakers at a distance from the broadcast receiver is a practice which will meet with universal popularity, when the improved quality and increased volume which these loudspeakers provide have been demonstrated. Even when operated by dry batteries, Radiola 28 gives loudspeaker volume far in excess of that obtainable from storage battery operated receivers.

RADIOLA 28, with Radiotrons (less batteries and loudspeaker)	\$260.00
RADIOLA 28, with Radiola Loudspeaker Model UZ-1325	278.00
RADIOLA 28, with Radiola Loudspeaker Model 100	295.00
RADIOLA 28, with Radiola Loudspeaker Model 102	400.00
RADIOLA 28, with Radiola Loudspeaker Model 104	505.00



Radiola 28



Radiola 25

RADIOLA 25

is a second-harmonic, six tube Super-Heterodyne. This circuit is firmly entrenched as a permanent feature of the Radiola line. Experience has demonstrated that it meets every demand of the broadcast listener, with respect to selectivity, distance-getting capabilities, volume and distortionless reproduction.

Radiola 25 is equipped with the new Radiotron UX-120 dry battery power amplifier, thus giving volume in excess of the average type of radio receiver operated by storage batteries. Space is provided in the cabinet for housing all the batteries, the internal battery connections being appropriately tagged to simplify the procedure of connecting up dry cells.

The new RCA uni-control mechanism, with "straight-line frequency" condensers, is employed in this Radiola. Thus, for most purposes, local or long distant stations may be tuned in by a single tuning control. For increased sensitivity and long distance reception, this control may be operated as a double tuning control, thus giving the maximum refinement in tuning.

Radiola Loudspeaker Model UZ-1325 or Model 100 is recommended for Radiola 25 when dry battery operated; but, as in the case of Radiola 28, either the Model 102 or Model 104 Loudspeaker may be employed.

When Radiola 25 is used with Model 104 Loudspeaker, the rectifier-amplifier unit in the Loudspeaker cabinet may be employed to energize the plate, filament and grid circuits of the radio receiver, thus giving complete operation from the lighting circuit.

No antenna is required and the loop is mounted immediately on top of the case.

Radiola 25, with Radiotrons (less batteries)	\$165.00
Radiola 25, with Radiola Loudspeaker Model UZ-1325	183.00
Radiola 25, with Radiola Loudspeaker Model 100	200.00
Radiola 25, with Radiola Loudspeaker Model 102	305.00
Radiola 25, with Radiola Loudspeaker Model 104	410.00



Radiola 20

RADIOLA 20

a new five-tube, balanced radio-frequency receiver of the uni-control type, equipped with variable regeneration. This set is destined to prove a pacemaker among five-tube radio broadcast receivers.

The predominating features of this set are extreme sensitivity and great selectivity than that obtained by the average type of five-tube circuit. The sensitivity is such that radio reception is realized over very great distances with an antenna of relatively small length. Normal operation can be obtained from a single antenna wire, approximately 75 feet in length. Reception can be obtained from local stations and from stations located at considerable distances with a small indoor wire aerial. Provision is made to adapt the set to aeri-als of various lengths.

A particularly important feature of Radiola 20 is the uni-control method of tuning, the tuning condensers for all three radio frequency circuits being mounted on the new vertical drum control dial developed by the RCA. Thus, station after station may be brought in on the loudspeaker merely by turning this single tuning control from zero to its maximum position. Provision is made for marking the call letters of the station, and once the positions are marked, the stations will always be located at that same spot.

Radiola 20 will more than equal the performance of the average type of five-tube, tuned radio-frequency receiver with the regeneration control set at zero.

The volume obtained from Radiola 20 with dry battery operation will exceed the anticipations of the broadcast listener, for it is designed to work with Radiotron UX-120 in the last audio stage. The freedom from distortion, the clarity of tone, and the outstanding value of the receiver will be noted from a single demonstration.

Like other Radiolas, Radiola 20 may be connected to the Model 102 or Model 104 Loudspeaker.

Radiola 20, less Radiotrons	\$102.50
Radiola 20, with Radiotrons	115.00
Radiola 20, with Radiola Loudspeaker Loudspeaker UZ-1325	133.00
Radiola 20, with Loudspeaker Model 100	150.00

CABINETS



CABINET MODEL No. 220
For Radiola No. 20

Height 28 inches.
Width 20 inches.
Depth 17 inches.

List.....\$25.00

Every prospect for a Radiola No. 20 is a good prospect for one of these attractive cabinets, because the cabinet is so very practical and useful in its appeal, yet inexpensive; allowing all batteries, wires, etc., to be concealed within the cabinet.

Mahogany finish to match Radiola No. 20.

CABINETS



CABINET MODEL No. 225
For Radiola No. 25

Height 28 inches.
Width 29 inches.
Depth 20 inches.

List.....\$33.50

Improve the appearance of the Radiola No. 25.

This Cabinet is a beautiful piece of furniture, and is an excellent match for the design of the Radiola No. 25. Shelf on side for loud speaker and compartment for the Radio Corporation of America's Duo-Rectron Model AP 937.



RADIOLA SUPER VIII

The RADIOLA Super-VIII offers advantages to the purchaser wherever located, particularly in apartment houses and those thickly populated districts where there is not sufficient room to erect a multiplicity of antennas.

The Radiola Super-VIII will receive on its concealed loop more distant broadcasting stations than can be heard with most other sets which use an outdoor antenna. Due to its scientifically balanced circuit and its improved loud speaker, the quality of production is far superior to any heretofore obtained.

The internal loop gives an additional freedom from interference in that it may be so turned that it will not pick up the interfering station. Complete control of the loop by means of a knob on the panel simplifies its adjustment and permits of its being concealed.

The Super-Heterodyne circuit has undergone radical changes in the form of the Radiola Super-VIII. The six Radiotrons give results equal to other types of receivers employing eight or nine tubes. These Radiotrons are operated by dry cells, thereby eliminating the inconvenience of storage battery maintenance.

The ease and accuracy of tuning are two of the greatest features of Radiola Super-VIII. Removable cardboard discs are provided which may be clamped in place over each of the two tuning dials. As each station is first tuned in, a mark is made on the discs where the pointer comes to rest and the station's call letters are written at that point. Once located, any station may be repeatedly selected at the same point even though the set be removed to another locality.

Radiola Super VIII—Complete with all Radiotrons, enclosed loud speakers and adapters for UX-120, everything except batteries \$340.00

RCA Radiola 26

Radiola 26, the popular portable Super-Heterodyne, meets particular requirements not met by any other type of radio receiver. It was designed for loop and antenna operation and for both portable and home use and therefore occupies a unique position in the RCA group.

Radiola 26, is a complete and self-contained portable six-tube SuperHeterodyne which can be carried from place to place and will provide reception over great distances. Inasmuch as it is a home set as well as a portable, it is always furnished with a battery box for home use which provides space for full sized batteries, which are more economical for home use where weight is no determining factor. For reception over unusual distances in home use, an antenna coupler is also provided. This device renders, the sensitive Super-Heterodyne even more sensitive and enables reception over exceptional distances. Tuning is accomplished by a third station selector which is handily mounted on the front of the battery box.

In addition to fulfilling all these duties, Radiola 26 may be connected to Model 102 or Model 104 Loudspeaker. This gives it the unusually fine quality of reproduction and volume which these loudspeakers provide.

Radiola 26, with Radiotrons and Home Battery Box, complete and self-contained (less batteries) \$225.00



RADIOLA X

Radiola X, using four Radiotrons WD-11, is a super-sensitive and highly selective broadcast receiver of the antenna type. The attractive mahogany cabinet contains everything necessary to operation—a built-in, new type of loud speaker, battery compartments—everything in fact, except the batteries and such necessary externals as the antenna and ground.

The circuit consists of one-stage of tuned radio frequency, regenerative detector, and two stages of audio-frequency, the second stage of which is of the balanced type and employs two tubes. Four Radiotrons are thus made to do the work of five in this new receiver of unusual results.

Radiola X is the receiver for general use where the erection of an antenna is easily possible. It is non-radiating and is designed for a degree of selectivity that will prove a revelation to the purchaser—selectivity far beyond that of the average type of antenna receiver.

While an antenna receiver, Radiola X, differs in all respects from the usual type of receiver, which operates on an outdoor wire. It does not radiate, and therefore will not annoy one's neighbors. It incorporates a degree of selectivity that will prove more than adequate for all possible conditions of service. This selectivity is not obtained at the sacrifice of signal strength; on the contrary, sensitivity has been markedly increased by the development of an ingenious new circuit providing superlative performance.

Points of Superiority

Radiola X is a highly attractive article of furniture. It will blend artistically in any home surroundings. Placed on a table or stand, it will enhance the appearance of the living or music room while it serves its primary purpose as a limitless source of entertainment in the home.

The "Regenoflex" circuit utilized in Radiola X renders the four WD-11 Radiotrons as effective in their sensitivity as the usual five tube receiver.

One filament rheostat controls all Radiotrons. So positive is this instrument in its operation that no individual or minute adjustments are required.

Radiola X—Complete with four WD-11 Radiotrons, and built-in loudspeaker; everything except batteries and antenna \$150.00

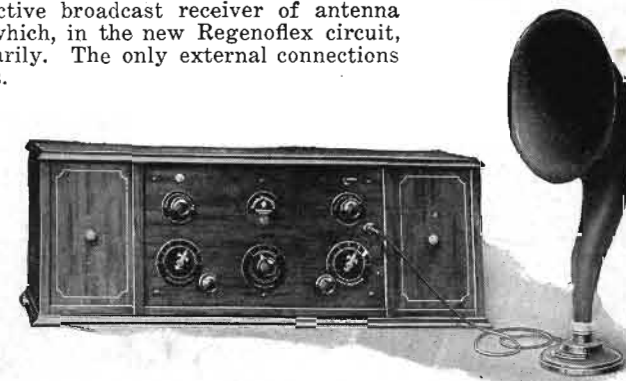
RADIOLA REGENOFLEX

RADIOLA REGENOFLEX incorporates all those features which are inherent to Radiola X, excepting, of course, the cabinet and built-in loud speaker. Offsetting these two points of difference, however, is the lower price of the Regenoflex, for those who may desire this remarkable receiver in that form.

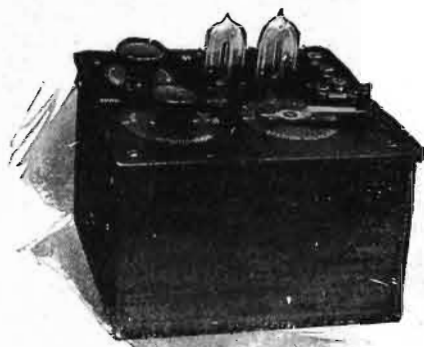
It is a super-sensitive and highly selective broadcast receiver of antenna type. It employs four Radiotrons WD-11, which, in the new Regenoflex circuit, will give results equal to five, as used ordinarily. The only external connections to be made are the antenna and ground leads.

Radiola Regenoflex is a step beyond any existing type of antenna set, both in efficiency and performance, quality of loud speaker reproduction and sensitiveness, for it embodies the most highly developed engineering principles known at present to the art.

Radiola Regenoflex, with four WD-11 Radiotrons and Radiola loud speaker, but less batteries and antenna \$120.00
Same as above, without Radiotrons and loud speaker, batteries or antenna 90.00



RADIOLA III



Radiola III is a high grade regenerative broadcast receiver employing two Radiotrons WD-11. One stage of audio frequency amplification is provided, utilizing improved transformers for purer amplifications. Radiola III may be adapted to antennas of various lengths, and a choice of two types of tuning circuits is afforded. One is a sensitive tuning circuit, for either local or long distance reception, and the other is a more selective circuit for use when local interference is present.

Radiola III will also be supplied upon request with one UX-120 tube and one UX-199 tube together with two adapters, instead of WD-11 tubes. This new equipment makes it possible to use the latest development in tubes with this set, and secure very much greater volume.

To use the new tubes, it is not necessary to make any internal changes or connections to the set. A small resistance (approximately three ohms) should be placed in series with the plus "A" lead to supplement the present rheostat. The battery cable remains unchanged except that the plus "B" 20 volts is increased to 45 volts, plus "B" 40, 90 volts to 135 volts, the "C" voltage to 22½ volts and the "A" to 4½ volts. Detailed instructions and diagrams for these connections will be furnished upon request.

Radiola III, including two Radiotrons and adapters as specified, and one set of head phones; but without batteries or loud speaker..... **\$24.50**
Radiola III stripped **15.00**

RADIOLA BALANCED AMPLIFIER

In order that loud speaker performance may be had with Radiola III on distant as well as local stations, the Radiola Balanced Amplifier has been produced. It has the same finish as Radiola III and is built in the same proportions, so that when placed beside Radiola III the match is perfect. The Amplifier uses two Radiotrons WD-11 arranged in a special balanced circuit to eliminate distortion of voice and music.

Radiola Balanced Amplifier used with the Radiola III when equipped with the UX-120 tube and the UX-199 tube, will also be supplied upon request with adapters and two UX-120 tubes in place of the usual two WD-11 tubes.

The same instructions as to battery connections apply to the Radiola Balanced Amplifier using these new tubes, as apply to the Radiola III.

The Balanced Amplifier equipped with the new tubes, when connected to Radiola III, using the new tubes, gives a truly wonderful performance exceeding by far the performance of this combination when used with WD-11 tubes.

Radiola Balanced Amplifier, including two dry cell Radiotrons and adapters, as specified, but without batteries, loud speaker or headphones..... **\$23.00**

Radiola Balanced Amplifier Stripped **18.00**



RADIOLA III-A

Radiola III-A is Radiola III and Radiola Balanced Amplifier in one case. It is somewhat more portable and compact, for those who wish to purchase the two units together. Otherwise, it is, point for point and feature for feature identical with the Radiola III and Radio Balanced Amplifier.

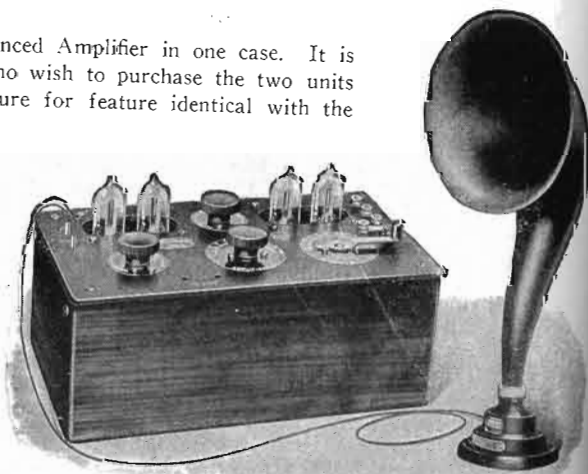
Radiola III-A will be supplied when requested with one UX-199 tube, three UX-120 tubes and four adapters.

Radiola III-A when used with the new tubes is connected to its battery equipment in the same manner as Radiola III. Full instructions and diagram will be furnished on request.

Radiola III-A when equipped with the new tubes, gives a truly remarkable performance of this set when used with WD-11 tubes.

Radiola III-A including four Radiotrons and adapters, as specified, one pair head phones, except batteries and loud speaker **\$49.50**

Radiola III-A stripped **35.00**



RADIOLA IN DE LUXE CABINET

Catalogue No. 33



A beautiful genuine walnut cabinet, 22⅞" x 14⅝" x 14⅞" for Radiola III-A or for the combination Radiola III and Balanced Amplifier with built-in loud speaker and ample space for all batteries, including full size "B" batteries. The loud speaker unit consists of an aluminum tone arm and a three ply violin maple bell, smooth finished, assuring maximum quality and volume. The Radiola loud speaker unit is used. A hinged top permits easy accessibility to the battery compartment.

AND NOW UX-120 FOR GREATER VOLUME

In addition to the De Luxe Cabinet, and where increased volume is desired, we suggest the use of three of the new dry battery power amplifier Radiotrons, UX-120 in the first and second audio frequency stages of the III-A. The Balanced Amplifier, when it is separately used with the III, will be equipped with the two UX-120 Radiotrons, while the Radiola III will have a UX-199 Radiotron in the first stage of audio frequency amplification. Tests of the III-A employing a UX-199 Radiotron as a detector and three UX-120 Radiotrons as audio amplifiers show a 100% increase in volume and a marked improvement in the quality of reproduction.

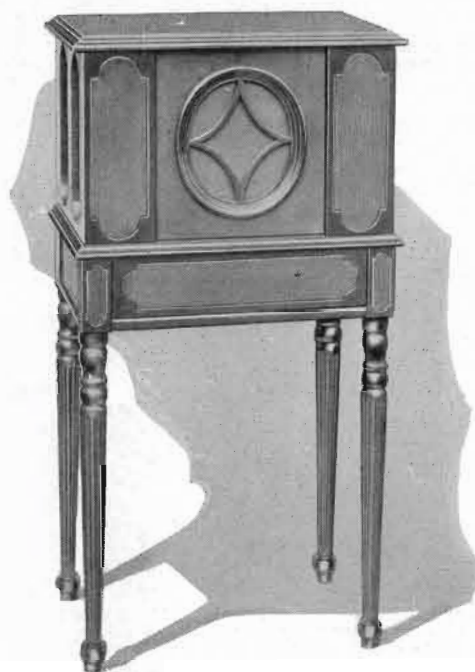
Special adapters when inserted in the WD-11 sockets of the III, Balanced Amplifier and the III-A will take UX-199 or UX-120 Radiotrons. It is not necessary to make any internal changes or connections to the sets. A small resistance (approximately three ohms) should be placed in series with the plus "A" lead of the III-A to supplement the resistance of the present rheostats. The battery cable remains unchanged except that plus "B" 20 volts is increased to 45 volts, plus "B" 90 volts to 135 volts and "C" voltage to 22½ volts and the "A" to 4½ volts.

In the case of the III and the Balanced Amplifier combination, two UX-199's should be used in the III and two UX-120 Radiotrons in the Balanced Amplifier. As in the case of the III-A, a small resistance should be inserted in the plus "A" lead and suitable increases in the "A," "B" and "C" voltages to take care of the UX-199's and UX-120's.

"By using the UX-199 and UX-120 Radiotrons, the volume is so increased that the aerial may be considerably shortened allowing a greater degree of selectivity to be had when desired."

Radiola in De Luxe Cabinet, complete with Radiola III-A, or combination III and Balanced Amplifier, special adapters, one UX-199 and three UX-120 Radiotrons, and loud speaker unit.

\$67.50



RCA Loudspeaker Model 104

RCA LOUDSPEAKER 104

The new RCA Loudspeaker Model 104 is a revolutionary development in the loudspeaker field—revolutionary in performance and in mode of operation—marking a milestone in the amazing progress effected during the past four years in radio broadcasting.

Radiola Loudspeaker 104 is destined to prove the sensation of the radio industry, for it provides distortionless reproduction at volume equal to that of an orchestra or band playing at the broadcast transmitting station, and does this with fidelity of tone unexcelled by anything heretofore produced.

Model 104 employs a rigid Cone, which is energized by a powerful electro-magnet. The source of driving power for the Cone is Radiotron UX-210, a super-power amplifier which permits very large volume without distortion.

To obtain the plate and filament voltages for the operation of the UX-210 amplifier tube, Model 104 Loudspeaker is equipped with a rectifier-power amplifier device, termed a "Multi-Rectron," which also provides grid, plate and filament voltages for the operation of Radiola 25 and Radiola 28 when they are used with this speaker. The rectifier-amplifier unit embodies a new principle of operation which enables complete operation from 110 volt, 60 cycle A. C. source.

When Model 104 Loudspeaker is used to operate Radiolas 25 and 28, fluctuation of voltages on the lighting mains is taken care of by the new Radiotron Ballast Lamp UV-876. Regulation of the filament voltage for the UX-199 tubes in the radio set itself is obtained by Radiotron UX-874 or a special resistance.

Radiola Loudspeaker Model 104 introduces to the broadcast listeners an important point not achieved in ordinary types of loudspeakers, namely, faithful reproduction of the bass tones of the musical scale. It also reproduces the higher frequencies in the musical scale which are lost entirely in many loudspeakers

of the horn type. The complete acoustical range provided by Model 104 has not been approached in any other design. Equally important is the fact that the volume of the Model 104 may be varied from a whisper to a torrent of sound by the usual volume control on the radio receiver without the slightest loss in fidelity or clarity.

Model 104 Loudspeaker may be connected to the first audio stage of any type of Radiola, and the combination of the two will provide a surprising performance. It may also be connected to the first audio stage of any type of broadcast receiver; but the extraordinary performance for which it was primarily designated is realized to the fullest extent when it is used with RCA Radiolas.

**RADIOLA LOUDSPEAKER
MODEL 104, with all necessary
Radiotrons and Rectrons . . . \$245.00**

RCA LOUDSPEAKER 100

In keeping with its reputation for leadership, the Radio Corporation of America has developed this radically new type of Loudspeaker for direct use with either dry battery or storage battery operated receivers.

Model 100 Cone Loudspeaker is a component part of the Model 102, and provides the same excellent tonal quality, though not the same volume. It is unusually sensitive, and volume without distortion is obtained when it is used with such sets as Radiola 20, Radiola 25 and Radiola 28, or sets of similar audio output. This loudspeaker reproduces as exact tones the frequencies which ordinarily are reproduced only as noise. It is these frequencies which are necessary to recreate voice and music with natural fullness and purity.

When used with a Radiola the acoustical frequency range of the combination is practically equal to the tonal range of the average radio transmitter.

**RADIOLA LOUDSPEAKER
MODEL 100 \$35.00**



RCA Loudspeaker Model 100



RCA Loudspeaker, Model No. 102

RCA LOUDSPEAKER 102

This is another development of the Radio Corporation which is bound to gain popularity among broadcast listeners who desire improved tone quality and volume from present-day types of broadcast receivers. Model 102 is, in a sense, a junior edition of Model 104, possessing the very fine tonal qualities of the Model 104 unit with lesser volume. The maximum volume obtainable, however, is greatly in excess of that secured from the ordinary types of loudspeakers.

The same amazing mellowness and clarity of tone obtained from Model 104 are realized in Model 102 and, as in the case of the more powerful speaker, the Model 102 may be connected to the first audio stage of any Radiola or any other type of broadcast receiver.

Model 102 Loudspeaker is supplied with a rectifier-amplifier unit, termed "RCA Uni-Rectron Model AP-935," which provides grid, plate and filament voltages for the operation of the super-power amplifier tube, Radiotron UX-210 from 110 volt, 60 cycle AC lighting mains. The use of this loudspeaker, will increase the operating life of the batteries in any type of broadcast receiver.

**Radiola Loudspeaker Model 102, with
Radiotron and Rectron \$140.00**

RCA UNI-RECTRON AP 935

The Uni-Rectron is the same rectifier-power unit that is included in the Model 102 Loudspeaker. It may be connected to the first audio stage of any type of broadcast receiver, and any existing type loudspeaker, to supply a stage of super-power amplification, operated from a 110 volt, 60 cycle source. The result is a tremendous increase in volume, and a marked improvement in tone quality.

The owner of a broadcast receiver who desires increased volume and improved loudspeaker reproduction will find the Duo-Rectron the most highly perfected A. C. power driven amplifier yet developed.

**Uni-Rectron, Model AP-935 with Radio-
tron UX-210 and Rectron UX-216-B. \$105.00**



RCA Uni-Rectron, Model AP 935

RCA DUO-RECTRON AP 937

Another proof of RCA leadership is found in its new "B" battery eliminator, "Duo-Rectron AP-937." A device to supply plate voltages from a 110 volt, 60 cycle A. C. source.

Taps are provided giving plate voltages of 22½, 45, 90 and 135 volts. The maximum current obtainable is 50 milliamperes.

As usual, RCA has gone further than to design merely a "B" battery eliminator. The tendency to falling voltage, characteristic of devices of this kind when they are under load, have been duly considered. Through the provision of Radiotron Glow Lamp, UX-874, the plate voltage at the outlet taps is maintained practically constant at all current outputs, from the minimum to the maximum of 50 milliamperes.

Through a special design of the filter system, A. C. hum has been eliminated. Thus, RCA presents a unit which can be guaranteed to supply the necessary plate voltages of any existing type of radio broadcast receiver.

**RCA Duo-Rectron, Model AP-937 with
Radiotron UX-874 and Rectron UX-
213 \$65.00**



RCA Duo-Rectron, Model AP 937

RADIOLA LOUDSPEAKER

Model UZ-1325

As a result of extended research and study of the science of reproducing voice and music, by the great laboratories at its disposal, the Radio Corporation of America offers the Radiola Loud Speaker.

An analytical investigation of the undesirable characteristics of former types brought to light many important discoveries. It was determined that the size of the diaphragm, the area of the air chamber at either side of the diaphragm, the shape of the horn and the material of which it is made, all had to be scientifically coordinated to achieve that high quality of reproduction which the Radiola Loud Speaker now embodies.

Unusually intelligible speech reproduction, faithful translation of the higher and lower notes of the musical scale and the recreation of the complex tonal vibrations of the orchestra or the band are the outstanding features of this new device. It is a scientific achievement and an artistic revelation, giving forth the renditions of the artists in all their true beauty just as they are given in the broadcasting studio.

True and realistic reproduction upon demonstration is not the only good quality to be desired in a loudspeaker—continuity of perfect service is of equal importance to the owner. In the UZ-1325, the sturdy construction of its horn and base, its extra large magnets, and its precise electrical construction insure years of perfect service with ordinary care.

All of the Radiolas put out by the Radio Corporation were designed specifically to fit the operating characteristics of this new Loud Speaker, thus giving more pleasing translation of broadcasted entertainment than anything heretofore produced.

Radiola Loudspeaker UZ-1325 \$18.00



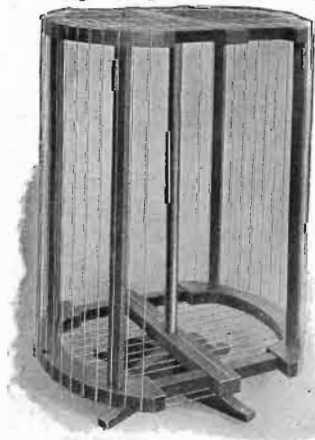
RADIOLA LOOP ANTENNA

Model AG-814

In order that the Radiola Super-Heterodyne may utilize all of the advantages of the very best permanent receiver, while it is acting in that capacity, a new rotatable loop antenna has been designed for use with it to provide still greater distance reception.

Model AG-814 Loop Antenna greatly reduces maintenance expense of batteries and Radiotrons because the employment of the larger loop enables the user to cover the same distance as secured with the smaller self-contained loop with less current.

Due to the large amount of research and development work expended on the design of this improved loop, various characteristics have been incorporated which have greatly increased the efficiency of the "pick-up" or the ability to efficiently abstract energy from the passing electro-magnetic waves,



and also in reducing to a minimum the losses which are usually present in the ordinary types of loops. For these reasons, a greater voltage is supplied to the Radiola Super-Heterodyne and increased signal strength results.

This is practically the only loop available that will permit both "Stations Selectors" to have approximately the same setting for a given station. In other words, if a type of loop different from either the self-contained loop in the Radiola Super-Heterodyne or the AG-814 is employed, the inductance may not be of such a value that the pointer of "Station Selector 1" will agree with the position of "Station Selector II".

It will be found that there are two positions, 180 degrees apart, at which the signal is practically inaudible. This fact may be used to advantage in eliminating interference from undesired broadcasting stations. Should interference occur, just turn the loop slowly and the position will soon be found at which the desired signal comes in with a minimum of interference.

Radiola Loop Antenna AG-814 in "knocked-down" form,
Easily assembled without tools \$12.00

A.C. PACKAGE UP971

This package contains the necessary accessories to change the Radiola No. 25 from D.C. battery operation to A.C., 60 cycle, 110 volt operation when Radiola No. 25 is used with Model No. 104 Loud Speaker.....\$35.00

A.C. PACKAGE UP972

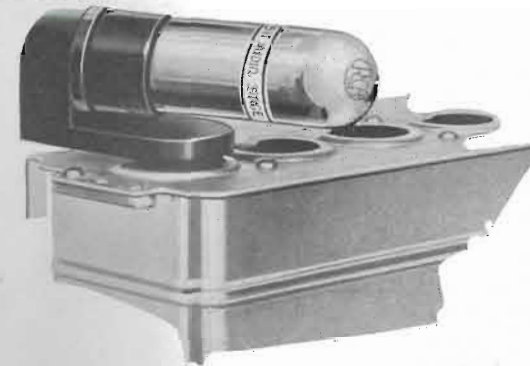
This package contains the necessary accessories to change the Radiola No. 28 from D.C. battery operation to A.C., 60 cycle, 110 volt operation when Radiola No. 28 is used with Model No. 104 Loud Speaker.....\$35.00

RCA ADAPTER UR556

By means of the RCA Adapter UR556, the UX120 Radiotron may be employed in the last audio stage of the Radiola Semi-Portable Superheterodyne or Radiola Super VIII, thus giving the volume and quality of reproduction obtainable from the Radiola No. 25. Used in this way Radiola Loud Speaker UZ1325 or the Model No. 100 Cone is recommended.

This adapter is equipped with binding posts to connect the extra "B" and "C" Battery voltage required for the UX120 Radiotron.

RCA Adapter UR556..... \$1.50



RADIOTRON UX-120

Radiotron UX-120 is a new dry battery amplifier tube designed to provide increased loud speaker volume and improve quality of reproduction from dry battery operated sets. It is suitable for use only in the last stage of audio frequency amplification. With the output of this new Radiotron connected to a loud speaker such as the Radiola Loudspeaker UZ-1325, it will provide volume double that obtainable with Radiotron UV-201-A, used under the same conditions.

The new Radiolas 20, 25, and 28 are made with the RCA small UX sockets, so that no adapter is necessary in these cases.

The plate potential should be 135 volts, supplied by three blocks of 45 volt batteries, or six blocks of 22½ volt batteries. The negative grid or "C" battery required is 22½ volts.

A very large demand for Radiotron UX-120 throughout the nation is certain to develop.

Radiotron UX-120\$2.50



RADIOTRON UX-210

Radiotron UX-210 is a super power amplifying tube of exceptional merit designed to produce loudspeaker volume considerably in excess of that obtainable with present types of tubes. To obtain great volume without distortion from overloading in the last stage of audio frequency amplification requires a tube of the capabilities of this new Radiotron. UX-210 will operate on a filament source of 6 to 8 volts, preferably 8, and a plate voltage of 90 to 425. The grid bias or "C" battery varies from 4½ to 35 volts, depending upon the voltage of the "B" battery employed.

It is recommended that Radiotron UX-210 be operated from an AC source, from which the full voltage values may be more easily and economically obtained than from a battery supply. RCA supplies such a device in its Uni-Rectron AP-935, which is a completely AC operated power amplifier stage of audio frequency and amplification, and employs a Radiotron UX-210 as the amplifier. UX-210 is also used in Radiola Loudspeaker Models 102 and 104. A wide market for its sale is anticipated shortly after its announcement, particularly from those who desire undistorted output from the loudspeaker.

Radiotron UX-210\$9.00

RADIOTRON UX-112

Radiotron UX-112 has been developed to meet a demand for increased loudspeaker volume and improved quality of reproduction in radio sets operated by storage batteries, where Radiotron UV-201-A is now used in the last stage of audio frequency amplifications.

As an audio amplifier, Radiotron UX-112 occupies a position midway between the dry battery power amplifier Radiotron UX-120 and the AC operated super power amplifier Radiotron UX-210. It operates from a 6-volt filament source. The plate potential should be 135 volts, with a negative grid bias of 9 volts.

Radiotron UX-112 will find wide use among owners of present type of five tube, storage battery operated sets.

Radiotron UX-112 \$6.50





RADIOTRON WD-11

This tube attained instant popularity because of its economical operation on a single 1½ volt dry cell and its consumption of but 0.25 ampere. A single 22½ volt "B" battery unit will prove very satisfactory in the plate circuit for head phone operation, though potentials up to 90 volts may be employed when used for radio or audio amplification. The proper operating filament terminal voltage (measured at the socket terminals) is 1.1 volt and the filament should then glow at a dull red heat.

Radiotrons WD-11 is very stable in operation. The WD-11 may be used as a detector, as a radio-frequency amplifier, or as an audio-frequency amplifier.

The WD-11 is equipped with a special base which requires a WD-11 socket or WD-11 adapter. A rheostat of 6 ohms should be used.

Radiotron WD-11 \$2.50

RADIOTRON WD-12

Radiotron WD-12 is identical to WD-11 except that WD-12 is designed to fit the standard socket. Like the WD-11 tube, Radiotron WD-12 is noted for its economy. The filament, which should glow not brighter than a dull red, consumes only 0.25 ampere and operates on a single dry cell. The proper operating filament terminal voltage (measured at the socket terminals) is 1.1 volts.

The WD-12 is highly recommended because of its stable operation. It is an excellent detector and will give good volume either as an audio-frequency or radio-frequency amplifier.

Since Radiotron WD-12 is equipped with the standard Navy base this tube may be used in any set using standard sockets. It can also be used in the RCA standard sockets. It requires a rheostat of 6 ohms.

Radiotron WD-12 \$2.50



RADIOTRON UV-199

UV-199 is the smallest of the Radiotron family and consumes only 0.06 ampere. It is an excellent detector as well as an audio-frequency and radio-frequency amplifier. Radiotron UV-199 contains thoriated tungsten filament which operates at a temperature far below the melting point of the filament material. The socket terminal voltage is 3.

The UV-199 is recommended for its high emission at low filament temperature, its quietness of operation and long life, together with its ruggedness and uniformity of operation. A rheostat of 33 ohms is recommended.

Radiotron UV-199 \$2.50



RADIOTRON UV-200

UV-200 is a specially designed tube for detection purposes which embodies all the characteristics—stability, long life, uniformity—necessary for faultless performance.

Radiotron UV-200 is supplied with a standard base and can be used as a detector in radio circuits equipped with standard sockets. It is the ideal detector tube where uniform characteristics are required for critical receiving adjustments.

Voltages in excess of 28 to 30 should not be applied to the plate of Radiotron UV-200. The normal plate voltage is from 15 to 23.5 volts.

The normal voltage to be maintained at the filament terminals of UV-200 is 5 volts. A rheostat of 6 ohms is required.

Radiotrons UV-200 \$2.50



RADIOTRON UV-201-A

Radiotron UV-201-A is a high vacuum tube which, while an excellent detector, is intended to be used primarily as an amplifier for either audio or radio frequencies. It fits the standard socket and draws 0.25 ampere at 5 volts measured at the socket terminals. It operates from a 6 volt storage battery.

Radiotron UV-201-A has a very long life and the electron emission from the filament is exceptionally great. Like the UV-199, it has a thoriated tungsten filament.

Used with a one tube set it may be operated from four dry cells in series. Radiotron UV-201-A requires a rheostat of 8 to 12 ohms.

Radiotron UV-201-A \$2.50



TUBES



RADIOTRON UX-200, with the new RCA standard base, is exactly the same as the UV-200 in all its operating characteristics.

Radiotron UX-200...\$2.50



RADIOTRON UX-201-A, with the new RCA standard base is identical to the UV-201-A in its electrical characteristics; it will fit either the new RCA standard base or navy bayonet socket.

Radiotron UX-201-A...\$2.50



RADIOTRON UX-199 on operation is the same as the UV-199. The only differences are in the bases.

Radiotron UX-199...\$2.50



RADIOTRON WX-12 has the new RCA standard base and is identical to the WD-11 and WD12, except for the bases.

Radiotron WX-12...\$2.50



RECTRON UX-216-B is a high power (65 milliamperes output), half-wave rectifier, which will be employed in the new rectifier-amplifier units. A tube of the general characteristics, construction and operating life of UX-216-B is not to be confused with certain inferior types of rectifier tubes which have an extremely short operating life.

Rectron UX-216-B \$7.50



RECTRON UX-213 is a full-wave rectifier giving an output of approximately 68 milliamperes and designed especially for the new RCA "B" Battery Eliminator. It will also become a part of the "B" battery eliminators to be produced this coming season by other manufacturers.

Rectron UX-213...\$7.00



RADIOTRON UX-874—Voltage regulator tube for regulation of plate voltage of devices designed for rectified AC operation of radio receivers.

Radiotron UX-874 \$5.50



RADIOTRON UV-876—Ballast lamp for keeping constant output voltage despite variation in line voltage, in rectified AC devices.

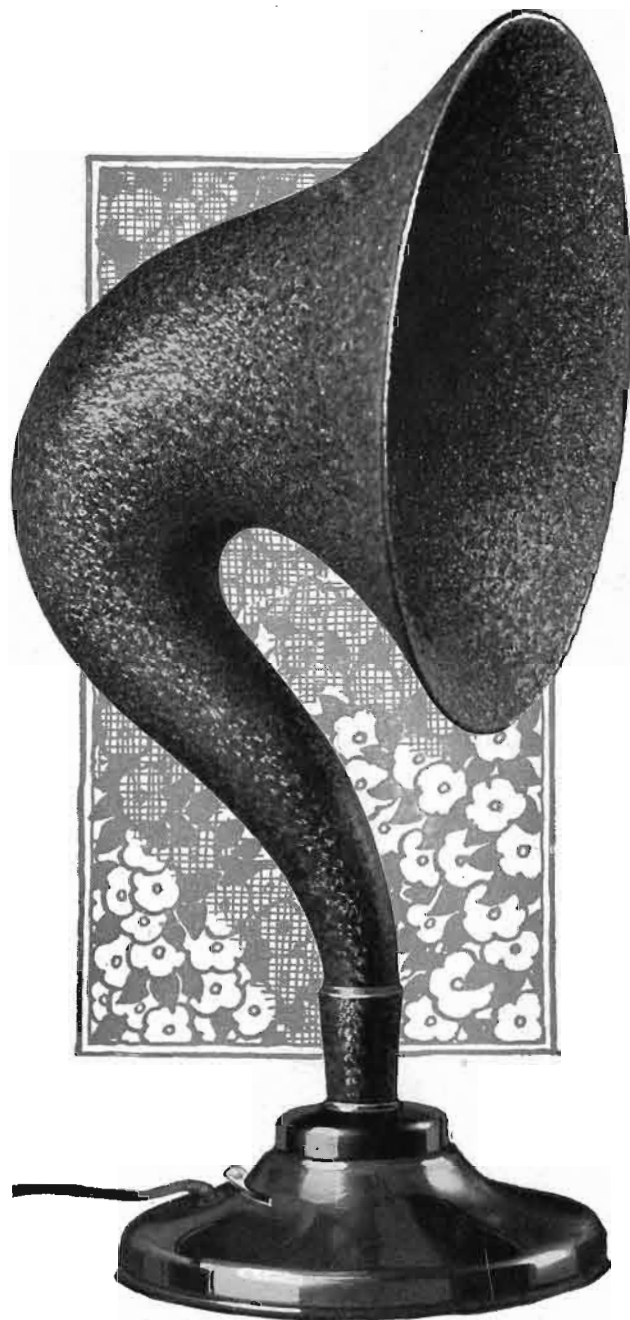
Radiotron UV-876 \$6.50



RADIOTRON UV-877—Protective tube against "shorts" in plate circuit of radio receivers. This is particularly useful in protecting filaments from being burned out.

Radiotron UV-877 \$1.75

Brandes Products



THE ADJUSTABLE TABLE-TALKER

Catalogue No. 400

This is an improved Table-Talker at the old low price.

It is built to meet the need for a Speaker that will sell easily to those customers in moderate circumstances. It gives the best quality of reproduction obtainable at the price.

1. It has a gooseneck horn which produces clear, more rounded and mellow tones.
2. The Table-Talker is only 18" high, and has a 10" diameter of bell.
3. It is finished in a pleasing shade of brown with a felt padded base, and is sold under the Brandes money back guarantee.
4. The adjustment lever which controls the volume and the sensitivity of the speaker is located at the rear of the base.
5. No extra batteries are required for operation.

List Price \$10.00

Brandes - Experts in radio acoustics Since 1908

Brandes Products

TYPE H SPEAKER

Catalogue No. 600

There is a very definite demand for two types of horn speakers — one, the Table-Talker, which gives the public great value at a low price—the other, the new Type H Speaker which meets the needs of those who want supreme performance and are willing to pay for it.

1. The new Type H Speaker is unusual in quality and beauty, and we believe it will be accepted as the standard of comparison.
2. It has laminated pole pieces which inherently increase the efficiency of the electro magnets, and thus afford great volume from a minimum of current input.
3. The volume of the speaker is also increased by the provision of a separate path for the alternating magnetic flux (supplied by the alternating current) which eliminates the customary practice of having the alternating magnetic flux pass through the large permanent magnets.
4. This special alternating magnetic flux path also improves the quality of reproduction and minimizes the possibility of demagnetizing the permanent magnets.
5. The large diaphragm used in the new Type H Speaker adds to the low range of the speaker and improves reproduction over the full frequency range from 200 to 4,000 cycles per second.
6. The speaker is made adjustable by means of a thumb screw at the back of the base.
7. The semi-gooseneck horn with its large bell clarifies and amplifies the tones—making them more round and mellow.
8. The speaker is 26¼ inches high with 12¼ inches diameter of bell.
9. The base is an art design casting. The shape of the base and the finish of the speaker were especially chosen to meet the demand for better looking horn type speakers.



List

\$18

Brandes - Experts in radio acoustics Since 1908

Brandes Products

CABINET SPEAKER

Catalogue No. 700



The new Cabinet Speaker is especially designed for well appointed homes. It has quality of tone, built into a beautifully simple cabinet, finely finished. It is of the correct size to fit on top of the average receiving set.

1. The unit used in the cabinet speaker is of the same construction as that of the unit of the large horn speaker Type H.
2. The horn is of special molded construction, providing 27½ inches of air column, which construction and length produce mellow rounded tones and unusual volume.
3. The cabinet speaker is 14 7/16 inches wide, 9 7/8 inches deep, and 9 5/16 inches high.
4. It is mahogany and finished to harmonize with all types of modern furniture.

List Price \$30.00

Brandes - Experts in radio acoustics Since 1908

Brandes Products

CABINET CONE

Catalogue No. 1,000



This is a cone type speaker encased in a beautiful cabinet of very attractive design. It is finely finished in dark mahogany and a splendid mantel or library table ornament.

The unit used is of special design. The magnets are very large: there is no diaphragm, but a small armature which reacts to the faintest impulses, thus reproducing extremely low and high tones. This armature is actuated on the push-pull principle which makes for greater volume over the entire range of the speaker and greatly improves quality.

The Brandes Cabinet Cone Speaker is 12 inches high, 9 inches wide, and 8 inches deep.

List Price \$38.00

Brandes - Experts in radio acoustics Since 1908

Brandes Products

PHONOGRAPH ATTACHMENT

Catalogue No. 800



Ever since the inception of radio the public has been in need of a phonograph attachment which would not be materially affected by moderate variation in the sizes of good phonograph horns, or the weight of their air columns.

For use with the horn of a phonograph, the unit of the cabinet speaker has been made available suitably encased for this application.

1. This unit has laminated pole pieces, a separate alternating magnetic flux path, a large diaphragm, and a thumb screw volume adjustment.
2. It is easily attached to the reproducer arm of the phonograph, by means of a flexible rubber connector.
3. The phonograph attachment is made adjustable by means of a thumb screw at the back which changes the position of the magnets in their relation to the diaphragm, providing maximum volume for nearby and distant reception.

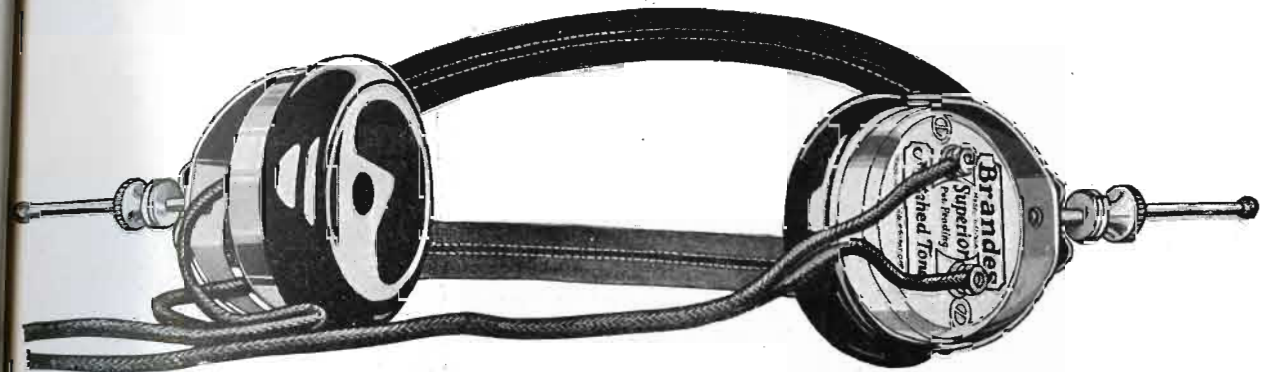
List Price \$10.00

Brandes - Experts in radio acoustics Since 1908

Brandes Products

MATCHED TONE SUPERIOR HEADSET

Catalogue No. 100



Brandes Superior Headsets are matched in tone, which means that the two receivers reproduce exactly the same sound at the same instant.

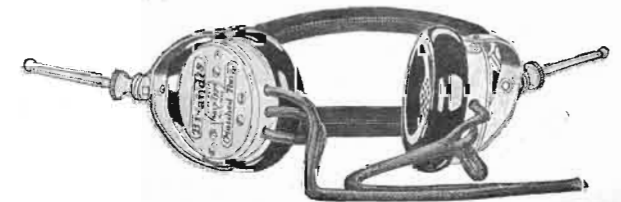
1. They are light in weight and extremely comfortable, having hard rubber caps to give accurate setting of the diaphragm, improved acoustical quality, and add to the comfort of the wearer.
2. The cords are especially designed with twisted copper tinsel instead of copper braid, reducing losses, eliminating cord noises, and improving reproduction.
3. These headsets have a correct alternating current impedance of 11,000 ohms at 800 cycles.
4. The clutch on the headband allows comfortable adjustment to the head.
5. The featherweight headband is of steel wire, covered with seamless fabric.

List Price \$4.50

NAVY TYPE HEADSET

Catalogue No. 200

The Navy Type Headset was designed for use in research work and laboratory experimentation where inductance and capacity would affect the character of the experiments. It proved so highly effective for avoiding capacity effects that Brandes offered it to the trade for resale to amateurs and radio experimenters who were having difficulty with headset cord capacity.



List Price \$6.00

Brandes - Experts in radio acoustics Since 1908

Brandes Products

AUDIO TRANSFORMER

Catalogue No. 500



Since 1908 Brandes has specialized in acoustical research, and the improvement of the audio circuit of the radio receiving set, which, in the final analysis, determines the quality of the reception. This research has resulted in:

1. The development of a new audio transformer which amplifies without distortion over a normal frequency range of 200 to 4000 cycles per second with the high voltage amplification ratio of 1 to 5.
2. A transformer so designed that two stages of audio amplification may be employed without in any way sacrificing quality.
3. Outside soldering terminal connections and a screw mounting base.
4. A completely shielded transformer.

List Price\$4.00

Brandes - Experts in radio acoustics Since 1908

AMPLION

The Amplion is the creation of the originators and oldest makers of loud speakers—ALFRED GRAHAM & CO., LONDON, ENGLAND—who have licensed the THE AMPLION CORPORATION OF AMERICA to market and manufacture Amplions under GRAHAM patents. The Amplion, the world over, is a quality loud speaker.

AMPLION PEDIGREE

In 1887—Mr. Alfred Graham demonstrated the first practical loud speaker which the world had ever heard.

In 1893—Graham Loud Speakers commercially produced.

In 1894—Graham Loud Speakers first used in the British Navy. Graham transmitters applied to phonographs for loud speaking reproduction. Demonstrations given by Professor McKendrick at the Royal Society.

In 1896—Graham loud speaking naval telephones developed and adopted by the British Admiralty.

In 1898—Graham Watertight Loud Speakers patented. Placed on many warships and mercantile vessels throughout the world. Graham Telephonic Submarine Signalling System devised.

In 1902—Complete Graham Loud Speaker installations, on central battery plan, erected on warships as the sole means of communication aboard ship.

In 1906—The most extensive loud speaker naval installation to date, made by Grahams, including a Graham exchange system fitted to British warship "Dreadnought."

Onwards—Graham Loud Speakers applied to all sorts and conditions of service in many countries and on many seas.

By 1919—No less than 12,000 Graham loud speaking installations in operation on ships alone.

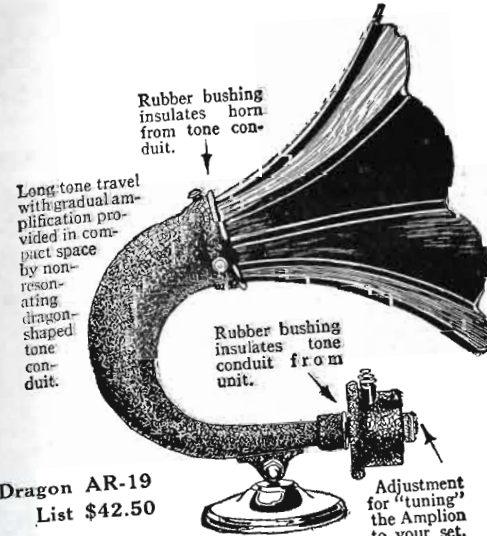
In 1920—(Long before other loud speakers were even thought of) "AMPLION" Loud Speakers produced for wireless by Alfred Graham & Co. "AMPLION" trade mark registered.

In 1922—AMPLION adopted as standard equipment by leading makers of radio sets abroad.

In 1923—The AMPLION introduced into the United States, Canada, and remaining portions of the world. Quickly attained the largest sale of any loud speaker.

In 1924—The Amplion Corporation of America formed to import and later to manufacture Amplions in this country.

In 1925—Amplion firmly established in popularity among American music lovers, with sales exceeding expectations.



Dragon AR-19
List \$42.50

20 1/2" high. Mahogany finished horn, 14 1/2" diameter. Crystalline enamel on sound conduit and unit. All Amplion Loud Speakers have weighted nickel plated bases, hinged to permit tilting horn to any angle. Units removable.



Junior "De Luxe"
AR-114 List \$27.50

15" high. Wood paneled mahogany finished horn, 10" diameter. Crystalline enamel on tone conduit and unit.

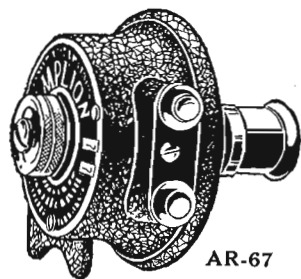


Junior AR-111 List \$24.00

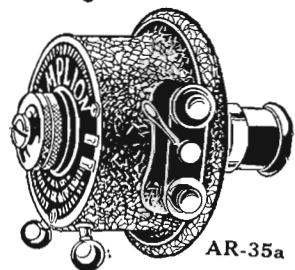


Dragonfly AR-102 List \$12.00

A perfect replica, on a reduced scale, of the Amplion Junior. 9" high. Metal horn 5 1/2" diameter. Crystalline enamel on horn, conduit and unit.



AR-67



AR-35a

AMPLION Loud Speaker Units with Adaptors to Fit Phonographs

Each unit packed in neat carton with rubber adaptor.

Standard Model AR-67

Produces exceptional volume without use of a battery or power amplifier. Adjustment knob at rear of all units permits tuning the Amplion to each individual set. Unit finished in crystalline enamel.

Price \$19.00

Concert Model (with double resistance switch) AR-35a

Gives extraordinary volume without battery or power amplifier. Equipped, however, with double resistance switch to permit its use with a power amplifier when extreme volume is desired.

Price \$25.00

All Amplions supplied with cords (Blade Type)

The "Floating Diaphragm"—Exclusive!

One of the outstanding exclusive features which account for the Amplion's supreme and permanent sensitivity, purity, clarity and natural tone, is the "Floating Diaphragm." This vibratory diaphragm is, first, composed of a special metal which experience has demonstrated superior to any other known substance. Second, the Amplion diaphragm is not pierced with holes—Amplion design exclusively eliminates the passage of retaining screws through the diaphragm. Third, instead of being rigidly clamped in place, metal to metal, the Amplion diaphragm is cushioned and insulated from all contact with metal by rubber around the edges. (The metal case of any unit has a "natural frequency" of its own. Permitting a diaphragm to touch metal, while it is vibrating, sets up additional vibrations in the metal case. This spoils reception by absorbing vibrations of the diaphragm so essential to perfect reproduction. It also causes distortion. This cannot occur in the Amplion Unit.) Fourth, the outer extremity of the rubber-insulated Amplion diaphragm rests on a narrow ledge, lightly held there by a spring ring with enough pressure to prevent "chatter" or "rattle" when extreme volume is desired. The result is that the Amplion diaphragm "floats", free from strain, stress or undue tension and free to vibrate in exact accord with the variations of current flowing through the operative windings of the electro-magnetic system. As a consequence, faithful and true reproduction is obtained throughout the entire musical range—without distortion. Bear also in mind that the electro-magnetic details of the Amplion unit are the outcome of many years of patient research and mature experience in sound reproduction. For example, in tuning the Amplion to a set, you do not disturb the position of the diaphragm by moving it, as in other units. Turning the Amplion adjusting knob moves the electro-magnets toward or away from the diaphragm! Another result of experience is that the Amplion does not deteriorate, or lose its sensitivity with use.

GUARANTEE Amplion Units are so staunchly constructed that they should never require attention. Nevertheless, each unit is unreservedly guaranteed against defects in materials or workmanship for a period of one year, and if found defective will be repaired or replaced without charge (except for transportation) if returned untampered with, by prepaid express or parcel post, to The Amplion Corporation of America, 280 Madison Avenue, New York City.

DEALER HELPS Some new and attractive advertising matter is available which we will furnish to dealers on request.

The NEW GOULD UNIPOWER

Gould Unipower is a single, compact unit that supplies continuous, unfailing current for the "A" circuit of the radio set. Unipower is supplied complete, with the master control switch, which is wired to it, and for installation on any radio set it is only necessary to attach the A+ and A- wires to the set and plug the cord, which is provided, into a socket of the house-lighting current.

The master control switch supplied with the Unipower makes its operation automatic. This switch is used to control both the radio set and the Unipower. When the radio set is turned on, the Unipower supplies a rich, noiseless current of constant voltage. When the radio is turned off, the master control switch connects the house-lighting current to the transformer and special Balkite rectifier which delivers a low, trickle-charge to the battery elements all the time the set is not in use.

Under normal operating conditions, Unipower will always supply adequate voltage to the set. If, however, through negligence, the owner fails to turn his radio set off over night or otherwise exhausts the Unipower battery cells, a push-pull switch is provided on the Unipower which enables the owner to temporarily increase the charging rate and so bring the Unipower back to full voltage.

Unipower is so compact in size that it can be installed in the cabinet of most radio sets. It has a patented, gas-tight cover and vent to extend outside the cabinet, making such installations safe. Unipower is absolutely noiseless in operation, has no tubes, bulbs, lamps, or other working parts to wear out and require expensive and frequent replacement. It needs no attention except the occasional addition of water perhaps three or four times a year, and is so designed that the charging current cuts off in case water is not added when needed.

Unipower does away with the expense of frequent dry battery replacement and all the inconveniences of ordinary storage battery operation. With Unipower, the first cost is practically the last, because the amount of house-lighting current used in operation is so slight that its cost will amount to only a few cents a month. Because Unipower delivers a constant, full voltage, it is possible to adjust the rheostats of the radio set at a point in which the tubes give most perfect reception. Operating the tubes under these ideal conditions does away with the possibility of overloading them when new dry batteries or freshly charged storage batteries are put on, materially lengthening tube life—a distinct economy.

Engineers concede that "A" battery failure is the most frequent cause of poor reception. With Unipower, a radio owner will know for the first time what perfect reception means. He will always have constant unfailing "A" current available at the click of a switch.

The new Unipower is built in two models—the AC-4 for operating sets using UV-199 tubes or their equivalent and the AC-6, for operating sets using UV-201-A tubes or their equivalent. Unipower is designed to operate on 60 cycle, 110-125 volt alternating house-lighting current.

(for Continuous, Unfailing "A" Current Supply)



Cut Showing Use of Master Control Switch



Cut Showing Unipower Being Placed in Radio Cabinet

The NEW GOULD UNIPOWER

for Radio Sets using UV 199 or other 3-4 Volt Tubes

AC-4 UNIPOWER

The AC-4 is very compact and may generally be installed inside the cabinet of the radio set—it will fit inside the Radiola Super VIII or the semi-portable Radiola Superheterodyne and other sets providing similar battery space. The AC-4 may be used outside the radio cabinet. It is built in a handsome black rubber case with polished nickel-plated fittings so that it makes a distinct addition to any radio equipment. The AC-4 has a gas-tight cover with a vent-tube so arranged that it extends outside the cabinet, thus protecting the radio set from possible damage. Open type batteries should not be placed inside the cabinet with radio sets. The AC-4 Unipower is supplied complete with master control switch, wired and ready for use. It is carefully packed in cardboard carton and wooden packing case with master control switch, wiring, flushing tube, instructions, etc.

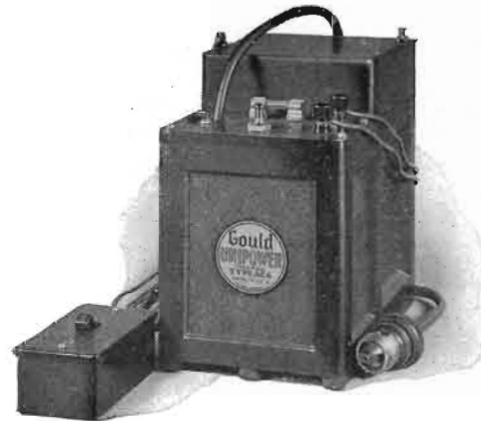
List Price \$35.00

for Radio Sets Using UV 201-A or other 5-6 Volt Tubes

AC-6 UNIPOWER

The AC-6 is sufficiently compact to fit into the battery compartments of most cabinet sets but can be used outside, its dull, black surface and polished fittings making a handsome appearance. The AC-6 has a gas-tight cover with vent-tube so arranged that it extends outside the cabinet, thus protecting the radio set from possible damage. Open type batteries should not be placed inside the cabinet with radio sets. The AC-6 Unipower is supplied complete with master control switch, wired and ready for use. It is carefully packed in cardboard carton and wooden packing case, with master control switch, wiring, flushing tube, instructions, etc.

List Price \$40.00

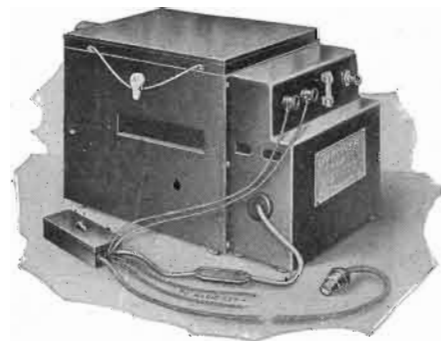


Type AC-4

Supplies 4 volts for the "A" circuit of the radio set. Operates from 110-125 volts, 60 cycle alternating house-lighting current.

Dimensions:

Length 8 1/4". Vent Pipe Dia. 1 1/8". Width 5". Height 8 3/8". Height to Center Vent Pipe 7 1/4".



Type AC-6

Supplies 6 volts for the "A" circuit of the radio set. Operates from 110-125 volts, 60 cycle alternating house-lighting current.

Dimensions:

Length 11 7/8". Vent Pipe Dia. 1 3/8". Width 7 11/16". Height 9 1/2". Height to Center Vent Pipe 7 11/16".

List Price \$40.00

The NEW Non-Automatic Special Heavy Duty UNIPOWER

AC-30 UNIPOWER

Supplies 6 volts for the "A" radio circuit; it is designed for operation on 110 volts or 125 volts alternating current, 60 cycle electric light circuit and should be employed on radio sets drawing materially in excess of 2 amperes. The battery cells of this Unipower have a capacity of 120 ampere hours and the Balkite Rectifier charges the battery at a normal rate of 4 amperes. This Unipower is assembled in a handsome oak case for open installation and is not supplied with the operating switch for automatic recharge. It may be operated in two ways.



Type AC-30

For Radio Sets Having Heavy Draw

Dimensions:

Length 21 3/4", Width 7 1/2" Height 9 13/16".

- (1) It may be used as an ordinary "A" battery, plugging on the charging current when desired.
- (2) It may be used as an "A" battery while the charging line is connected.

Connection to the power line is as simple as attaching an electric toaster or an electric iron. This assures the user of sets which have a heavy current draw a continual uninterrupted radio service.

Packed singly, accompanied by cord set for connection to lamp socket, and instructions.

List Price \$55.00

Special UNIPOWER for Radio Test and Studio Equipment

Special Unipower assemblies are being used for a wide variety of test purposes and for the operation of a variety of radio sets in sales studios. Quotations will be made on Unipower Equipments for this purpose on request.

GOULD RADIO "A" BATTERIES

To the initial buyer of radio the Gould Storage Battery Company urges consideration of its Unipower but to those users who are already supplied with satisfactory charging devices and require more efficient battery equipment we recommend either of the following types of Gould Battery. If a low rate charger is employed we recommend the R6-80 battery. If a high rate charger is used we recommend the R6-120 battery.

The Gould record for dependability and long life established through more than two decades of service wherever storage batteries are used is ably maintained by the Gould Radio "A" Battery. It utilizes the famous Gould Dreadnaught Plate of special design to meet radio requirements and is assembled in a hard rubber case with non-corrosive terminals and a carrying handle. Due to its substantial construction and freedom from corrosion the Gould Radio "A" maintains its good appearance as well as its efficiency for a very long life.



Gould Radio "A"

Type R6-80, 6 Volt, 80 Amp. Hrs.

Dimensions:

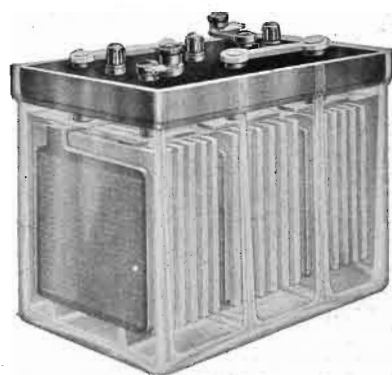
Length 9 1/16", Height 9 11/16" Width 7"

Type R6-120, 6 Volt, 120 Amp. Hrs.

Dimensions:

Length 11 3/4", Height 9 11/16" Width 7"

Type	Price
R6-80	\$17.00
R6-120	\$21.00



Type R6-30
Dimensions:
Length 6 7/8", Width 4 1/2", Height 8"

GOULD RADIO "A" BATTERIES

Gould "A" Special

To meet the demand for a small "A" Battery to be used in connection with rectifying devices, charging at less than one ampere, a special Gould 6 volt unit known as the Gould Type R6-30 is supplied. This unit is assembled in a glass jar and has a capacity of 30 ampere hours.

List Price \$14.00

GOULD RADIO "B" BATTERIES

The Gould Radio "B" Battery is entering upon its fourth season. Close observation of the original Gould "B" units in use from the beginning failed to indicate any tendency to loss of capacity where the battery units are charged and flushed regularly. With proper care these batteries should last a decade.

The Gould Radio "B" can be purchased either in single units of 24 volts or in an assembly of four of these units, supplying 96 volts. It is assembled in a reinforced hard rubber case, each cell being grooved to hold the plates and separators firm, thus practically eliminating the chances of buckled and damaged plates, which might in an ordinary "B" result from excessive charging. Holding its voltage for prolonged periods because of the special Gould Negative Plate and entirely free from surface leakage of current (the source of "B" Battery noise) because of its good sized insulating bridges—the 24 volt Gould "B" Storage Battery, in every part of the country has set a new standard of "B" battery efficiency. It has a capacity of 2 ampere hours at discharge rates up to 50 mil. amps.



Gould Radio "B"
24 Volts.
Capacity 2000 milliamp. Hrs.
Length 6 3/8", Width 3 7/8",
Height 5 5/16".
List Price, \$8.50

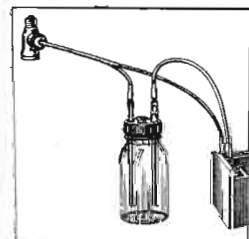


96 Volt "B"
Capacity 2000 milliamp. Hrs.
Length 18", Width 8", Height 6 1/4"

24 Volt "B" Battery \$8.50

96 Volt "B" Battery \$42.00

Gould "B" Charger



Gould "B" Charger

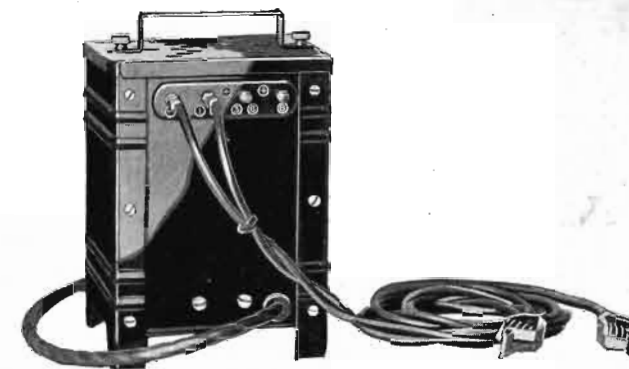
The Gould "B" Charger has been developed to enable users of the Gould Radio "B" Battery to recharge conveniently and efficiently. This charger is complete as received, including wiring, and is designed for operation on alternating current. The New Gould Electrolytic Salts provide a highly efficient electrolyte which require renewal once in six to seven hundred hours of charge.

List Price \$5.00

WESTINGHOUSE RECTIGON BATTERY CHARGERS
RADIO AND PRIVATE GARAGE RECTIGON OUTFITS



Complete Rectigon



Rear View—Showing D-c. Terminals

APPLICATION

In order to meet the needs of the radio enthusiast as well as the automobile owner a new design of two-ampere Rectigon with a number of special features has been developed.

It will charge any combination of lead storage "A" and "B" batteries required for the radio set as well as a 3 or 6 bell automobile battery. This wide range has been obtained without penalty to the automobile application, instead several distinct advantages over the older design, Style No. 376793, have been included in the new outfit.

Charging Range—This Rectigon will charge 1 or 2 cells of Radio "A" battery at approximately 1 1/2 d-c. amperes, or from 3 to 6 cells of Radio "A" or automobile battery at the approximate d-c. current rates of 2 amperes to 3 cells and 1 1/2 amperes to 6 cells. Intermediate current rates to intermediate number of cells. Batteries having a greater number of cells may be charged in sections. Also the provision for charging one or two cells will enable the user to fully charge one or more low cells without overcharging the others.

When connected for "B" battery charging, the outfit will deliver from 0 to 1/4-ampere to a range of 11 to 48 cells of lead storage "B" battery (one to four 11 or 12 cell batteries). Different sizes of lamps are used to vary the charging current. A table giving the size of lamp, number of cells and charging current is included on the instruction card.

An equivalent number of alkaline cells can also be charged at the same range of d-c. current.

Economical—The cost of charging batteries with the Rectigon is very low compared with the charge made by most public battery charging stations. In addition, the convenience which the Rectigon offers the private owner is well worth considering.

LIST PRICES AND RATINGS

Style number and list price include outfit complete with bulb.

D-c. Amperes	D-c. Volts	A-c. Volts	Cycles	No. Cells	Approx. Net Wt., Lb.	Shipping	Style No.	List Price
2 amp. max.	2 to 96	115	60	1-48	12	14	424501	\$18.00

RENEWAL BULB

Rectigon Style No.	Bulb Style No.	Amperes Capacity	Net Wt., Oz.	List Price
424501	277681	2	2	\$4.00

CONSTRUCTION

All parts with the exception of the leads, terminal board, and handle are enclosed within a sturdy three-piece pressed steel case. An unusually heavy back plate is used to support the transformer, thus assuring quiet operation. The removable cover is attached to the case with the same thumb screws that hold the handle. If a portable outfit is not desired the handle can be discarded using the thumb screws to secure the cover only.

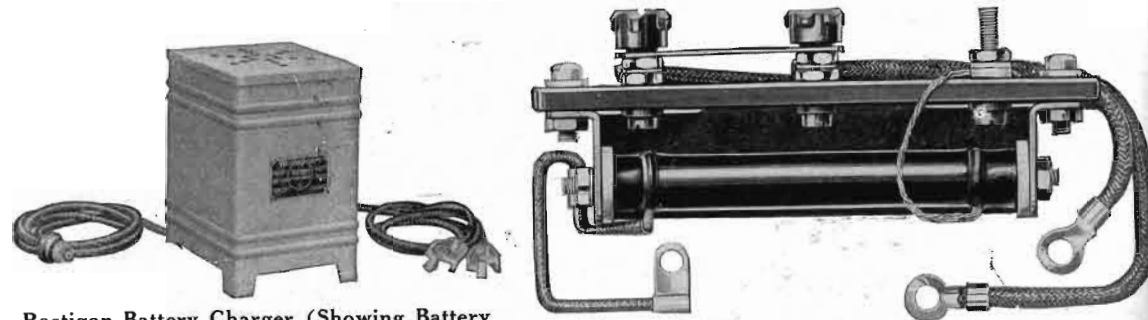
Both the a-c. and d-c. leads are of rubber insulated cable. The a-c. lead, a double conductor cord, is provided with a standard separable attachment plug. Battery clips are attached to the d-c. leads, which have distinctive coloring for polarity indication.

A moulded terminal board with four studs of the "Snap On," "Snap Off" type is mounted on the back plate directly below the cover. The change for adapting the outfit for charging "A," "B" or automobile batteries is made in a second.

The bulb socket is of the double type providing a receptacle for the fuse or lamp in the "B" battery circuit. This design is, therefore, entirely self-contained, which is of great practical advantage when the Rectigon is used as a portable device as there is no possibility of breaking the lamp. Even for permanent installations this feature is a real advantage, since in addition to guarding against lamp breakage it occupies less space.

Finish—Only the best grade of Rectigon Maroon Enamel is used for the case parts. This enamel is practically immune from the effects of acid fumes. All parts of the case are finished separately before assembly, so that there are no spaces of exposed steel to corrode.

WESTINGHOUSE RECTIGON BATTERY CHARGERS
HOME AND GARAGE RECTIGON OUTFITS



Rectigon Battery Charger (Showing Battery Lead Only)

Radio B Battery Charging Attachment

APPLICATION

Portable Rectigon outfits are for the use of the owner of a radio set or car who wants to charge his own batteries.

Although the 2-ampere Rectigon is too small to put a full charge into a large size radio or starting and lighting battery in a single night, it is, nevertheless, to be recommended for giving a battery a soaking charge, in order to keep the sulphate from accumulating on the plates. Due to the low charging rate, this outfit will not damage the battery if left on for an indefinite period after the battery has become fully charged. Should the automobile battery become entirely discharged, the 2-ampere size, if left on for 12 hours, will put enough life into it to enable the car owner to start the car the next morning. This size outfit is also adaptable for charging storage batteries on motor cycles which use a smaller capacity battery than the average automobile.

Where a higher charging rate is required, in order to charge the battery in a shorter length of time, the 5-ampere outfit is recommended, but care must be used in the operation of this outfit as the 5-ampere rate will tend to heat up the batteries if left on after the battery has become fully charged.

INSTALLATION AND OPERATION

Because these outfits are portable, they may be set on any convenient place or on the running board of an automobile. To start the outfit, it is simply necessary to clasp the battery clips over the terminals and attach the alternating-current lead to a source of such current, and the charging will begin. To stop charging, turn off the alternating current and disconnect the battery.

Finish—The case of a 2-ampere and 5-ampere Rectigon is glossy maroon. This finish besides being attractive in appearance is durable and easily kept clean.

LIST PRICES AND RATINGS

Style number and list price include outfit complete with bulb.

D-c. Amperes	D-c. Volts	A-c. Volts	Cycles	No. Cells	Aprox. Net	Wt., Lb. Shipping	Style No.	List Price
5 to 3	7½ to 15	115	60	3 to 6	17¾	20	376336	\$28.00

RENEWAL FUSE

For Rectigon Style Nos. 376336, 324192 and 376059 any standard 15-ampere plug fuse can be used.

RADIO B BATTERY CHARGING ATTACHMENT

Rectigon Style No.	Bulb Style No.	Ampere Capacity	Net Wt. Ounces	List Price	Style No.	Aprox. Net	Wt. Lb. Shipping	List Price
376336	289414	5	5	\$8.00	408195	½	1	\$3.00

RADIO B BATTERY CHARGING ATTACHMENT

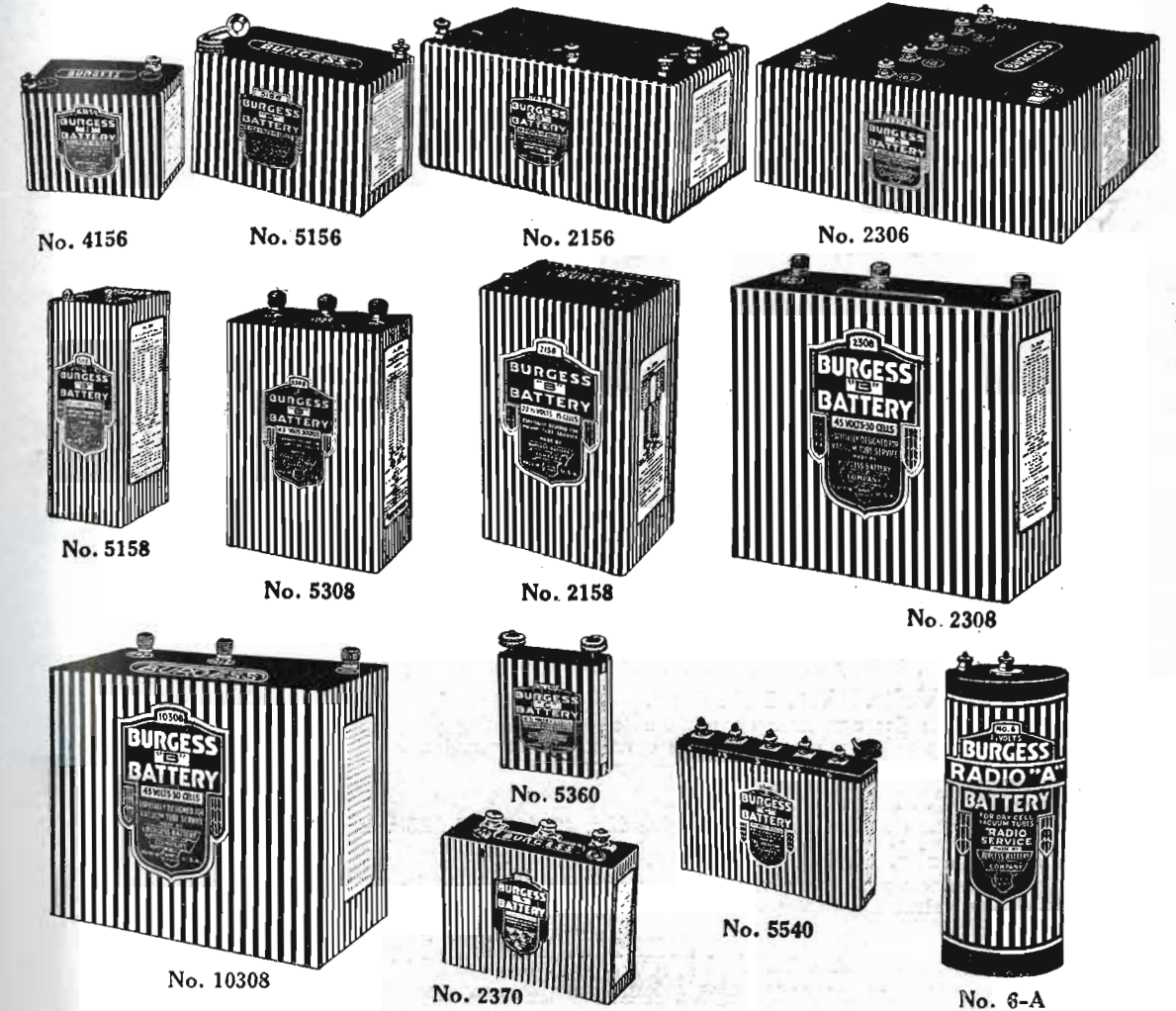
Application—All standard form "A" Rectangular-type Rectigons, 2- and 5-ampere, are suitable for use with the radio "B" attachment. Except in odd frequency districts, the only demand will be in connection with Style Nos. 376336 and 376793 Rectigons.

Description—The leads on the attachment are connected to the Rectigon and to the d-c. leads in such a manner as to make it possible to adapt the outfit for charging either "A" or "B" batteries by merely shifting the position of a brass link which bridges two of the three studs in the moulded terminal board. No change is made in the original characteristics of the Rectigons. The Automobile or Radio "A" battery can be charged in exactly the same manner and at the same current rates as prior to the addition of the "B" battery attachment.

Rating—One or two 11 or 12-cell Radio Lead Storage "B" batteries may be charged at one time at the approximate current rate of .15 amperes to one battery and .1 amperes to two batteries in series. Alkaline "B" batteries of equivalent voltage may also be charged at the corresponding current rates. When a greater number than two batteries are used they can be charged in sections of 12 or 24 cells.

Advantages—The change to adapt the Rectigon for "A" or "B" battery charging can quickly be made. All that is required is to change the position of the brass link, which is located directly below the cover, to bridge either the right or left pair of binding posts, depending upon the type of battery to be charged.

BURGESS RADIO BATTERIES



STOCK NO.	DESCRIPTION	VOLTAGE	LENGTH	WIDTH	HEIGHT	PRICE
4156	"B" Battery Horizontal	22½	3¾	2	2½	\$1.50
5156	"B" Battery Horizontal	22½	4¾	2¾	2¾	1.75
2156	"B" Battery Horizontal	22½	6¾	4	3	2.00
2306	"B" Battery Horizontal	45	7¾	6¾	3	4.00
5158	"B" Battery Vertical	22½	2½	2½	6	1.75
5308	"B" Battery Vertical	45	2½	4¾	5¾	3.25
2158	"B" Battery Vertical	22½	4¾	3¾	7	2.00
2308	"B" Battery Vertical	45	3¾	8¾	7	4.00
10308	"B" Battery Vertical	45	4¼	8	7	5.50
5360	"C" Battery	4½	2¾	¾	2¾	.40
2370	"C" Battery	4½	4	1¾	3	.60
5540	"C" Battery	7½	4	¾	2¾	.85
6 "A"	"A" Battery	1½		Diam. 2½	6	.50

"ASK ANY RADIO ENGINEER"

BURGESS RADIO BATTERIES

"A" BATTERIES

No. 6—"A" 1.5 Volts. Wt. 2 lbs.

Designed especially for service on the "A" or filament circuit of dry cell vacuum tubes. Will give much more service than ordinary No. 6 ignition battery at approximately the same cost and has a rapid recovery to high voltage after short periods of rest with practically no voltage loss when not in use.

"C" BATTERIES

No. 5360—4.5 Volts. Wt. 4 oz.

Flexible wire terminals, which with small size, makes convenient connections possible in the usual set not already provided with a "C" battery.

No. 2370—4.5 Volts. Wt. 1 lb.

Brass posts, contacts and nuts, to give 1.5, 3.0 and 4.5 volts. Largest sized cells. A popular battery because of its size and taps. Shelf life over one year. Can also be used as an "A" battery on some tubes.

No. 5540—7½ Volts. Wt. 9 oz.

Brass posts, contacts and nuts, and one flexible wire terminal to give 1.5, 3.0, 4.5, 6.0 and 7.5 volts. For use in special cases where high "C" voltage is necessary. Shelf life over eight months.



Burgess Uni-Cell No. 2

This is a flashlight battery very frequently used in portable radio sets as a "C" Battery. Measures 2¾" x 1¼".

Packed in cartons of 24 List ea. 17c

Burgess Uni-Cell No. 1

Also a flashlight battery used in portable radio sets. Measures 1¾" x 1".

Packed in cartons of 24 List ea. 15c



"B" BATTERIES (Horizontal Type)

No. 4156—22.5 Volts. Wt. 1 lb.

Flexible wire terminals. Small, light weight battery of moderate current capacity and a shelf life of over six months.

No. 5156—22.5 Volts. Wt. 1 lb. 9 oz.

Flexible lead with flat connector on positive terminal, binding post and brass nut on negative terminal. Small, moderate weight battery of medium current capacity and a shelf life of over eight months. Is for use in numerous standard console receiving sets.

No. 2156—22.5 Volts. Wt. 5 lbs.

Brass posts, contacts and nuts at taps to give 16.5, 18, 19.5 and 22.5 volts from the negative.

No. 2306—45 Volts. Wt. 9 lbs. 10 oz.

Brass posts, contacts and nuts at taps to give 16.5, 18, 19.5, 21, 22.5 and 45 volts from the negative. Double voltage battery equivalent to two No. 2156 wired in series. Shelf life over one year.

"B" BATTERIES (Vertical Type)

No. 2158—22.5 Volts. Wt. 5 lbs.

Brass post and contact with insulated nut terminals. Large battery of great current capacity and a shelf life of over one year. For multi-tube sets and regular heavy duty radio use.

No. 5308—45 Volts. Wt. 3¼ lbs.

Brass post and contact with insulated nut terminals. A smaller 45 volt battery of light weight for portable sets and convenient dimensions to combine with the No. 6 "A" battery. Shelf life over eight months.

No. 2308—45 Volts. Wt. 9½ lbs.

Brass post and contact with insulated nut terminals to give 22.5 and 45 volts from the negative. For multi-tube sets and heavy radio duty. Great current capacity. Occupies minimum table space and fits in most receiving sets. Shelf life over one year.

No. 5158—22.5 Volts. Wt. 2 lbs.

Brass post and contact with insulated nut terminals. This battery is designed especially for use in sets employing No. 6 dry cells for filament current. Its dimensions and weight are those of the ordinary No. 6 "A" battery and this feature of similarity in size makes it possible to place both the "A" and the "B" batteries in the same cabinet without waste of space. Same electrical characteristics as battery No. 5156.

No. 10308—45 Volts. Wt. 14 lbs.

Brass post and contact with insulated nut terminals to give 22.5 and 45 volts from the negative. An "OVERSIZED" "B" battery for sets drawing over 20 milli-amperes, and where space is not of importance, gives the longest service in use of any type of "B" battery made. Shelf life over one year.

TIMMONS B-LIMINATOR

For Operation on Alternating Current, 110 Volt, 60 Cycle



The B-Limiter is adaptable to any set without rewiring in any form. It has three binding posts, the same as any "B" battery layout, a negative (minus) connection and two positive (plus) connections, one for the detector and the other for the amplifying voltage.

"PARTICULARLY GOOD" ON RADIOLA SUPER HETERODYNES

Its operation is simple, and when once adjusted to the requirements of the set it may be left alone. On the outside and at the front of the B-Limiter are two control knobs to regulate, respectively, the amplifying and detector voltage. The former is variable between 1 and 120 volts and the latter between 16 and 45 volts.

A special filtering device serves to eliminate any trace of AC hum. The current consumption of the B-Limiter is eight watts at no load and about fifteen watts at full load. A compact device, measuring about 7x3x8¼ inches over all. Weighs about six and one-half pounds.

The B-Limiter includes the special Timmons rectifying tube.

List Price \$28.50

TIMMONS B-LIMINATOR KIT

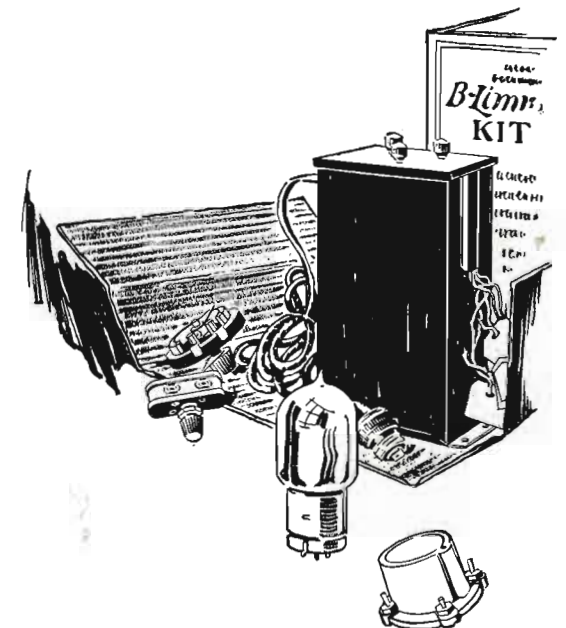
B-Limiter Kits are made up of the same parts that are used in the Timmons B-Limiter, now so enthusiastically endorsed by radio authorities and set users.

Anyone can assemble a B-Limiter Kit. Complete instructions come packed with each one.

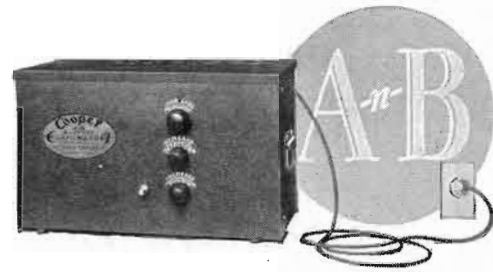
The kit can be installed inside a radio set or on a separate panel and base-board. Detector control gives voltages from 16 to 45; amplifier control from 1 to 120, with all in-between voltages. Operates on alternating current 110 volts, 60 cycle.

The B-Limiter Kit includes the special Timmons rectifying tube.

List Price \$20.00



COOPER A-n-B ELIMINATOR



LIGHT-SOCKET
RADIO-POWER

That day of days, when Radio batteries are no longer necessary, has arrived! Definitely and beyond any question the Cooper A-n-B delivers to your set the exact current it requires for best reception.

Attaching the A-n-B to your set and to the nearest light socket or baseboard outlet requires no skill—no technical knowledge. Any one who can connect Radio batteries to a receiving set can quite as easily attach the Cooper A-n-B.

The superiority of the A-n-B as a medium of power—its fitness as the proper successor to Radio A and B batteries—is best appreciated when it is borne in mind that the Cooper A-n-B was developed by Battery Engineers—men who have lived their commercial lives in battery laboratories—who have built batteries and who know the inconveniences and limitations of batteries for Radio use.

For more than a year tests have been made under all possible receiving conditions. These tests have been applied in laboratory, in homes—in all weathers, climates, seasons, and localities.

The Cooper A-n-B delivers a power that is efficient, constant—and as steady as electric light.

The Cooper A-n-B will deliver day after day, month after month, and year after year, the same full measure of current for your set, whenever you pull the switch.

The Cooper A-n-B is Better than Batteries at their Best.

List price without tubes \$85.00

Necessary Equipment

2—2 Amp. Rectigon Bulbs, list each 4.00
 1—Special 2 element "B" Tube, list 2.50
 Total List \$95.50

FACTS ABOUT THE COOPER A-n-B

Operates on 110-115 volt, 60 cycle A. C. only.

Attaches to any outlet, light socket, wall fixture or baseboard.

Transforming ordinary alternating lighting current, the A-n-B delivers, with variable control, up to two Amperes A current, from 0 to 135 volts B current, and from 0 to 55 volts Detector current.

Operates with two 2-ampere rectifying tubes, (either Tungar or Rectigon) and one 2 element Radio type tube.

Once adjusted to deliver proper amount of current for the particular set, no further regulation of the A-n-B is necessary.

Costs about one cent an hour for current to operate with a five tube set.

Will operate any commercial type of Radio receiving set without change in wiring.

Weighs fifty-three pounds—no more than the average "wet" A storage battery; and the dimensions, 15 1/8" long, 9 1/4" high, and 10 1/8" wide (including dials and binding posts), permit placing it in any console cabinet that is intended to receive batteries.

Enclosed in a beautiful crystalline black steel cabinet—a sightly addition to any Radio receiving set.

Will operate at maximum 8 UV 201-A Tubes (or equivalent); or 10 UV 199 Tubes (or equivalent).

There is nothing to deteriorate or wear out except Bulb and Tubes.

Eliminates batteries and contains no batteries.

BRACH RADIO LIGHTNING ARRESTERS

Approved by National Board of Fire Underwriters

TYPE 223 OUTDOOR VACUUM RADIO ARRESTER

Is intended for outdoor use and is provided with Fahnestock terminal for attaching directly to the antenna or lead-in wire, bottom binding post for connection to ground wire; vacuum cartridge equipped with overflow gaps insuring capacity as well as sensitivity.

List Price \$2.50



TYPE 210 INDOOR VACUUM RADIO ARRESTER

The same advantages as type 223 and is arranged for indoor mounting. Furnished in neat moulded base and may be mounted within the building or on the set. Equipped with two terminals; one for the antenna and one for ground. This type in addition to vacuum tube has the non-grounding overflow gaps.

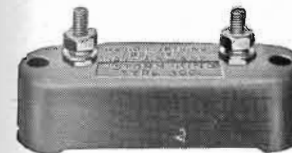
List Price \$2.00



STORM KING Non-Air Gap RADIO ARRESTER

The Storm King Arrester operates on the well-known Non-Air Gap principal of protection; for indoor installation.

List Price \$1.00



STORM GUARD Non-Air Gap RADIO ARRESTER

The Storm Guard Radio Lightning Arrester is designed for installation outdoors. Absolutely weather-proof and non-grounding.

List Price \$1.50



BRACH RADIO PRODUCTS

SHOCK-PROOF RADIO PLUG

Brach Shock-Proof Plug is original in conception and design. No metal parts exposed to shock the user; attachment to cord automatic; no tools necessary to connect or release; insulated to withstand high voltages for Loud Speakers; perfect electrical contact.

List Price \$0.60



EXTENSION CORD CONNECTOR

Brach Extension Cord Connector provides the means for moving the Loud Speaker or Headset to another room without disturbing the set; no tools required to make or release connection.

Cord Connector only—List Price \$0.75

Connector complete with 25 ft. leads—List \$2.00

Connector complete with 50 ft. leads—List \$2.50



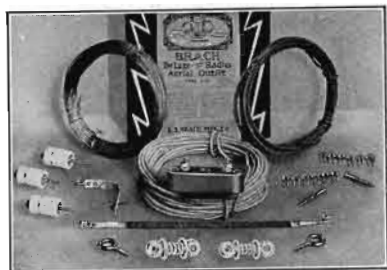
BRACH COMPLETE AERIAL OUTFITS

All parts conform to National Board of Fire Underwriters requirements



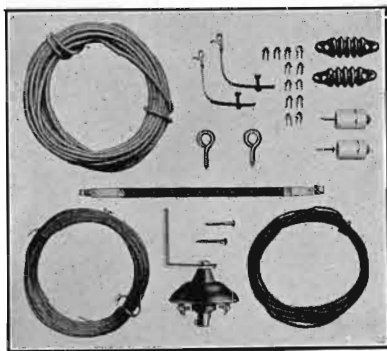
DE LUXE SENIOR TYPE 223 ANTENNA OUTFIT
Includes all the necessary parts as illustrated together with type 223 outdoor vacuum arrester. Full instructions in simple language in each outfit. This package contains:

1. 1 type 223 Vacuum Outdoor Lightning Arrester.
 2. 100 ft. 7-strand No. 22 gauge hard-drawn copper wire.
 3. 50 ft. No. 14 white-insulated weather-proof wire
 4. 25 ft. No. 18 cotton covered interior wire (for hooking up).
 5. 2 Brach Low Loss Crystal Insulators.
 6. 2 Screw Eyes.
 7. 3 Porcelain Nail-It Knobs.
 8. 12 Insulated Staples.
 9. 1 Brach Insulated Window Lead-In.
 10. 2 Fahnestock Ground Clamps.
- List Price \$5.50



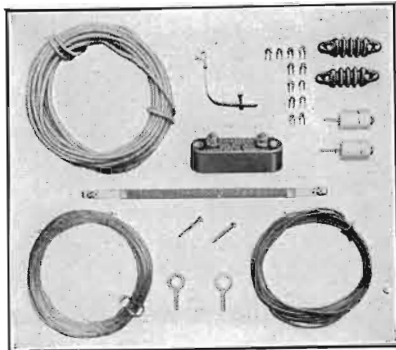
DE LUXE JUNIOR TYPE 210 ANTENNA OUTFIT
Includes all the necessary parts as illustrated together with type 210 indoor vacuum lightning arrester. Full instructions in simple language in each outfit. This package contains:

1. 1 type 210 Vacuum Indoor Lightning Arrester.
 2. 100 ft. 7-strand No. 22 gauge hard-drawn copper wire.
 3. 50 ft. No. 14 white insulated weather-proof wire
 4. 25 ft. No. 18 cotton covered interior wire (for hooking up).
 5. 2 Brach Low Loss Crystal Insulators.
 6. 2 Screw Eyes.
 7. 3 Porcelain Nail-It Knobs.
 8. 12 Insulated Staples.
 9. 1 Brach Insulated Window Lead-In.
 10. 1 Fahnestock Ground Clamp.
- List Price \$5.00



STORM GUARD TYPE 330 ANTENNA OUTFIT
Includes all the necessary parts for erecting a complete aerial, including a Storm Guard Non-Air Gap lightning arrester. Full instructions in simple language in each set. This package contains:

1. 100 ft. 7-strand No. 22 gauge hard-drawn copper wire.
 2. 50 ft. No. 14 white insulated weather-proof wire.
 3. 10 ft. No. 18 cotton covered interior wire (for hooking up).
 4. 2 Large Porcelain Insulators.
 5. 2 Screw Eyes.
 6. 2 Porcelain Nail-It Knobs.
 7. 2 Fahnestock Ground Clamps.
 8. 12 Insulated Staples.
 9. 1 Brach Insulated Window Lead-In.
 10. 1 Storm Guard, type 330, Outdoor Lightning Arrester.
- List Price \$4.50



STORM KING TYPE 300 ANTENNA OUTFIT
Includes all the necessary parts for erecting a complete aerial, including a Storm King Non-Air Gap lightning arrester. Full instructions in simple language in each set. This package contains:

1. 100 ft. 7-strand No. 22 gauge hard-drawn copper wire.
 2. 50 ft. No. 14 white insulated weather-proof wire.
 3. 10 ft. No. 18 cotton covered interior wire (for hooking up).
 4. 2 Large Porcelain Insulators.
 5. 2 Screw Eyes.
 6. 2 Porcelain Nail-It Knobs.
 7. 1 Fahnestock Ground Clamp.
 8. 12 Insulated Staples.
 9. 1 Brach Insulated Window Lead-In.
 10. 1 Storm King, type 300, Indoor Lightning Arrester.
- List Price \$4.00

BRACH RADIO PRODUCTS

BRACH-STAT COMPLETE

Brach-Stat—An automatic filament control eliminating hand rheostats for all amplified circuits.

For Use With
W. D. 11 and 12 Specify Code A—1½ Volt Battery
U. V. 201 A or Similar Specify Code B—6 Volt Battery
U. V. 199 or Similar Specify Code C—4½ Volt Battery
U. V. 199 or Similar Specify Code D—6 Volt Battery

Brach-Stat with mounting \$1.00
Brach-Stat only75
Mounting25



Std. P'gs. 25



Std. Pkge. 50



Std. Pkgs. 25



Std. Pkgs. 25



Std. Pkge. 10



Std. Pkge. 20



Std. Pkgs. 25



Std. Pkgs. 25

BRACH UNIVERSAL MOUNTING

Universal Mounting—Moulded Base

List Price \$0.25

BRACH FIXED CRYSTAL

Brach Fixed Crystal—A tone tested fixed crystal insuring perfect reception.

Fixed Crystal with mounting \$1.00

Fixed Crystal only75

Mounting25

BRACH GRID LEAK UNMOUNTED

Accurate Ratings—Permanency

Brach Grid Leak—5,000 Ohms List Price \$1.00

Brach Grid Leak—12,000 to 50,000 Ohms Inclusive .. List Price .75

Brach Grid Leak—100,000 to 10 Meg Ohms List Price .50

PURATONE AUDIO COUPLER

Puratone Audio Coupler is complete with condenser and resistors mounted. These Audio Couplers have been found to be superior in many respects to the standard audio transformers by reason of greater purity of tone. In ordering, specify whether for 1st, 2nd or 3rd stage.

List Price \$3.00

LOW-LOSS CRYSTAL INSULATOR

Brach Low Loss Crystal Insulator is of high di-electric value and will not absorb water or accumulate dust or dirt. Large flanges increase surface insulation and provide drip points for rain, snow or ice. Tensile strength far in excess of requirements.

List Price \$0.30

GROUND CLAMP

Brach Ground Clamp is equipped with Fahnestock terminal, easy to install and provides a permanent and reliable means of connection.

List Price \$0.15

WINDOW LEAD-IN

Brach Window Lead-in provides the simplest method for bringing the aerial into the building and avoids cutting of holes in walls. It is provided with Fahnestock phosphor bronze spring clips for securing to window sill and is suitably insulated.

List Price \$0.20

BRACH SOLDERING ACCESSORIES



Std. Pkgs. 12

BRACH SOLDERALL

This is a complete metal solder and flux combined. A small quantity applied to the joints to be soldered when heated will flow and unite the parts the same as wire or bar solder. Furnished in collapsible tubes.

Price Per Tube \$0.25



Std. Pkge. 5 lbs.

ROSIN CORE SOLDER

This consists of a tube of pure solder with a core of rosin. Furnished in 5 lbs. packages, straight lengths 18" long. The most convenient means of handling Rosin Core Solder.

Price per pound



PEERLESS FLUX

Peerless Flux is a non-corrosive soldering flux for convenient quick soldering. Comes in 2-ounce cans.

Price Per Can \$0.15



Std. Pkge. 10

BRACH ELECTRIC SOLDERING IRON

Brach Electric Soldering Iron is known as a product of exceptional quality. Each iron comes with a broad guarantee and unless specified will be furnished with a 3/8" radio pencil tip. Other sizes of tips can be furnished if specified.

List Price \$2.50

TIPS

Radio Pencil Tip Size 3/8 Inch.
List Price—each \$0.50

Commercial Tip 9/16 Inch.
List Price—each \$0.50

BREMER TULLY PARTS AND KITS

The superior qualities of B-T design and workmanship are never questioned.

The value of such public confidence cannot be over-estimated—and the dealer who concentrates on B-T products is assured of rapid, profit-building turnover.

In addition he secures the added prestige and good will which follow the recommendation of a line of parts and circuits that has never included an item that was not an outstanding success.

B-T parts are at once the envy and the despair of all competitors.

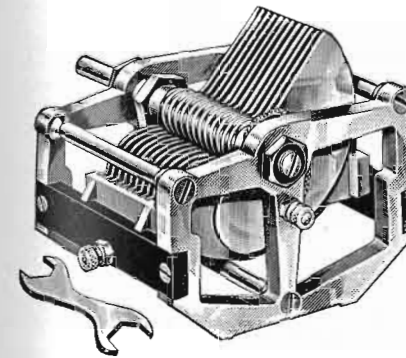
B-T Laboratory Type Low Loss Condenser

A masterpiece of mechanical construction, with resistance losses lower than "laboratory standards." The method of die-casting aluminum rotor and stator is exclusively B-T, resulting in absolute rigidity, permanent spacing and yet light in weight and requires no counter-balance.

The "Lifetime" bearing is unequalled in radio. It "grips" the shaft instead of pushing against end of rotor, and is easily adjustable to any degree of friction that suits the user, without endangering plate alignment.

Pure Redmanol insulation is used, rotor is connected by noiseless pigtail and mounting is single hole, or combination.

When used with proper inductance Type L gives true straight line wave length. The finest acting and appearing condenser made.

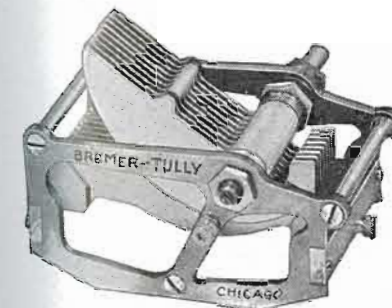


Code No.	Capacity	No. Plates	List
L-7	.000125 (or 125 M.M.F.)	7	\$4.25
L-13	.00025 (or 250 M.M.F.)	13	4.50
L-17	.00035 (or 350 M.M.F.)	17	4.75
L-23	.0005 (or 500 M.M.F.)	23	5.00
L-35	.0008 (or 800 M.M.F.)	35	6.00

Straight Line Frequency

Certain users prefer condensers giving so-called "straight line frequency" variation. It should be understood that this is possible only with an inductance designed to suit the condenser.

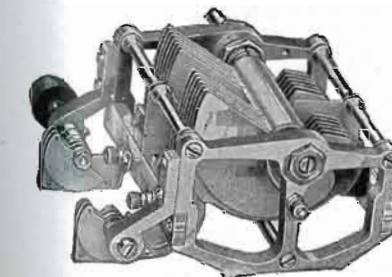
The B-T Type SLF spaces station channels uniformly over the dial when used with B-T coils, and possesses all the superior refinements of Type L described above.



Code No.	Capacity	No. Plates	List
S.L.F.-13	.00025 (or 250 M.M.F.)	13	\$5.50
S.L.F.-17	.00035 (or 350 M.M.F.)	17	5.75

Multiple Condensers (Straight Line Wave Length)

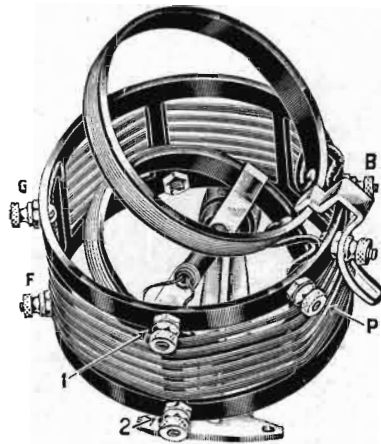
The Double Condenser is a necessity in circuits designed for simultaneous tuning. B-T Multiple Condensers are of the same superior construction as the B-T Single Condenser. Compensating "trimmers," an exclusive feature of this instrument, insures perfect balance of the two units at all times.



Code No.	Capacity (each unit)	No. Plates (each unit)	List
LD-13	.00025 (or 250 M.M.F.)	13	\$9.00
LD-17	.00035 (or 350 M.M.F.)	17	9.50

Note: Type LD-17 is used with all B-T Torostyle Inductances.

BREMER TULLY PARTS AND KITS



Nameless Circuit

The B-T "Nameless" Circuit, using the original B-T Air Core 3-circuit Transformers, is too well known throughout the world to need further description. A highly efficient circuit providing oscillation control over complete range.

The "Nameless" Kit No. 3 includes 3 L-13 Condensers, 3 Nameless 3-C Transformers, one of which has adjustable primary, 1 3-plate condenser with dial, a complete set of blue prints and instructions. Price..... \$26.50

B-T Three-Circuit Tuner

The 3-circuit Tuner, an original B-T development, reaches its highest form in this bank wound, skeleton frame, adjustable primary product. A tuner of unquestioned merit for use in one to four-tube sets.

- | | |
|---|-------------|
| Type B, for broadcast reception (200 to 566 meters with L-13 Condenser) | List \$5.00 |
| Type S. W., for short wave reception (50 to 150 meters with L-13 Condenser) | 4.00 |

B-T Air Core Transformers

Two-circuit, bank wound skeleton frame transformer, similar to above described tuner but without rotor. The adjustable primary provides for volume or selectivity. The best unit for adding radio frequency to a 3-tube set.

- | | |
|---|-------------|
| AC-1 Transformer (Fixed Primary) | List \$2.50 |
| AC-3 Transformer (Adjustable Primary) | 3.50 |

B-T Short Wave Outfit

A short wave outfit with interchangeable coils covering 12½ to 25, 25 to 50, 50 to 100, 100 to 200 meters, with base and rotor.

- | | |
|-------------------------|-------------|
| Short Wave Outfit | List \$8.00 |
|-------------------------|-------------|

B-T Mikro-Mike Condenser

The B-T Mikro-Mike Straight Line Capacity Condenser gives accurate and permanent adjustment from ½ to 30 M. M. F. Change in capacity is uniform over complete range, with indicator to show relative adjustment. Used in B-T patented circuit or wherever a highly accurate capacity capable of minute adjustment is needed.

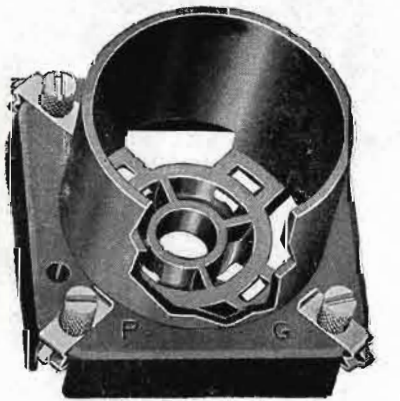
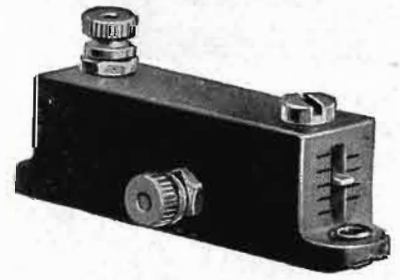
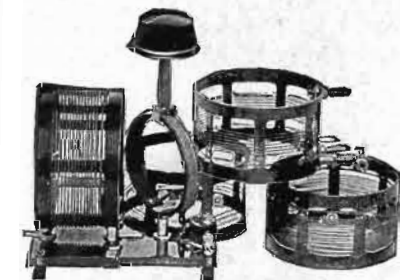
- | | |
|----------------------------|-------------|
| Type M. M. Condenser | List \$0.90 |
|----------------------------|-------------|

B-T Socket

B-T Universal Socket eliminates use of adaptors and consequently recurring troubles caused by poor design. Accommodates all new UX base tubes, as well as UV 200 and UV 201A.

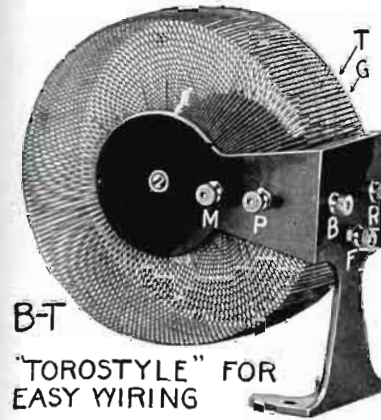
A gripping side contact spring direct from wiring to tube prong makes positive self-cleaning contacts. Keyed screw heads prevent turning. Sidewise spring displacement is impossible. A wide separation of contact springs gives lowest possible capacity. Type UL Socket.

- | | |
|----------------------|-------------|
| Type UL Socket | List \$0.75 |
|----------------------|-------------|



BREMER TULLY PARTS AND KITS

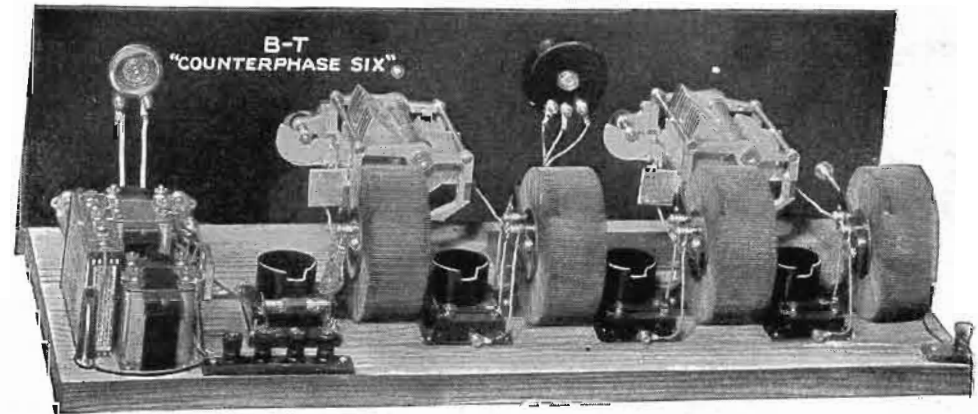
B-T "Torostyle" Transformers



When used in efficient circuits the toroidal style Transformer reduces pick-up of local signal as well as inter-coupling and stray feed-back effects. It is a product where the utmost in design and balance is required to insure selectivity and oscillation control. The B-T "Torostyle" Transformer has all that the many years of research and successful experience in inductance design of the B-T organization can put into it.

The attractive appearance of this coil commands instant attention. Seven binding posts are arranged for easy wiring and short leads. Covers full broadcasting wave length range with B-T .00035 Condenser. Used in B-T patented "Counterphase" and other circuits.

- | | |
|--|--------|
| Code No. | List |
| TA (Antenna Coupler) | \$4.00 |
| TC (For Intermediate R. F. Stages) | 4.00 |
| T4 (For Four-tube Sets) | 4.00 |



KITS FOR BUILDING B-T "COUNTERPHASE"

(Containing B-T "Torostyle" Transformers and Multiple Condensers)

The B-T "Counterphase" circuit, covered by exclusive patents, provides for oscillation control over the complete broadcast range, enabling the operator to tune his set to the highest peak of efficiency on either high or low wave lengths.

In combination with the "Torostyle" Transformer, this circuit also provides a method of putting the 6th tube where it belongs—namely, as a third stage of radio frequency.

Balancing double condensers reduce tuning controls to two.

A special exclusive B-T Double Resistance Unit controls oscillations thru a patented bridge method. This control is turned in one direction for sensitivity or in the other direction to secure any degree of volume required.

Full schematic and pictorial blue prints, with complete instructions are provided. A cable "wiring form" for radio frequency stages greatly simplifies wiring.

B-T "Counterphase" Kit No. 6 contains the following parts: 1 TA and 3 TC "Torostyle" Transformers, 2 LD-17 Condensers, 3 Mikro-Mike Condensers, 1 Dual Resistance, 1 wiring form, 1 set blue prints and instructions. (Operates on short indoor antenna.)

B-T "Sounterphase" Kit No. 5, same as foregoing except two stages of radio frequency and intended for operation on outdoor antenna: 1 TA and 2 TC Transformers, 1 L-17, 1 LD-17 and 2 M. M. F. Condensers, 1 Dual Resistance, 1 Wiring Cable, 1 set blue prints.

Blue prints and instructions for either 5 or 6-tube "Counterphase" circuit, showing detailed steps, schematic and pictorial diagrams with operating suggestions.

- | | |
|---|--------------|
| B-T "Counterphase" Kit No. 6 (List Price separately, \$42.45) | List \$38.00 |
| B-T "Counterphase" Kit No. 5 (List Price separately, \$32.80) | 28.50 |
| Blue prints and Instructions for 5 and 6 tube Sets | .75 |

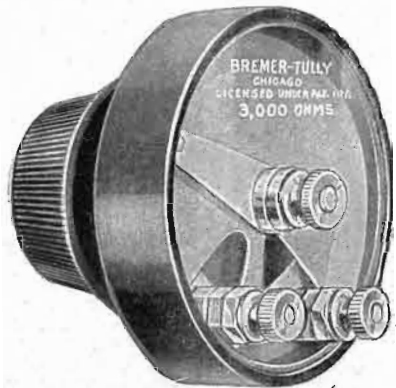
BREMER TULLY PARTS AND KITS

B-T Variable High Resistances

Many new circuits use variable, non-inductive high resistances. B-T Resistances possess new and patented features that make them the best obtainable.

A circular resistance element is mounted in a circular bakelite base. Variable engagement is secured by a shoe which slides over a yielding disk, but does not wear against the resistance, consequently continued service does not cause noisy action or change in resistance.

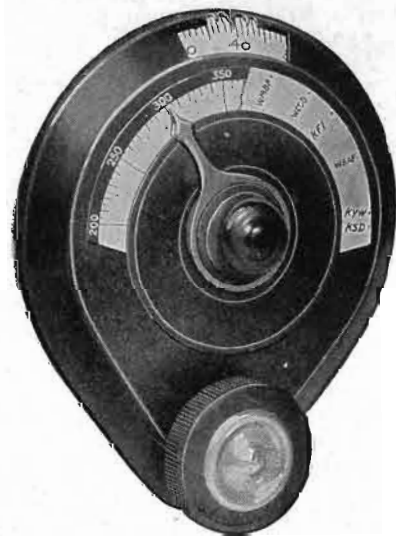
Code No.	Maximum Resistances	List
VHR-2	2,000 ohms	\$2.00
VHR-50	50,000 ohms	2.00
VHR-100	100,000 ohms	2.00
VHR-200	200,000 ohms	2.00



B-T Volume Control Or Modulator

Similar in appearance and construction to Potentiometer but with 500,000 ohms non-inductive resistance. Used in audio circuits for noiseless adjustment of volume and improvement of tone qualities.

Code No.	Maximum Resistances	List
VC-500	500,000 ohms	\$2.00



B-T Non-Inductive Potentiometer

A variable high resistance similar to that described on the preceding page but with three terminals. Slider connects to center terminal and varies at either outer terminal to maximum resistance. Stepless, noiseless, and without effect.

Code No.	Maximum Resistances	List
P-400	400-ohms	\$1.75
P-2000	2,000 ohms	2.00

B-T Tuning Control

An attractive appearance combined with the highest degree of efficiency. A 12 to 1 ratio provides positive control with a smooth easy action. There is no pull or side strain on the condenser shaft to cause wear on bearings and consequent impaired plate alignment. The same dial works with either right or left turning condensers. A reversible, erasable disc is calibrated on one side in wave lengths for use with B-T Type L and LD Condensers in conjunction with B-T Inductances. The reverse side is for marking station call letters. This is the only dial that reads in fractional degrees, if desired.

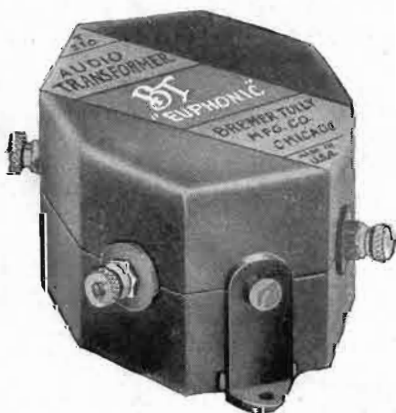
	List
Tuning Control (Black and Gold Finish)	\$2.50

B-T Euphonic Audio Transformer

The B-T "EUPHONIC" (meaning "pleasing to the ear") is an Audio Transformer of unsurpassed merit. Nothing on the market today regardless of size will give better amplification or tone qualities, its superiority being particularly noticeable on low notes.

It shows the first constructional improvement in years. The special mounting features and placing of terminals allows mounting either side up in such various positions as will eliminate all crossed wires—helping greatly to prevent howling and distortion.

Type	Ratio	List
Type 210	Ratio 2.2 to 1	\$5.00
Type 410	Ratio 4.7 to 1	5.75



Dubilier DEVICES

DISCOUNTS:—Standard packages
Broken packages 10% less than standard package discount.
.....%
Recommended maximum dealer's discount

TERMS:—2% 10 days, net 30 days.
F. O. B.:—Our factory, New York City.
All prices and discounts subject to change without notice.

THE MICADON TYPE 601

The fixed condenser is a small but most important unit in a radio receiving set, the proper functioning of the set depending almost entirely upon its accuracy, dependability and constancy.

These three characteristics are an integral part of each Dubilier Micadon, resulting in the most efficient condenser for radio circuits.

The Micadons illustrated on this page are used by amateurs, radio engineers and set manufacturers, and can be adapted to fill a wide range of uses in radio sets. The various types of Micadons offer a simple and effective means of placing condensers in radio circuits with the minimum amount of work and without spoiling the appearance of the finished product.

The original Micadon, while accurate to a high degree, was not flexible, in so far as only one type was available. The newer Micadons have been constructed with a view towards facilitating their assembly in modern radio sets either factory built or home made.

The Dubilier Micadon is unquestionably the world's most popular unit of capacity because the Dubilier Company has been quick to add needed conveniences and has maintained the high quality which has made the Dubilier Micadon the standard condenser of radio.

Below are listed capacities and prices of the type 601 Micadon as shown above.



Capacity	List Price	Capacity	List Price	Capacity	List Price
.00005	\$.35	.001	\$.40	.003	\$.50
.0001	.35	.0015	.40	.004	.50
.00025	.35	.002	.40	.005	.60
.0005	.35	.0025	.40	.006	.75

Standard Package:—50 of one capacity (packed in units of 10)

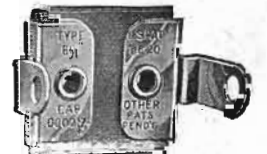
Below are modifications of the Standard Micadon Type 601, equipped with special mounting clips. Each type shown will be made to order in any capacity desired. Capacities carried in stock are listed under each.

Prices:—10c. advance for 601T-601G over list prices shown for 601 plain.



Micadon Type 601T has adjustable clips which slip over transformer and other binding posts. Stocked in Capacities .0005, .001 and .002.

Micadon Type 601G has clips to hold fixed grid-leaks (Grid-leaks not supplied with Micadons). Stocked in Capacities .0001, .00025 and .0005.



Standard Package:—50 of one kind and capacity (packed in units of 10)

DUBILIER CONDENSER
4377 Bronx Boulevard



& RADIO CORPORATION
New York, N. Y., U. S. A.

Dubilier DEVICES

THE BY-PASS CONDENSER

This condenser is used as a by-pass for the radio frequency currents around the high internal resistance "B" battery. Because of this reduced resistance, louder signals may be obtained. It is also used to control the fluctuating current delivered by a partly run down "B" battery, thus insuring a uniform flow of current and the elimination of noises.



Capacity	List Price
.1 Mfd.	\$.70
.25 "	.75
.5 "	.90
1 "	1.25
2 "	1.75
4 "	3.75

Standard Package:—10 of one capacity



FILTER CONDENSERS

These condensers have been especially designed for use in the filter circuits of Battery Eliminators as the ordinary By-Pass Condenser is not suitable for the high voltage loads occasioned by line surges.

The safe and efficient operation of Battery Eliminators demands proper condensers able to withstand the high voltage loads encountered under service conditions. These new Filter Condensers are built for this purpose.

Type	Capacity	DC Flash Test	DC Max Working Voltage	AC Max Working Voltage	List Price
765	1 Mfd	800	160	110	\$1.25
766	2 Mfd	800	160	110	2.00
767	4 Mfd	800	160	110	4.00
768	1 Mfd	2000	400	220	1.75
769	2 Mfd	2000	400	220	3.50
770	4 Mfd	2000	400	220	7.00

STANDARD PACKAGE 10

DUBILIER CONDENSER
4377 Bronx Boulevard



& RADIO CORPORATION
New York, N. Y., U. S. A.

CONDENSERS—TYPES 577 and 580
Dubilier condensers types 577 and 580 are preferred where low losses and accurate capacity condensers are essential. They are suitable for use as laboratory standards in precision circuits and for low power C. W. transmitters.



Type 577 is designed for use in radio and audio frequency circuits; for receiving equipment (especially super-heterodyne); self-rectifying circuits; d. c. and other tube transmitters. An excellent grid, plate, by-pass and antenna series condenser.

TYPE 577					
Cap'y	Volt.	List Price	Cap'y	Volt.	List Price
.0001	1,000	\$2.00	.002	1,000	\$2.25
.00025	1,000	2.00	.0025	1,000	2.25
.0005	1,000	2.00	.005	1,000	2.25
.001	1,000	2.25	.0075	1,000	2.50
.0015	1,000	2.25	.01	1,000	2.75

TYPE 577A		
Capacity	Voltage	List Price
.0001	2,000	\$2.25
.00025	2,000	2.25
.0005	2,000	2.25
.001	2,000	2.25
.0015	2,000	2.25
.002	2,000	2.25

Standard Pkg. of 577 or 577A:—10 of one capacity.

Type 580 is designed for low-power continuous-wave telephone and telegraph transmission. It is used also as a tuning or coupling condenser, as a series or tuning condenser in the antenna circuit, or as a grid condenser.



Capacity	Voltage	List Price
.0003*		
.0004*	5,000	\$5.00
.0005*		
.001	5,000	4.50
.002	5,000	4.50
.005	2,500	4.50
.01	2,500	4.50
.02	2,500	5.00

* These three capacities are made available in one condenser by a number of taps.

All of the above condensers are priced at a plus or minus 10 per cent accuracy specification. If accuracy desired is 5 per cent add 25c to list prices; if 1 per cent add 50c.

Standard Package:—10 of one capacity.

Dubilier DEVICES

THE METALEAK

These Resistances, the results of extensive research, are accurate and constant at all times. Their production involves a principle of manufacture that is entirely new and worthy of mention. An extremely thin coating of metal, possessing



properties of resistance not found in any other type, is deposited on a glass rod of thread-like proportions. This is then hermetically sealed in a glass cartridge. Due to this "filament" the Metaleak is absolutely noiseless in operation under all service conditions.

In size the "Metaleak" is slightly smaller than the standard type which makes it particularly adopted for use with the Micadon 640A in resistance coupled amplification. But it may be used with equal efficiency in any grid mounting.

Metaleaks may be obtained in all standard values and can be used wherever a fixed resistance is called for.

Resistance	List Price	Resistance	List Price
20000 ohms	\$.65	-½ meg.	\$.40
25000 ohms	.65	-¾ meg.	.40
40000 ohms	.65	1- meg.	.40
50000 ohms	.65	1-½ meg.	.40
75000 ohms	.65	2- meg.	.40
100000 ohms	.65	2-½ meg.	.40
150000 ohms	.65	3- meg.	.40
200000 ohms	.65	4- meg.	.40
250000 ohms	.65	5- meg.	.40

Standard Package 50.

DUBILIER CONDENSER
4377 Bronx Boulevard



& RADIO CORPORATION
New York, N. Y., U. S. A.

THE DURATRAN

The Dubilier Duratran is an excellent radio frequency transformer that functions over the en-



tire band on wavelengths from 225 to 550 meters with an amplification constant of over twenty.

All raw materials used are carefully inspected and tested to insure uniformity of production. The Duratran is assembled under careful supervision and is individually tested for stability and degree of amplification over the wavelength band of 225 to 550 meters.

This care in manufacture insures accuracy, durability and satisfaction in use.

List Price \$4.00

Standard Package 10.

THE DUTEC

A sensitive synthetic crystal which will not oxidize from age or exposure. Every point on the surface is sensitive. The Dutec will bring in the broadcasting stations with remarkable clarity and volume.

List Price \$.30

Standard Package 100.

Dubilier DEVICES

THE MICADON TYPE 640



Type 640



Type 640G

MICADON TYPE 640 A



Type 640A

The Micadon Type 640 has been designed to meet the demand for a highly efficient mica condenser of larger capacity and higher voltage test than the Micadon Type 601.

This Condenser is made in capacities from .00025 to .02 microfarads and is adapted for use in any radio circuit where low loss mica condensers are required. The larger capacities are especially suitable for use as by-pass condensers in super-heterodyne and other circuits.

The Micadon Type 640 is an excellent condenser guaranteed to function satisfactorily in all precision radio circuits.

The Type 640A is furnished with special resistance unit clips and is designed to be used in conjunction with the Dubilier "Metaleak" for resistance coupled amplification.

This condenser with the proper resistances forms a most compact unit, with fewer electrical connections and greater electrical efficiency than has heretofore been possible.

Capacities and List Prices of Type 640				Type 640A	
Capacity	List Price	Capacity	List Price	Capacity	Prices (without resistors)
.00025	\$.40	.0025	\$.45	.0075	\$.90
.0005	.40	.003	.55	.01	1.00
.001	.45	.004	.55	.015	1.50
.002	.45	.005	.65	.02	1.75
		.006	.80		
				.01	1.20
				.015	1.70
				.02	1.95

Type 640G with clips for mounting resistance unit is stocked only in capacity .00025 mfd. List Price \$5.00 Any special capacity of the Micadon Type 640G will be made to order. Prices on application. Standard package 50 for capacities .00025 to .006 inclusive. Capacities .0075 to .02 inclusive, standard package 10. Type 640A—standard package 10.

THE DUBILIER DUCON

The Dubilier Ducon is a safety device which enables you to use the house wiring as an aerial. The Ducon makes it possible to have a very efficient aerial by connecting a radio set with the electric-light wires. It is simply screwed into the light socket as an ordinary electric bulb is.

No matter what set is used, either a crystal or an elaborate tube outfit, the Dubilier Ducon will usually be found to greatly improve reception.

An additional advantage of the Ducon is that an aerial is ready for instant use



List Price \$1.50

DUBILIER CONDENSER
4377 Bronx Boulevard



in every room in the house—wherever there is a lamp-socket. The Ducon uses no current and may be used on any lighting circuit, whether alternating or direct.

It reduces to a minimum the annoyance of static electricity, disturbances from high-power lines and all other interference.

The Dubilier Ducon is absolutely shock-proof and practically indestructible.

The Dubilier Ducon is sold on a money back basis.

Listed by the National Board of Fire Underwriters.

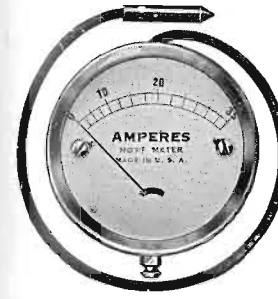
Standard Package 50.

& RADIO CORPORATION
New York, N. Y., U. S. A.

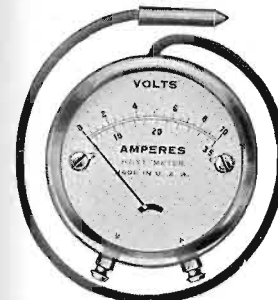
HOYT ELECTRICAL INSTRUMENTS

FOR RADIO SERVICE

Pocket Types—Watch Case Construction—2" in Diameter—Nickel Finish



Type 1—Ammeter
0-35 amperes
\$1.00



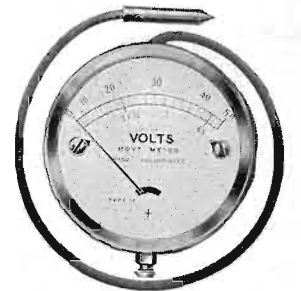
Type 21—Voltammeter
0-35 amps. 0-10 volts
\$1.50

TYPE 1

An ammeter, range 0-35 amperes, built for determining the amperage of a dry cell when meter is placed directly across terminals.

TYPE 11

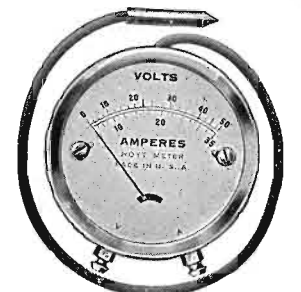
A voltmeter, range 0-50 volts, with red markings at 22.5 and 45 volt points. This meter has high resistance, is accurate and is absolutely reliable for B battery testing. Scale hand calibrated.



Type 11—Voltmeter
0-50 volts
\$2.25

TYPE 21

A voltammeter, ranges 0-35 amperes and 0-10 volts, which make possible the accurate testing of "A" batteries and dry cells.



Type 31—Voltammeter
0-35 amps. 0-50 volts
\$3.50

TYPE 31

A voltammeter, ranges 0-35 amperes and 0-50 volts, a new meter produced to answer the insistent demand for testing B batteries and dry cells, with one instrument.

Two-inch Panel Voltmeter—Moving Vane Type

This meter is supplied in a single range for testing A batteries or as a double range instrument for testing both A and B batteries. There are one or two push-button switches coming through the front of the meter so that readings can be made by simply pressing a switch.

Double range voltmeters are built with three terminals: A+, B+, and a common negative. They are not to be used on sets in which the A+ is connected to the B—, except with an additional switch.

Single Range	Double Range	Finish
0-10 volts	0-10 and 0-100 volts	Black enamel
0-50 "	0-7.5 and 0-150 "	

Price \$3.25

Price \$4.75



Type 543

(On double range meters B battery scale and switch button are red.)

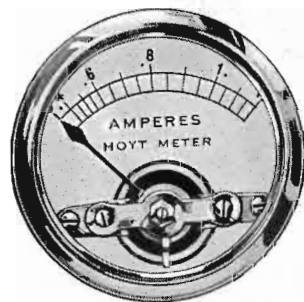
The Hoyt line is complete—meters are standard in every respect, carefully calibrated and fully warranted to give accurate tests. Packed in single boxes, 12 boxes to a carton.

HOYT ELECTRICAL INSTRUMENTS

FOR RADIO SERVICE
Miniature Switchboard Types

Peep-Hole Meters

This meter is designed to fit any radio panel peep-hole. The barrel, where it fits into the hole, is 25/32" in diameter and the overall diameter is 1 1/2". It should be mounted permanently in the set for determining the current drawn by tubes—either singly or in series—or the voltage on the tubes—or, if desired, on either "A" or "B" batteries, as the ranges which can be supplied readily permit such hook-ups.



Type 541—Ammeter
Actual Size

Ammeter—0-.8 amperes
0-1.2 "
0-3.0 "
0-5.0 "
0-7.0 "

Voltmeter—0-4 volts
0-6 "
0-10 "

Price \$3.00



For higher voltage readings multipliers are supplied with 10-volt meter as follows:

3 to 1 (Total 30 volts) \$.75
5 to 1 (" 50 " .75
10 to 1 (" 100 " 1.25

Panel Meter—Moving Coil Type

For most accurate electrical testing, meters built on the moving coil principle are essential. To our knowledge type 17 meter is the smallest highly sensitive instrument on the market; built to set flush with the panel—2" in diameter—beautifully finished—can be supplied self-contained in the following ranges:

Ammeter—0-25 milamps
0-100 "
0-1 amperes
0-5 "
0-10 "

Volts—0-100 milvolts
0-3 volts
0-10 "
0-15 "
0-30 "
0-50 "

Price \$7.00



Type 17
Barrel, 2" diam. Narrow
or Wide Rim

For higher ranges, external shunts and multipliers are necessary and prices will be furnished on request.

Filament Voltmeter, Type 17—2" Diameter
Moving Coil Type

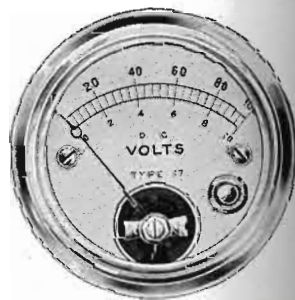
Range: 0-6 volts—for controlling the voltage impressed on the tube filaments, which in the 199 type tubes is particularly critical.
\$7.00 standard finish

A and B Battery Voltmeter

Ranges: 0-10 and 0-100 volts or 0-7.5 and 0-150 volts (with external multiplier on higher ranges). The lower range is left in circuit—a switch button in the glass permits the higher range to be thrown in.
With Button Switch.. \$9.00 standard finish
Without Button Switch \$8.25 standard finish



Filament Voltmeter



"A" and "B" Voltmeter

Multiswitch

A new device, recently developed, which provides the radio operator with a combination of two voltage and one milampere readings. Easily mounted on panel—takes 1/4-inch hole—connections clearly marked.
\$4.50
(See special folder.)

2 1/4" Panel Meter—Moving Coil Type

A slightly larger meter—2 1/4" in diameter with a wide black rim attached to the panel by means of three screws or bolts—can be supplied in the Hoyt type 5080. This instrument is similar in construction to the Model 17, differing only in size of case. It can be supplied in any of the ranges referred to above.
\$9.00 standard finish

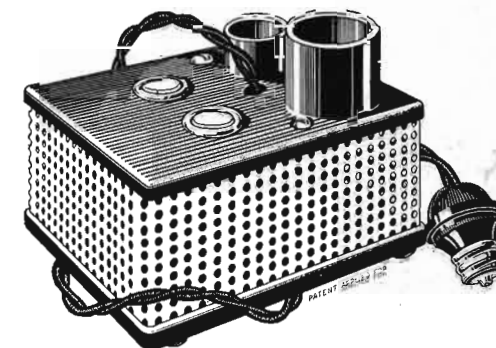
A.C. Voltmeters

Alternating current voltmeters and ammeters for A.C. tubes can be supplied in two types:
536—2" diameter.....\$5.00 standard range and finish
5120—2 1/4" diameter.....\$9.50 standard range and finish

BURTON & ROGERS RADIO PRODUCTS

TUBE FLASHER

For Direct or Alternating Current
Any Cycle



The "Why" of Flashing Worn-Out Tubes

Flashing radio tubes is not new—it is a process recommended by the tube manufacturers and has been used successfully by radio jobbers and progressive dealers for some time.

The BURTON & ROGERS TUBE FLASHER has been developed for consumer use—so that the radio operator can flash his own tubes and so keep his set working at maximum efficiency at all times.

Price \$7.50

The modern "dull-emitter" low current-consumption radio tube, like the type 201-A or 199, depends for its efficiency upon a coating of rare metal, thorium, upon the surface of the delicate filament.

In the manufacture of the tube, the filament is impregnated throughout with thorium. During the process of exhaustion the filament is flashed and this builds up a very thin smooth coating of thorium on the surface.

(1) It can be used on either DIRECT OR ALTERNATING CURRENT, ANY CYCLE.

(2) The operator merely presses a button for 45 seconds—releases it—and leaves the tube in the socket for 10 minutes—COULD ANYTHING BE MORE SIMPLE?

(3) The equipment is attractive in design, with bakelite top and bottom—5"x3 3/4"x3 3/4"—equipped with 5 feet of cord and a plug for attachment to any socket, either A. C. or D. C.

(4) It is packed in a substantial cardboard carton with an attractive label and weighs (packed) 1 lb. Standard shipping package holds 12 TUBE FLASHERS, and with each package is a supply of envelope stuffers and two display broadsides.

A thorium-coated filament when heated to a dull red will emit electrons in a vacuum as well as an ordinary metal filament at a white heat.

After the tube has been used for a long time, especially if it has been burned too brightly, or with excessive plate current, this thorium coating is evaporated, and lost.

"Flashing" the tube will boil out more thorium from the interior of the filament and the ten-minute run at a lower current then coats this smoothly over the filament. If the filament cools, even for a fraction of a second, between the flashing and the 10-minute run, the coating cracks, and will soon fall off.

That is why it is essential not to allow the filament to cool between runs.

The Burton-Rogers Tube Flasher does not allow the filament to cool. It cannot. Its operation is automatically correct.

BELDEN AERIAL AND WIRING PRODUCTS

Beldenamel Aerial Wire



No. 600

This improved wire for outside aerials consists of individual Beldenamel Wires either stranded or braided together into a cable. The enamel insulation between strands increases surface area and improves reception of weak signals. The enamel also protects against corrosion and keeps the wire clean so that radio frequency currents are handled with minimum loss regardless of how long the aerial has been up.

- 7 x No. 22 Beldenamel Stranded, 100 ft. carton \$1.00
- No. 14 Beldenamel Solid, 100 ft. carton .80
- 7 x No. 22 Belden Tinned, 100 ft. coil .90
- 16 x No. 28 Belden Tinned 100 ft. coil .75
- 7 x No. 22 Belden Bare Copper, 100 ft. coil .70
- No. 14 Belden Solid Copper, 100 ft. coil .58

Belden Loop Antenna Wire



No. 601

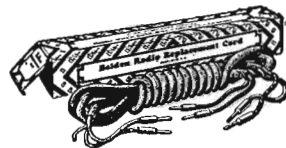
A special flexible wire on small metal spools for winding radio loops. Furnished 125 feet on a spool in attractive individual cartons.

Specifications: 60 x No. 38 copper wire stranded with 5 x No. 36 copper wire which has been specially treated to prevent stretching, double serve of maroon cotton over all.

60 x No. 38 Spool of 125 ft., Cotton \$.95

- 60 x No. 38 Spool of 125 ft. Rayon 1.75

Belden Radio Replacement Cord



No. 617

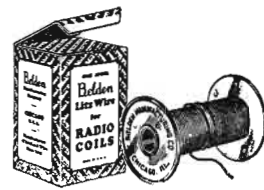
These are 5-foot head set and loud speaker cords for replacement of worn cords.

Specifications: Conductors are 18 strands best copper tinsel twisted into 3 cords

for maximum flexibility and service. Two dry cotton braids on each conductor. Solid pin tip terminals on both ends. Packed in individual cartons for convenient resale.

- Single Cord in Carton \$.35
- Double Cord in Carton .55

Belden Litz Wire—High Frequency Cable



No. 602

The scientifically correct conductor for radio-frequency currents. Ideal for winding vario-couplers, radio-frequency transformers and loop antennae. Belden Litz Wire consists of fine strands of Beldenamel wire, protected by wrappings of silk.

Specifications: 35 x No. 36 Stranded Beldenamel with 2 servings of Green Tussah silk. Equivalent to No. 21 B. & S. Gauge. Max. diameter 0.041 inches.

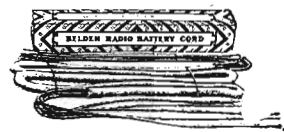
48 x No. 38 Stranded Beldenamel with 2 servings of green Tram silk. Equivalent to No. 21 B. & S. Gauge. Max. diameter 0.045 inches.

37 x No. 38 Stranded Beldenamel with 2 servings of maroon Tram silk. Equivalent to No. 22 B. & S. Gauge. Max. diameter 0.037 inches.

20 x No. 38 Stranded Beldenamel with 2 servings of green Tram silk. Equivalent to No. 25 B. & S. Gauge. Max. diameter 0.025 inches.

- All styles wound on small metal spools and packed one spool in an attractive carton.
- 35 x 36 Stranded per Spool \$1.00
- 48 x 38 Stranded per Spool 1.80
- 37 x 38 Stranded per Spool 1.00
- 20 x 38 Stranded per Spool .65

Belden Radio Battery Cord



No. 614

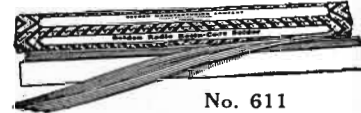
Here is a real boon for the radio fan. Five flexible stranded conductors, each with individual markings, according to A. M. E. S. Standard, cabled together with a serviceable and attractive brown braid of glazed cotton.

Does away with the usual unsightly mass of tangled hook-up wires. Colored tracers make checking of connections simple and absolutely accurate.

Specifications: Belden Battery Cord comprises 2 No. 16 and 3 No. 18, 6 ft. lengths of flexible rubber covered stranded copper conductors. Each conductor is covered with individually marked cotton braid. All conductors contained in brown braid of glazed cotton. Each cord is packed in a distinctive Belden carton. A rapid seller and very profitable.

- 1 Cord in Carton \$.75

Belden Rosin-Core Solder



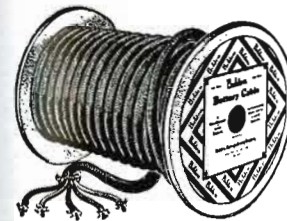
No. 611

This wire solder, designed especially for radio work, contains the precise proportion of rosin flux for best results. Only heat is required in soldering. No corrosion at the joints. Packed in distinctive Belden carton, 155 18-inch lengths to carton.

- Carton of 155 lengths \$5.70

BELDEN AERIAL AND WIRING PRODUCTS

Belden Radio Battery Cable



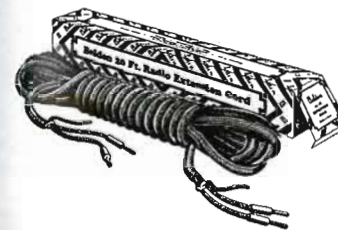
No. 615

This cable is somewhat similar in construction to the Belden Battery Cord. It serves the same purpose as the Battery Cord except that it is supplied in 100-ft. lengths and can be cut to the right length to meet special conditions.

Specifications: 5 conductors under a black glazed cotton braid, two of No. 16 B. & S. stranded and three of No. 20 B. & S. stranded. All conductors are rubber covered and insulated with cotton braid color coded in accordance with standards of A. M. E. S.

- Spool of 100 ft. \$8.50

Belden Radio Extension Cord



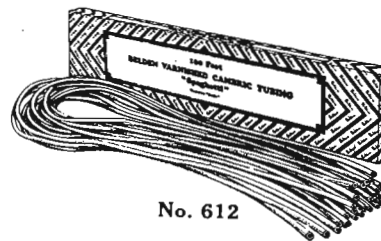
No. 616

This 20-foot extension cord permits moving loud-speakers and headphones far from radio receiver set. Two or more extension cords may be used together for greater distance.

Specifications: A two-conductor cord with solid tip terminals (code Consol) at both ends. Conductors are 18 strands best copper tinsel twisted into 3 cords for maximum flexibility and service. Two cotton braids on each conductor are protected by an overall braid of black mercerized cotton.

- 20 ft. cord \$.65

Belden Genuine Itala Tubing



No. 612

Just the thing for the set builder who wants every wire covered. This genuine Hi-Dielectric Itala Tubing is packed 25 pieces, approximately 4 feet long, to a carton. Standard size 2 m/m. Furnished in yellow and black.

- Yellow tubing per carton of 25 lengths \$5.00
- Black tubing per carton of 25 lengths 5.50

Belden Insulated Hook-up Wire



No. 606

For connecting switch-points, variometers, batteries and other set connections where an insulated conductor is desired.

Construction: No. 14 tinned solid copper wire insulated with one cotton and one silk braid and varnished. Packed 100-ft. coil to a carton.

- Coil of 100 ft. \$2.40

Belden Lead-in and Ground Wire



No. 603

A popular seller. Convenient cartons aid sales and save time in measuring and cutting. Also prevent stock waste.

Specifications: No. 14 solid tinned copper, 3/64" wall Beldenite insulation, and one weatherproof braid, either white or black. Approved by Fire Underwriters.

- 50 ft. coil in carton \$1.15
- 100 ft. coil in carton 2.20

Belden Tinned Hook-up Wire



No. 604

No. 14 B. & S. Gauge bare tinned hook-up wire is furnished in 2-ft. lengths, both round and square for convenient and profitable resale. It comes packed in strong fiber cartons with the Belden striped label on each end. Shipped and billed by weight only.

- No. 14 Square Tinned Copper (25 lbs. approx. 800 lengths) per 100 lbs. \$59.00
- No. 14 Round Tinned Copper (25 lbs. approx. 1000 lengths) per 100 lbs. 54.00

Belden Flexible Hook-up Wire



No. 607

For connecting batteries, aerial or ground, or connections within the set.

Stranded bare copper wire, equivalent to No. 18 B. & S. Gauge, insulated with cotton wrap, code rubber, glazed cotton outer braid or Rayon (artificial silk) outer braid. Packed 25-ft. coil to a carton or on 1000-ft. spools.

- Red or black cotton, 25 ft. in carton \$.35
- Red or black Rayon, 25 ft. in carton .50
- Bare rubber, 25 ft. in carton .25

DEALER'S GUIDE

THIS new feature has been added to our annual catalogue this year for the purpose of placing before our dealers, for convenient reference, some of the fundamental policies which have been adopted by many successful retail dealers. The articles have been secured from authoritative sources, and we believe represent the best thought of today on these subjects.

We wish to express our appreciation and thanks to all of those who contributed the articles to make this department of interest and value to the dealers.

ARRANGEMENT OF STORE

By M. CLEMENTS
Managing Editor, Radio Retailing

FOR inspiration, when thinking of store arrangement and equipment, we need only bear in mind the principles of modern merchandising so well typified in those giants of retailing—the Woolworth and Kresge systems of stores. In these display and convenience to customers is the predominating thought.

It might be considered by some that the comparison of five-and-ten cent stores with radio stores is far fetched. Nevertheless, the basic merchandising principle is the same in both, that is "to sell goods, they must be shown."

Equipment that is designed for atmosphere-creating effect only, is devoid of excuse for its existence. Equally useless are a lot of boards arranged as shelves and carrying boxes and packages containing articles of merchandise which never come to light unless some customer happens to ask for a particular item contained therein. On the other hand, equipment that displays the merchandise and thereby creates desire to possess, will sell goods to the consuming public and is a live asset that works every minute that the store is open.

A store that is attractively arranged need not be burdened with expensive fixtures built for looks and not for utility. Fixtures should set off the merchandise so emphatically that prospective customers will not see anything but the article they are interested in.

Store engineers have made comprehensive studies of various layouts and have found that the best arrangement thus far devised is one that affects the customer pleasantly, giving him the feeling of ample elbow room, but yet is compact and extremely orderly. This effect can be secured by leaving ample floor space just inside the door. Where entering, customers will not jostle those leaving and when inside, will not feel ill at ease for fear of pushing some article off display tables or show cases. Even small rooms can be made to appear more roomy by the proper arrangement.

A store room that is not considered deep enough can be made to look deeper if the aisle leading from the door runs straight through to the rear. One that is extremely narrow and long can be made to appear wider and not so deep if a horse shoe arrangement of show cases is placed in the middle. This should be set well back from the entrance with two aisles running back about half way. The rest of the way the fixtures should be placed so that there is but one aisle to the rear.

Drug and hardware stores are going so strong for modernized equipment that some of these stores are now recognized as models of efficiency and appointments. The same kind of treatment so successfully used in these stores can be easily applied to radio stores.

It will probably be charged that too much stress has been laid on the absence of displays of small items in the stores but it must be taken into consideration that good will is built like a brick house—one brick (sale) at a time—on a solid foundation. The many small sales with their good building possibilities must therefore be taken into consideration and no opportunity lost to get people accustomed to coming into the stores.

Every item, no matter how small and insignificant it may seem, should be sampled and displayed in such a manner that it will make selection simple for the uninitiated.

Store equipment should be designed primarily to assist in the sale of merchandise. It should be made as attractive as possible at a minimum cost, but must not detract from the article on display. People like to go to stores that are exhibitions of their type of merchandise—where they can look to their heart's content.

A study of the subject will convince the most skeptical dealer that equipment is for him just like a bench and tools to a mechanic. Given a good set of tools a good mechanic can do a good job, but given a poor set of tools, he can at best do but a mediocre job. The right kind of store fixtures will do much towards putting the radio store in its rightful place among high-class retail businesses.

BUYING AND SELLING POLICY

CONTRIBUTED BY THE TALKING MACHINE WORLD

UNDER this subject is contained the prime factors in the conduct of the dealers business, for it is through the function of buying and selling that the profits are made or lost. Therefore, a careful analysis of this subject on the part of the retail merchant is paramount.

Upon casual thought buying might seem the simpler of the combination particularly in the case of standard merchandise and dealing with reputable houses where fixed prices are maintained. However, the more the subject is gone into the more it becomes apparent after all that the first essential objective is to purchase the proper merchandise for resale, for without proper buying proper selling is impossible. Therefore, the first step in the process is the selection of highly salable merchandise. Next in importance is the quantity to be ordered. Good buying does not necessarily mean over buying, but it does mean the purchasing and maintaining of a complete and ample line of the merchandise carried. Of course, the present day method of quick delivery service by responsible distributing houses has materially helped in the maintenance of complete stocks, but the wise dealer is the one who will have the merchandise on hand when the customer calls. Thirdly, but perhaps the most important point to be considered in careful buying is the selection of the proper jobber. In purchasing from a reputable distributor the dealer secures more than the actual merchandise specified on the order blank. He receives the wholehearted co-operation of a highly trained staff of experts—experts not only in the technicalities of radio but in radio merchandising as well. He receives the backing of a strong organization. While he is actively engaged on the firing line he knows, figuratively speaking, that reinforcements are not far behind. Although only briefly surveyed it may be easily seen that the buying policy of the retailer merits much attention.

Co-ordinated with the buying policy is the selling policy. Upon the selection of proper merchandising methods is dependent the growth of the sales volume. The selling of reputable merchandise demands the employment of high class selling methods. Although the foregoing statement would seem obvious to the great majority of dealers, it is not amiss to point out that the most successful commercial enterprises have been built upon the ethical merchandising of reputable products. Neither time nor space permits going into details upon the various angles of salesmanship. Each individual dealer meets his own problems in his own way and no one set rule would apply. The most important point to be stressed in the selling policy would seem to be aggressive selling. After a careful study and analysis of the field and an intimate knowledge of the prospect an aggressive follow-up system is of prime importance. The dealer who waits for business to come to him is apt to wait. The experience of thousands of dealers has demonstrated that the retailer who uses every means within his power to develop business and goes out after it is the dealer who is doing the business while his competitor is idle.

The retailer of radio is engaged in a great industry. A great future lies before him. The field is fertile. The surface has hardly been scratched. While it cannot be expected that business will roll in without any effort, still there is the assurance that intensive effort is bound to yield results. It is in the buying and selling policy that success in the future lies. Dealers should, therefore, review their buying and selling policies not only now but at frequent intervals so that they are abreast with the current events in the industry. The height of the superstructure of profits is gauged by the dependability of these foundation policies.

"STOCK AND TURN-OVER"

By CURTIS A. WESSEL
Editor, The Phonograph & Talking Machine Weekly

THE questions of adequate stock maintenance and satisfactory sales turn-over are so vital to the success of any retail business that a clear understanding of their importance will best be had by tracing their effect in some of the outstanding mercantile enterprises of the time. I have hundreds of friends in the retail trade all over the country and am aware that, when a conspicuous example of sales success is cited, the most frequent rejoinder among small or beginning merchants is, "Well, of course, they've got lots of money." It is forgotten that the very factor which gave eventual big retail successes "lots of money" was merely shrewd precaution in stock-maintenance and sales turn-over.

The same factor will work as freely and efficiently for the smallest dealer as it proves out for the biggest one. All that is needed is to make a beginning.

The department stores were the first mercantile enterprises to profit by wise stock-ordering and frequent inventory. Department stores, as a rule, do not have low over-head costs, though this virtue is often attributed to them. As a matter of fact their over-head, due to expensive locations and elaborate service, is likely to be far higher than that of a specialty merchant. But the department-store insists on something that the individual merchant often ignores. It never permits profits to freeze in surplus goods in stock. It never permits over-buying and it knows all the time where each department stands because inventories are taken monthly or oftener. The dealer who takes inventory once a year will be surprised to see what mistakes and what accumulations

of goods, a card-index perpetual inventory system will perforce save him from. Finally, a cardinal rule in mass-merchandising is to place the responsibility for buying upon the ablest instead of the least capable man in the place. This is very logical, for no matter how much money good salesmanship brings over the counter, wasteful buying can dissipate it as fast and usually faster than it arrives. A faulty custom among many dealers is to assign the care of their stocks and the authority for spending their money, in such small sums as are needed for routine ordering, to the most inefficient person about the place. How often we hear that Johnny or Katie evidently has not got enough ability to sell goods or do anything else about the store but they are all right to take care of the stock and telephone to the jobber's for whatever is needed. In contrast to this, remember that the buyer in a department store is always the most experienced and best-paid man in the section; star salesmen's earnings may at times run above his but he is paid the year round on a lucrative basis to watch out for the department funds.

The chain-stores followed or accompanied the department stores very closely in development of super-stocking and super-turn-over methods and have probably excelled the department stores in acceleration of turn-over. A great chain of tobacco stores is credited with turning its stock as often as fifty-two times a year at many points. In the talking machine business it has not been uncommon for a dealer to turn his stock every month. It should be remembered that for profit and accounting purposes, a financial turn-over is what is wanted, not necessarily a physical turn-over. It might be very difficult to move every particle of goods on hand into consumption within a very short time as, for example, once a month. But if the gross proceeds of a month's sales exceed the inventory value shown on hand at the first of the month, it may fairly be figured that the turn-over has been had. Whenever this ratio slips behind, the business is losing ground. In the physical aspect of the thing, there will always be a few items that do not clear out as fast as others do but by keeping careful guard against their accumulation they can be sold sooner or later and the inventory will retain a healthy complexion. Meanwhile, if specially saleable items have had to be re-ordered but still were not on hand at the end of the month, the merchant may count himself as extremely successful who takes in each month more money than his inventory will show in merchandise on hand the first of the month following.

I am aware that in citing department-stores and chain-stores as examples to follow I run the risk of the reader's saying, "Gosh, but that doesn't apply to me." On the other hand, where can we seek successful principles if not among the acknowledged successes? The proof of the pudding is in the eating and any merchant, however modest in resources though keen in ability, who applies big-business methods will shortly find himself in the ranks of big business and may wonder how he got that way.

CAREFUL CREDITS ARE THE BASIS FOR A GOOD COLLECTION SYSTEM

By **GAYB LITTLE**
Editor, Radio Merchandising

AS soon as the average dealer begins to extend credit facilities to his customers, he is confronted with the collection problem, and unless he promptly applies corrective measures, it is more than likely to prove his downfall.

It goes without saying that the easiest way to solve the collection problem is not to have any collections to make—to trust no one. But in this case, as in most others, the easiest way is not the best.

When it is remembered that the average income of an American family is less than \$1500, and that seventy-five per cent of this is used for such necessities as rent and heat, food and clothing, it is apparent that a dealer, to sell even a small percentage of his prospects, must extend some sort of credit facilities to them.

But despite this, the collection problem is by no means a necessary evil. An ounce of prevention is worth a pound of cure and if a dealer will only be as careful in extending credit as he is in loaning money he will find little difficulty in making collections when they fall due.

A good hotel clerk will cash thousands of checks during the course of a year and only in rare instances will one of these checks turn out to be no good. The clerk has learned to "size up" his customer. A man who travels with his family is a good risk. A man who travels alone and with little baggage is a poor risk. And so on.

In much the same way, a dealer can size up a customer who asks for credit. He may well ask for the recommendation of someone known to him, or the recommendation of a prominent citizen, the name of the customer's bank, or the name of some other firm which has granted credit to this customer. These are only a few of the questions a dealer may ask, questions which no honest customer will hesitate in answering, if correctly approached.

If a dealer cannot secure satisfactory answers to questions such as these, and still persists in granting credit, he deserves to lose. He does not need a collection system. He needs another business.

But suppose that despite due precautions a customer who has been given credit does not meet his bills when they fall due, as is sometimes the case with even the most careful dealers. Then what is the procedure?

There are three courses open to the dealer. He can sue. He can demand a return of the merchandise. And he can wait. Which is the right thing to do depends entirely upon the individual circumstance. If the customer

shows no inclination to pay, then don't waste time dilly-dallying around but go after him in any way you can. If the customer is of the type we call "slow pay," then be careful but persistent. Try to impress him with moral aspect of his obligation. Appeal to his pride. But if the customer is in unexpected straitened circumstances, then be easy with him. He will appreciate your generosity and will pay in time. That's the very best collection system anyone ever invented. It's up to the dealer to size up his debtor. He can only learn how to do that through experience.

In an article of this sort it is customary to give three or four collection letters, but because of the small space allotted me, and the fact that most dealers have a dozen good letters on file anyway, I am not going to do that. Instead, I am going to give ten rules for collecting money. In my experience with twenty-five thousand radio dealers throughout the country, I have seen these rules work out and I know they are good. Here they are:

1. **MERCHANDISE YOUR COLLECTIONS.**—Don't just send a series of duns; build your collection series from the point of view of your debtor; sell him on the idea of paying.
2. **DON'T ALLOW ACCOUNTS TO GROW OLD.**—Most dead and slow accounts were "good" when they were opened. Start your collection effort at ten days, rather than at sixty.
3. **BE PERSISTENT.**—Even the slowest debtor feels the pull of an infallibly regular collection system; even a good account slacks with intermittent collecting.
4. **DON'T BE ASHAMED TO ASK FOR MONEY JUSTLY DUE.**—A firm collection policy not only brings in money quicker but gets the most orders.
5. **DON'T WHINE.**—Money is seldom paid because a delinquent feels sorry for his creditor.
6. **AVOID STUNTS.**—The acrobat may go over big; when he falls he sprains his back pretty badly.
7. **COOPERATE AS FAR AS POSSIBLE WITH YOUR DEBTORS.**—The more constructive advice and service you give, the larger will you develop your own business. With most people, kindness goes farther than harsh words.
8. **MAKE YOUR COLLECTION LETTERS BUILD GOOD WILL.**—Keep ever in mind that an average of 80 per cent of the business of most firms comes from customers already on the books. Satisfied customers are the biggest asset any business can have.
9. **KNOW YOUR CUSTOMERS.**—The more you know about your customers the easier it will be to collect money from them.
10. **MEMORIZE THE FOUR "C's."**—Careful Credit Collects Cash; money and merchandise are the same thing to you; if you wouldn't loan a man money, don't let him borrow your goods.

ACCOUNTS AND STATEMENTS

The Nerves and Sinews of your Business

Contributed by **JOHN MACINTYRE,**
Sec'y, Electrical Board of Trade of New York.

YOUR "ACCOUNTS RECEIVABLE" next to actual cash in your cash drawer or Bank is the most vital thing in the life of your business. Apart from the question of the responsibility of those customers whose names appear at the head of these bills, is the question of how much attention you give them? how you handle them and how prompt a turn over you get?

To be real assets bills must be rendered promptly, be correct in detail, be specific in character and terms, and state a time for payment.

There should be nothing written or printed on the bill form that leaves any room for question between you and your Customer in reference to the goods or transaction covered by the bill.

Loose methods in handling billing or sending monthly statements, lead to unnecessary delays, expensive letter writing, telephone calls, and needless talk which in turn lead to concessions in settlements and strained business relations with customers.

All bills should be rendered promptly, so that the customer has the opportunity of checking while the transaction is fresh in mind and thus have no excuse for not meeting settlements as indicated thereon. A little more firmness (by retailers especially) in making customers observe the terms of payment will mean more financial ease in your own business, better satisfied customers and a greater opportunity for further business.

A sound practice for every merchant is to go over his Accounts Receivable at least once a week, note their condition, and follow up all delinquents for immediate payment. There should be no hesitation in keeping after even the best of your customers for prompt payment of money due. It is your money, your business needs it, your ability to maintain your own credit and conduct your business successfully depends upon your having this money in a liquid condition. Therefore, there is no more important part in your business that calls for or should have your individual time and attention than the condition of your Accounts Receivable.

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When you neglect your Accounts Receivable, you are handing out your own money or have handed over the dollars of your creditors to these customers of yours and are allowing them to endanger your reputation and credit by taking their own time to return the amounts thus given out.

If your usual terms to customers are thirty days, when this period has elapsed and bills remain unpaid it is your duty to take prompt and decisive action either by interview or notifying the customer in writing that you expect the over due payment to be made within a certain specified time, giving a date when you will look for payment. If they become sixty days old, they have cost you considerable additional money and are weaker as assets.

Remember that under these conditions you are losing interest on the money, you are probably yourself paying out interest and discount fees to obtain money to replace the money represented by these bills, or you are injuring your credit with your creditors by non-payment of your own bills. All the time there is going on the additional cost of bookkeeping, and the time that you are personally devoting or having someone else devote to collecting the account, the cost of rendering statements and writing letters, all of which is coming out of your pocket without any possibility of receiving payment therefor. These factors are what detract from the actual value of book accounts receivable. It is especially necessary, therefore, that every business man should give close and personal attention to the condition of these accounts.

Statements of accounts when rendered should be clear and definite as to the payment dates of the items thereon, also as to any special discounts or credits.

They should be promptly followed up if customers fail to comply with the conditions specified. Most people *who are entitled to credit, can and do deserve* the terms of those who thus serve them, because they know and understand the value of credit and its obligations.

Prompt settlements make good friends and worth while accounts, therefore do not hesitate to courteously but firmly insist on payments when they are due.

The appearance of your bills and statements also have much to do with your customers' mental attitude and action. A clean cut bill form, neatly but clearly filled out, and easily readable, commands attention and impresses the average man or woman, whereas poorly printed, badly creased and indifferently made out bills annoy and irritate the receiver and oft times makes him feel the whole transaction is no better than the appearance of the bill.

What applies to your own Bills Receivable applies to your *Bills Payable* which are the other fellows' receivables.

Incoming bills should be carefully checked as to items charged, prices and terms, any differences or discrepancies noted or not in accordance with your understanding, should be taken up at once for correction and not be used as an excuse later for holding up payments or making claims. Such practices do not build up confidence or reputations—therefore treat your incoming bills as you hope and expect your customers to treat yours—this simple practice is sound business and has aided materially in building up thousands of successful business men in the past and will continue so to do in the future.

THREE CARDINAL VIRTUES NEEDED IN RADIO TIME SALES

Dealers Find No Profit in Large Volume Unless Principles of Instalments Policy Are Watched

By A. W. CALDER
The Talking Machine Journal

ONE of the most common complaints we have found from radio dealers is that they do an excellent business during the year, but when they total up their profits they find the perfect vacuum that Nature and the salesman abhors. For twelve months they ring up sales on a busy cash register, sales which seem to give a wide margin of profit, but the accountant shakes his head over the books. Why this paradox of good sales and small profits? Where is the leakage? Mr. Radio Dealer, check up your instalment paper. Remember that the wider the meshes of a net, the smaller the chances of frightening the fish, but the greater an opportunity of your catch slipping away. The easier the instalment policy, the smaller the sales resistance, but greater the loop-holes for loss.

From our inquiries throughout the trade, we have found that the dealers who are actually making money, regardless of their volume of business, are the dealers who are backing up their sales efforts with a sound time payment plan. The advantages of some kind of time payments are so obvious that we do not need to tell them, but methods are various and only a few are profitable.

Every time you make an instalment sale, remember that you can't figure on a cent profit until you have collected the last dollar and deducted all the expenses of collection. From the sale you have a road to trudge to profit that leads past overhead charges, collection expenses, service costs and loss from returned goods. Your

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instalment policy must be wide enough to bring as many sales as possible, yet strict enough to guarantee that each sale brings its streak of pay-dirt.

Three principles form the backbone of successful selling on time, and these principles should be the three cardinal virtues of the dealer. A large initial payment, interest on instalments, and short-time collections are the facts which will make your accountant smile.

The first payment should at least cover the cost of accessories to a radio receiver. Many dealers figure their first payment as the retail price of tubes, loud speakers and other accessories. Remember that tubes may be blown out the first day the set is used and that batteries have a variable depreciation. If the set is returned for any reason, dissatisfaction, reduced prices, inability to pay, your first payment must equal the loss you suffer when you sell the receiver second-hand. Aside from these immediate profits, the psychological effect of a large first payment is an excellent tonic to your customers. It gives them a higher respect for the product and for the merchant. They have been bitten before by gyp articles, so your firm policy will give them trust in you. First payments are usually figured on a percentage basis, varying from twenty-five to fifty per cent by cautious dealers, which takes care of the cost of accessories and depreciation value. The larger this payment is made, the more certain is the sale definitely closed, for the customer is not going to return something in which he has a good investment.

Interest on instalments is the business-like manner of selling by time. Such interest is usually figured as a certain percentage of each instalment, though many dealers have found it more satisfactory to make a flat carrying charge. Either method, however, will be readily accepted by the customer if you explain that you have a right to the interest on the money you still have tied up in the receiver. Without interest, your costs on time paper automatically chop off some of your profit by forcing you to a greater stock or capitalization.

Too much stress cannot be laid on the value of keeping your instalments within a certain period. At the most, this should not run over a year, and the smaller the better. It is obvious that you will have difficulty in selling new apparatus to a customer until he has paid for his old, yet repeat sales should be one of your profit-builders. While you are still collecting from a customer, he expects free service, which is impossible for any length of time. Remember that you have to keep the desire for radio in the customer's mind until he has paid in full. In other words, your selling efforts for each customer have to last as long as your instalments. And that means constant selling effort with no new sales excepting accessories. Would it not be better to clean up one sale and use all that effort towards developing new sales and repeat sales?

Instalments have been given careful thought by large radio manufacturers and by finance houses. A glance at the policies endorsed by such firms will give you the right methods to follow. In fact, many radio dealers prefer to hand their instalment paper over to the manufacturers for cash instead of increasing their working capital. By this means, the dealer secures practically the full cash of the sale at the time of the sale and usually a total payment that more than covers the retail price of the product. Interest at ten per cent is usually charged and some companies do their own collecting while others allow the dealer to do this in order to keep in touch with the customer. This method gives the dealer a chance to sell volume by instalments with the minimum capital. Whatever the method, the dealer must follow the three cardinal principles if he is to profit.

WINDOW DISPLAY

BY ARTHUR FREEMAN
Einson-Freeman Co.

"Turnover"

THE big word in modern merchandising is "Turnover." It is not what a merchant buys that represents profit, but what he buys and sells, and the real profit is in ratio to how quickly and how often he re-sells what he buys.

Turnover may be likened to circulation. It means activity, action, movement and the doctors tell us that a healthy circulation is the key to health.

Window display advertising is no exception to this sound fundamental idea. If window displays stagnate, they mean that much loss to the merchant. If window displays are changed frequently—sometimes as frequent as twice a week—and rarely less than once every week, many good results may be noted.

In the first place, the dealer is keeping his trade posted on what he sells.

Second, he will find a great stimulus to turnover of goods, because the old saw is still working "that goods well displayed are half sold."

Third, if the dealer's attention is on his window often enough, it will stimulate his whole business by making him constantly go over his stocks, keep in touch with the trend of affairs and study what the people are wanting at the time.

Frequent change means a broader presentation of a dealer's stocks, telling his public the whole story of what

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he has to sell instead of just a part of it. This will mean a surprising increase in the number of new customers who will come into the store for merchandise they did not think the dealer carried.

In addition to these and many other advantages of frequent window display change, there is the unearned increment which comes as a result of circulation in every circumstance. Nothing will pep up a dealer's organization and the dealer himself, as well as the whole activity of his store and his stocks, as much as the valuable habit of changing his window to the best possible advantage every week of the year or oftener.

"Timeliness"

The ideal situations in any business activity is the right thing in the right place at the right time. The nearer that window advertising can be brought to this ideal, the better.

It is surprising how careless dealers are in their choice of merchandise for window display, with little regard for the time involved.

For instance, a dealer may be over-stocked in snow shovels, which should have been sold in September, and fills his window with them in March in a frantic effort to retrieve his loss.

As a matter of fact, it would be better merchandising to take his loss, if necessary, and use his previous window space to promote the sale of merchandise in best demand during March, because window advertising is too valuable to be used in any other way but for the promotion of merchandise wanted right now.

Another element which involves timeliness, is taking advantage of current events. There may be a Clean Up Week scheduled in town or a Fire Prevention Week; a country fair may be in the public mind or some great national thought may be sweeping the country at the moment.

The Woolworth stores took advantage of Thrift Week thruout the country sometime ago by featuring a Sewing Week showing everything in their stocks for sewing and mending, and pointing out the economy possible to such use.

The result was more sales in needles, thread, snap fasteners and the other sewing requisites which they carried in stock in this one week than was usually sold in a month.

Make your windows a part of the times. Feature merchandise wanted now and don't use your window as a means of making up for past merchandising mistakes. Study the local, state and national interests which are gripping the public mind, whether it be an election, a horse show or a calamity—link these occasions constantly with your current displays—and you will add a powerful selling element to window display which has already been acclaimed the most effective selling channel at a retailer's command.

Sales Appeal

No intelligent merchant will argue against the idea that goods put into a window will sell faster than if they are hidden away on the shelves. But how many merchants appreciate the possibilities for intensifying window selling to greatly increase their sales.

The outstanding weakness in window advertising on the part of retail merchants is the failure to capitalize the principles of advertising with their displays showing goods.

These fundamental factors of advertising are the basis of this series of articles and window display effectiveness is depending more and more on a working knowledge of advertising.

Somebody has said that the 4 elemental considerations of advertising and selling are

- 1—Attract attention
- 2—Arouse interest
- 3—Create desire
- 4—Induce action

Many a window display attracts attention and stops right there. Those displays which thru some novelty attract the curious are a sad parody on successful window display advertising. One reason why motion displays have been tabooed in recent years is because these drew so much attention to the advertising itself, that while the passerby was attracted and impressed with the display, he did not even remember what was being advertised, and what a fallacy it is to spend money to attract attention merely when the very purpose of advertising is to sell goods at a profit.

Many displays attract attention and arouse interest, but this is not enough. Unless merchandise is so arranged, plus illustrated and typed copy in the window to not only attract attention and arouse interest, but also to create an actual desire for the goods and impel the reader to come into the store now or at a later date, the time, energy and money involved in the display are practically wasted.

Study current advertising in the leading magazines and newspapers. Watch what national advertisers do to attract attention, arouse interest, create desire and induce action. Then appreciate that the more you can introduce these elements into your window displays, the more goods they are going to sell and the more you are going to justify your rent.

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Do not forget, assuming you are in a good location, that you are not only paying rent for the square footage of your store, but, more important still, you are paying a premium for the window display space in front of your store and you are paying too much rent, no matter what the price, if you are not using this window up to its highest possibilities.

Advertising Hook-Up

Sometime ago an enterprising merchant in a medium sized Western city took the trouble of investigating the local circulation of certain national magazines.

He found that the six leading magazines had a combined circulation of 5,000 copies in a city of less than 50,000 population.

When you take into consideration the general acceptance that good magazines have an average of 4 readers per copy, which in this case would be 20,000 readers, and subtract the number of small children and others who have little or no buying power in the city above referred to, you will quickly see that nearly every person of any consequence in the city was very likely a reader of at least one of these six magazines.

During the month of this investigation, the merchant found that there were as many as 20 articles advertised in these magazines which he had in stock, and if advertising has any value at all, he assumed that the 20,000 readers in his city would be influenced by some of this advertising and want to buy the goods. How are they to know where to buy them as the advertising merely said "See your dealer."

Seeing the importance of hooking up his own store with this advertising, this merchant began to feature in his store windows and on his counters each month the goods advertised in these six magazines which he had in stock, and the results were astounding.

Isn't it obvious that if readers were impressed by magazine advertising sufficiently to want certain goods, that if the dealer features that merchandise right at the time the advertisements appear that he will attract all this prospective business.

A study of successful retail merchants, with few exceptions, shows that they are alert to this idea of using their windows and counters in harmony with the advertising activities of national advertisers. If this week, some national advertiser is featuring a newspaper campaign in a local city, the dealer who links his window to this campaign will be the one to cash in. Putting a window display of this sort into a window would be almost as good as having the merchant standing at the edge of his curb and telling everyone who passed that he had the merchandise for sale which they saw advertised in last night's paper or in this month's magazine.

The more intensively you can use all of these elements of window advertising—frequent change, timeliness, sales appeal, advertising hook-up and imagination, the better for your business, but this is especially true of advertising hook-up because in this instance you are virtually "hitching your wagon to a star."

The national advertisers of this country are hiring the best intelligence, the finest ability and the most proved experience to help make their merchandising plans successful, and when you cooperate with them by repeating their appeals in your windows, you are virtually using the cream of their efforts to focus the value of such merchandising efforts right into your own place of business.

IMAGINATION

Webster's Dictionary defines the word IMAGINATION as "the exercise of creative power" and for the purpose this is an ideal definition.

By taking two images and bringing them into relationship, it is possible to make a man think about a thing where otherwise he may not get a definite suggestion.

For instance, a window full of tool chests at Christmas time may not arouse in a passerby any interest at all. In another passerby, it may suggest just incidentally the use of tools or the possibility of a tool chest as a gift. Some people are naturally quick-minded, but most people must have their thinking done for them.

Realizing this, the enterprising window display man who knows the power of imagination would introduce into a tool chest window various suggestions to make the passerby want a tool chest in general and then some tool chest in particular.

This might be accomplished in various ways. The best way, perhaps, is showing the goods in use. A real live boy in the window making a boat out of the tools in the chest would attract every boy in the neighborhood, create a desire for the tool chest in the heart of everyone who saw it and give each one an insight into the various uses of the different tools.

Of course, it is not always practicable to have a live display, altho this is the ideal.

However, remarkable results can be secured by illustrations, and this is where the average retailer falls down.

Not being able to afford expensive drawings, artistic creations and other costly material for the best window displays, many dealers are satisfied with humdrum windows which show a lot of goods but mean nothing.

The more enterprising retailer does the next best thing, which is to intelligently utilize the materials furnished by the manufacturers whose goods he carries.

Imagination, in the last analysis, means imaging, showing the satisfactions and advantages to be gotten out of merchandise, showing the various uses of merchandise and bringing all these factors into relationship.

It has been said, ever since the beginning of selling, that the retailer's front window is his best means of getting business. If this is true, it may be also said that the potentialities of window display can be multiplied at least 5 times by substituting for the ordinary stocky window full of goods, some specific imagination—compelling, human interest display that attracts attention, arouses interest in the merchandise, creates an actual desire for it and last, but not least, brings the prospect in with a determination to purchase.

We have summed up in these 5 articles, the 5 fundamentals of window merchandising—namely, frequent change, timeliness, sales appeal, advertising hook-up and imagination.

Successful retail merchants are agreed on the proposition that there is no subject in sales promotion worthy of more intensive study and cultivation than that of getting business as a means of scientific and intelligent window display.

One-third of your rent, at least, represents the value of your window, depending of course on the character of location. There are some merchants who value their window at 50% of the rent. But whatever the amount it is well to remember that the true value of the window so far as increased sales are concerned, is in direct ratio to the quality of the window displays used in that window to attract the attention of passersby and influence them in the sale of your merchandise.

ADVERTISING—Newspaper, Billboard and Car Card

BY WALTER A SCHILLING
Managing Editor, *The Radio Dealer*
New York City

“Send Your Message Home”

AT ABOUT this season of the year the dealer is anxious to know what mediums are the best in which to advertise his shop so that the radio buying public will know that he is on the job. Suggestions received during the past summer to the effect that billboards, programmes and car cards would be exceedingly effective has opened a question for discussion which in reality can be very easily settled.

It is reasonable enough to believe that by means of the above methods the dealer can easily cover a wide territory, and while the cost is something to be considered it is also reasonable to believe that in many cases they in all probability may be found very effective. If the average radio retailer wants to reach the greatest number of prospective buyers of radio apparatus, etc., he will do well to consider the radio sections in the home town newspapers.

Many are now blossoming forth with attractive tabloids, while still others hold to the regular page size of their respective newspapers devoting a certain amount of space to the cause of radio. Programmes of the various stations for the ensuing week are featured. As vital as broadcasting itself, the publishing of radio programmes sells the merchandise. A nationally known advertising agency man in a recent address at a sales convention numbering a thousand or more distributors for a certain well-known radio line stated: “Gentlemen, remember the programmes sell the merchandise.”

For the dealer whose advertising appropriation must, perforce, be limited the most logical medium to consider is the daily newspaper. Several issue daily radio sections while others content themselves to a once a week effort. In many cases the space used in this type of media will bring more real results dollar for dollar expended than will car cards, billboards and other more or less questionable mediums from the standpoint of results, dependant naturally on the amount the dealer has on hand for advertising purposes.

ADVERTISING—Direct Mail

The First Consideration is a Good Mailing List, Which Must Be Kept Up-to-Date

BY ALAN SIMS
(Courtesy of *The Radio Dealer*)

DIRECT-BY-MAIL advertising has many advantages:

First, it reaches direct the man or woman the dealer wants to reach.

Secondly, there is no waste circulation.

Third, the contact between the dealer and the recipient of the letter may be made as personal as the advertiser desires.

Fourth, the opportunity of reaching and making the consumer read the dealer's message is there, depending only and entirely upon how the letter or literature is compiled, what is said, how it is printed or typewritten, and how it is mailed. All of these conditions cited above depend entirely upon the intelligence and accuracy with which the direct-by-mail campaign is planned and operated.

The list must be properly compiled, accurately tabulated, kept up-to-date constantly and persistently, and the advertising literature employed, whether a letter or broadside, must be of a quality and so written and illustrated as to attract attention, create desire and stimulate action.

There are many forms of mail literature including the catalog, the booklet, the house organ, the pamphlet, the broadside, the letter, the post card, the private mailing card, and every element must be thoroughly studied including the paper, the letterhead or name plate, the illustrations, the text, the arrangement of the illustration and the text, the folding, the envelope or container, the postage, etc.

The first thought is to whom is the message addressed? Is it for men, for women, for children or for the general public? What paper is best suited for a communication to men or to women? What form of salutation should be used, if any? Should the message be typewritten, multigraphed, mimeographed or printed? Should it be a letter with an enclosure or a folder combining a letter and illustration and description? Only the advertiser can answer these questions. Their reply depends upon the store, its atmosphere, its general trade, its stock, the size of the community, the classification of the names on the mailing list, and other similar elements.

Perhaps the best plan is for the dealer to first consider that he has something to sell—that he is offering, personally, in a letter or folder, a commodity to his customer. That, then, is the first consideration and should be borne in mind throughout the campaign and every piece of literature should be prepared with that thought of personal contact in mind. Next comes the question—What illustration will best portray the article in question? What are its tempting features? How can the illustration be made to reveal these and how can they be described in the copy to key in with the illustration. The character of the merchandise, the character of the appeal, the variety of the merchandise and the number of illustrations, all will help to determine the character of the advertisement, that is whether or not it should be a letter, a pamphlet, a booklet, catalog or broadside. The mail campaign should be carefully and slowly planned. It should be properly timed. Merchandise should be offered that is seasonable and should be offered in ample time preceding to and leading up to the season or event. The appeal should be changed regularly to avoid monotony. Follow-up letters or other pieces of literature should each stress some new point or new merchandise to tempt the buyer.

In the campaign it should be kept in mind that the first step of each piece of literature is to attract attention. It is to arouse interest, then create desire, then to instill confidence and last to develop action. In other words, in the opening paragraph perhaps it will be best to speak of new products or of their novel features. This can be done in general terms. While the second paragraph can be employed to develop interest in one or more items by being more specific. Then comes the paragraph which should create desire and here the dealer will speak of his merchandise as being dependable, having a long range, being particularly selective, bringing in educational features, or dances, of its fitness for vacations or for entertainments at parties, etc.

Then comes the fourth step where the letter or other literature should instill confidence by specifically naming the price and guaranteeing the merchandise and speaking, perhaps, of some of the service which can be rendered. Then bring the public to action with a definite day named for the sale, or the statement that there are only so many pieces of this merchandise on hand, or that a limited number of these articles or instruments were purchased and may be had, or by giving the telephone number and suggesting an immediate telephone order.

Having this literature ready is one thing and having the lists ready is another. The direct mail list plays a very important part in the success of the campaign. It must be constantly guarded, constantly scrutinized, constantly reclassified and rechecked and then checked and classified again. Only by persistent vigilance can the advertiser be certain that the mailing list does not include many names and addresses that should not be on it, names and addresses of people who have died or moved or are no longer prospective customers, for changes in daily life take place hourly and the list must be checked regularly. This point cannot be emphasized too strongly.

Lists can be obtained from many sources, for example a list of farmers may be secured from county telephone books, farm papers and farm magazines. Lists from the records of the Secretary of State, from rural mail carriers, from country newspaper publishers. Lists of city dwellers may be secured and classified through various means. For example, a list of professional men may be secured from commercial trade papers, from city telephone books, from credit rating lists, from club membership lists, from lecture and banquet programs and from college year books. Lists of general business men can be secured from telephone books, credit rating books, corporation directories, press clippings of new firms, lists from trade associations and frequently from your own ledgers. Lists of property owners come from tax lists, from building permit lists, from lists of members of civic organizations and booster community organizations, from press clippings of real estate transactions. Lists of club or lodge members can be secured from fraternal lists of membership, from lists of members of social and labor groups and from lists obtained through fraternal and club magazines.

Careful compilation through these various sources will in time, with checking and rechecking and checking again, make up lists that are worth many dollars to their owner. This can be bought, too, but as a general rule the list that is carefully compiled and patiently worked up is the list that yields the maximum result.

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