

Radios and Combinations

This final report rates higher-priced radios, radio-phonograph combinations, and high-fidelity combinations. If you are satisfied with local reception, want good tone quality, and can afford the price, high-fidelity receivers are your best choice

SINCE both the radio and the phonograph in a combination utilize the same amplifier and speaker, the only exclusively phonographic parts are the turntable (and accessory gadgets) and the tone arm, the two units together constituting what may be called the record player. In most record players the tone arm has a crystal pickup (the part into which the needle is inserted) that provides reasonably good tone quality. Although appreciably better pickups are available, the increased cost involved is rarely justified for home use.

It is in the turntables and their gadgets that a wide degree of choice occurs. To begin with, there are two general types: the manual record player and the automatic record changer. The most efficient of the record changers tested will eliminate, in an accommodation of eight records, all the separate operations per record which are necessary in a completely hand-operated player—provided you can afford to buy the necessary gadgets and provided they don't go wrong, which they sometimes do.

Manual Record Players

MANUAL record players, in which each disk must be placed by hand, are available with certain refinements. In all but the cheapest ones, for example, there will be found an automatic stop, which is supposed to turn off power to the motor when the end of the record is reached. The simplest is merely a hopeful little device that trips the switch when the tone arm has moved a certain distance toward the center of the record, presumably after the last chord has been sounded. When set for long records, however, this device may decline to operate on shorter records, or, if set for the latter, it may cut long records off short.

A much more satisfactory automatic stop is built on the premise that in most modern records the inner grooves impart a small reverse motion to the tone arm; the stop employs a simple ratchet that permits the disk to turn until the first reverse motion at the end of the record is registered. A stop of this nature is employed in the *Ansley* combinations.

Another satisfactory stop acts with the first excessive movement of the tone arm as the needle enters the inner groove, not waiting for the reverse action. This stop, used in the *Garrard* single-record players, acts somewhat more rapidly than the others. For reliable action, however, it must be carefully adjusted from time to time, since it is subject to wear.

The purchaser of a manual record player equipped with an automatic stop should require a demonstration that it will perform satisfactorily on a variety of 10- and 12-inch disks.

A further refinement affects the starting of the motor. It may be set in motion by a conventional switch or by a special switch actuated by swinging the tone arm horizontally away from the center of the record. This latter device is a genuine convenience, since the ordinary switch is often inaccessible, half-hidden by a record in the dark confines of the phonograph compartment.

Automatic Record Changers

AUTOMATIC record changers are of two basic types: those which will play either 10- or 12-inch records unmixed and those which will play both sizes mixed in any combination. The former design requires that all records stacked for playing be of the same diameter, while the latter design permits a mixing of sizes up to the maximum number which the

record changer is capable of handling.

In automatic record changers of the type tested by CU, the records are placed on a spindle, which is merely an extension of the spindle to be found in any conventional single-record turntable. When the switch is turned on, the first record is dropped to the turntable. The tone arm—which is almost, so the advertisements say, human—then lifts itself from its rest, moves over to the record and *should* set itself down gently on an outside groove.

At the conclusion of the record, the tone arm returns to its rest, the next record drops and the cycle is repeated until the last record is played. Thereupon the tone arm may return to its rest and the motor automatically switch off (as with the *Garrard* type), or the last record may repeat until the phonograph is stopped manually (as with the *RCA* type).

Since the record-changing mechanism is set in motion by the tone arm (presumably not until the end of a record), the reliability of the change-over will depend upon the groove response device, exactly as with the automatic stop on a manual record player. And, similarly, there are varying degrees of efficiency. In unsatisfactory types, the record changer may be set in operation before the completion of a disk or it may refuse to function at all.

For instance, it was impossible to adjust an *RCA* record changer so that it would perform satisfactorily on all the disks that the average collector might want to play. The *RCA* changer was also difficult to adjust so that it entered the groove of the record before the first note or, occasionally, so that it entered the groove at all. *Garrard* was found to be more satisfactory in this respect.

There are two other factors which tend to influence the dependability of the device—both of them in a sense outside the record changer's control. One is the way the disk itself is grooved. Cooperation among record manufacturers toward standardization of entering and terminal grooves would aid materially. It was found, however, that with the more efficient designs, such as *Garrard's*, a high degree of reliability can be expected on a large variety of records so long as they have the oscillating grooves toward the center.

Another factor to be considered for utmost reliability is the tilt, or lack of it, of the machine. When the records are wholly suitable for automatic operation, the instrument should be level—a fact that is best determined with a carpenter's level.

With many records, however, some of which are doubtless to be found in the average collection, greater reliability of operation may be obtained by tilting the radio slightly so that the tone arm tends to swing toward the center of the turntable. Raising one side of the cabinet an eighth- or a quarter-inch will usually be sufficient, creating a slight tilt not discernible to the eye. If the tone arm refuses to enter the grooves of some records automatically while working satisfactorily with others, chances are that the radio is tilted in the wrong direction.

Two Record Changers

GARRARD: Two types of *Garrard* record changers were tested—one playing eight 10- or 12-inch records and one accommodating eight mixed records. CU is inclined to believe that the former is more reliable, although, after expert adjustment, the mixed changer played flawlessly through 50 cycles of operation, including records that had previously stumped it and records that the *RCA* changer had been unable to accommodate satisfactorily.

Loading is somewhat more difficult with the *Garrard* changers—particularly the mixed model—than with the *RCA*. On the other hand, needles are easily inserted, the controls conveniently arranged, records much more readily removed with safety, and the workmanship in general is superior.

RCA: With the exception of ease of loading, the *RCA* automatic record changer is less satisfactory than the *Garrard*. Seven operations may be required to set the mechanism and start the first record. The starting switch is difficult to reach when the spindle is loaded, and there is no automatic stop when it is played manually. The drop of the first record— $2\frac{7}{8}$ inches—is considered excessive, and although no records were broken during tests, the change-over is very noisy. Needles are difficult to insert, and it is easy to damage records when removing them from the spindle. The record changer plays seven 12-inch or eight 10-inch records.

The *Garrard*, which is manufactured in England, costs approximately \$12 more than the *RCA* for the unmixed record design, and \$25 more for the mixed type.

Tone Quality

THE following list, in order of merit, is based solely on tone quality. With combinations, separate listing is given for radio and phonograph reproduction. A low listing does not necessarily reflect on the electrical design of a radio, since tone, to a considerable extent, depends upon size. The *Ansley D-10*—a small table model—is rated toward the end of the listings, although in a console model it would probably rate ahead of most of the large sets. The difference in tonal quality between adjacent models is often very slight—a matter of laboratory measurement. (For duplication of chassis see table on opposite page.)

Radios

Philharmonic Linear Standard.

Philharmonic Futura.

WQXR.

Lafayette BB-11.

Ward's Airline —1201.

Ward's Airline —1000.

Sears' Silvertone —6336.

Philco 195XX.

Farnsworth AC-56.

RCA K-80.

Philco 205RX.

Ward's Airline —801.

Sears' Silvertone —6337.

Sears' Silvertone —6346A.

Stewart-Warner 01-817.

GE H-77.

Sears' Silvertone —6335.

RCA K-60.

Philco 165-K.

Ward's Airline —714.

RCA T-80.

Lafayette BB-2.

Philco 150-T.

Ansley D-10.

Zenith 6-P-448.

Radio-Phonographs

Philharmonic Linear Standard.

Philharmonic Futura.

WQXR.

Lafayette BB-13.

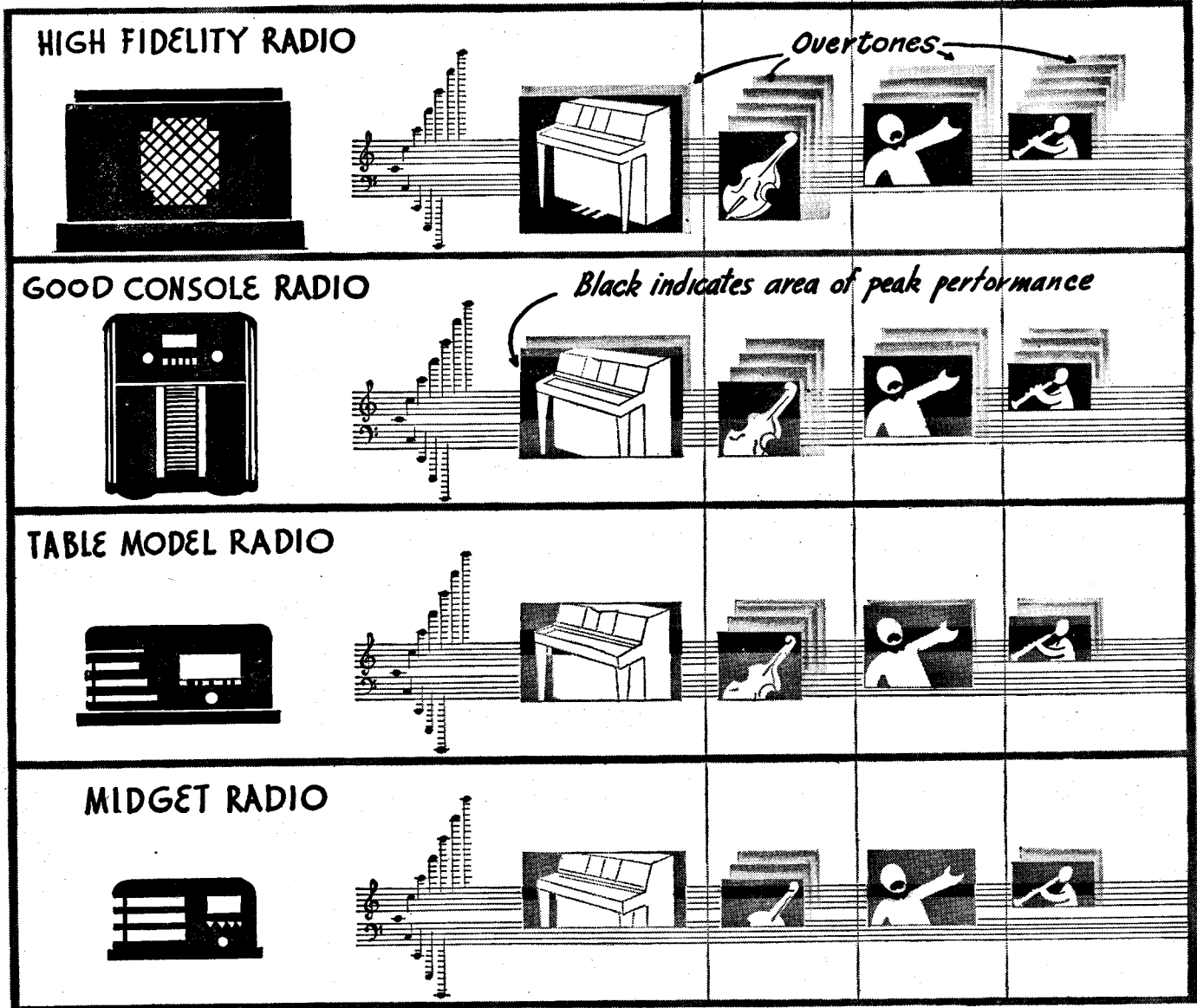
Lafayette BB-7.

Ward's Airline —805.

Sears' Silvertone —6346A.

Ansley D-10.

Zenith 6-R-485.



DRAWN FOR CU BY IRVING GEIS

This chart illustrates the tone fidelity of the different types of radios to the actual tone of the instruments they are attempting to reproduce. The background of each instrument indicates the range of sound that the various types of radios can receive. The black area indicates the range that the radio responds to without distortion, the solid gray area, the range of the radio with distortion. For example, a high-fidelity radio receives the complete range of the piano without distortion, whereas the midget radio receives only about half that range and most of it with distortion. The shaded areas directly behind each instrument indicate the overtones to which the radios respond. Overtones are harmonics of a fundamental note which give it its distinctive quality. For example, harmonics of middle-C on the piano would be all other ascending C's as far as the human ear can catch them. The clear reproduction of overtones not only adds greatly to listening enjoyment but also is necessary for complete tone quality of either an instrument or a voice

Shock Hazard

As CU has pointed out, many radios present a shock hazard. While electrical shocks that might be experienced would rarely be dangerous, they can be decidedly unpleasant and cause considerable nervous reaction. Shock hazard is somewhat increased in phonograph combinations, as the spindle, edge of the turntable, tone arm, and metallic controls constitute

exposed parts that are often "alive." Conscious effort should be made to avoid touching with the free hand any possibly grounded objects, such as electric light fixtures, pull chains, radiators and the like, while manipulating the phonograph.

Image-Frequency Interference

Occasionally a whistle appears when a desired station is tuned

in, changing in pitch as the radio is tuned in or out. Technically, this whistle is known as "image-frequency interference." It is characteristic of cheap radios and can be eliminated by the manufacturer; however, the presence of whistles, unless excessive, does not necessarily make a radio unacceptable. It should serve as an indication to the buyer—particularly of radios selling for \$40 or more—that the



THE GARRARD RECORD CHANGER

Worked flawlessly . . . through 50 cycles of operation

manufacturer is not putting the best value for price into his product. Often it is possible to tune the desired station so that the whistle cannot be heard, or, at least, so that it is not too objectionable.

A whistle that is constant in pitch as the station is tuned is a direct form of interference that does not necessarily reflect on the quality of the radio.

High-Fidelity Radio-Phonographs

HIGH-FIDELITY receivers are built primarily for the reception of local stations with excellent tone quality. The design of these receivers is such that they tune very broadly—that is, they lack selectivity. Also, a relatively low order of sensitivity is more or less characteristic of these radios.

They are therefore not suited for localities where high sensitivity is necessary to bring in a distant station or selectivity to separate it from a neighboring station. However, CU found that these receivers yield excellent results up to 100 miles from any broadcast center such as New York City.

High-fidelity receivers tested by CU were the *Philharmonic Linear Standard*, the *Philharmonic Futura* and the *WQXR*. These sets are capable of radio and phonograph reproduction of a quality superior to that of other radios and combinations rated, a quality which is limited largely by the

quality of the broadcast and of the records rather than by the radio or the phonograph.

Individual bass and treble tone controls make it possible to improve the sound from inferior stations and to adjust the bass and treble until the sound is the most natural or pleasing for a given volume. Since the sensitivity of the ear to high and low notes varies with the volume, different degrees of bass and treble compensation are required for best reception. Similarly, the individual tone controls are effective in compensating record deficiencies and in maintaining realism at different degrees of loudness in recorded music.

The term "high fidelity" has been loosely applied to almost any type of radio larger than a midget. But the application here is to radios which have been designed to receive the wider frequency response necessary for good tone quality without distortion. This means that the bass, or low-frequency, response will be good without "boom" and that the treble, or high-frequency, response will include overtones or harmonics without fuzz and rasp.

Many so-called "high-fidelity" radios are sold today with claims that they will cover the entire audible range from 16 to 16,000 cycles. However, the word "cover" means nothing in this case. On all but the very poorest radios, you will be able to

hear 60 cycles and 10,000 to 12,000 cycles, but much more faintly than tones in the middle-frequency range and with a fluttering type of distortion on the low-frequency notes and a fuzziness on the high frequencies. A high-fidelity system can reproduce all these frequencies at the same relative volume as the original sound and with no distortion that is noticeable to the ear.

Those receivers tested by CU have tuning, amplifying, and loud speaker systems designed to approach this ideal. Most radios, on the other hand, are designed to avoid too wide a frequency response (often called "too much tone quality") because an expensive job of cutting out distortion must be done if "increased" tone quality is going to be pleasing to the listener.

High-fidelity receivers are designed to tune only over the American broadcast band—sensitivity and selectivity required for distant reception is such as to render high-fidelity reception impossible, even if the signals themselves could be received without static, fading and distortion.

With the elimination of the band-change switch, the controls of the high-fidelity receiver are no more complicated than those on the ordinary radio. In addition to the separate bass tone control, there is a fidelity switch—either separate or incorporated in the treble tone control—which determines the degree of fidelity and cuts in a filter to eliminate whistle between adjacent stations.

High-fidelity receivers are housed in cabinets superior to the average run. However, as the purchaser is paying in part for an expensive piece of furniture, he should inspect the cabinet carefully and insist upon high-grade workmanship.

NOT much variation was found among the three high-fidelity radios tested, though, in general merit, they logically followed the order of their basic prices—the *Linear Standard*, *Futura* and the *WQXR*. The essential difference between the *Linear Standard* and the *Futura* is a matter of undistorted volume, but the *Futura* is more than adequate for the average home in this respect.

Both *Philharmonic* models are quieter than the *WQXR*, while the

WQXR is more sensitive than either *Philharmonic* model, and can be depended upon for reliable reception over greater distances. The *Philharmonic* models employ two speakers, providing better frequency response than the *WQXR* with its single speaker. The *Linear Standard* and the *Futura* are designed for a-c operation only, while the *WQXR* is ac-dc. The bass tone control on the *WQXR* radio is inconveniently mounted on the rear of the amplifier chassis. All three of these receivers showed slight shock hazard.

The *Philharmonic* radios are available in a variety of cabinets, with special loudspeakers, record players and pickups. The basic price includes the least expensive cabinet and a single-record player.

Ratings

INCLUDED in the ratings are two radios selling for less than \$30, on which tests were completed too late for their ratings to be included in the report on cheaper models in the November issue. The position of these radios with respect to models previously rated is indicated; readers are referred to the November report for detailed information.

Also included here is a complete list of the over-\$30 radios tested. Those which have already been described in detail in the December report are listed below merely by make, model, number and price.

Separate listing is given below to radio-phonograph combinations and to high-fidelity receivers. Combinations have been listed in order of general merit of both the radio receiver and the record player (including such features as automatic record changing). On this basis the *Lafayette* Model BB-7, at \$99.95, has been rated as a "Best Buy." For listeners who would prefer somewhat superior radio performance to an automatic record changer, the *Lafayette* BB-13, priced at \$96.50, would constitute a better buy.

Readers are referred to the introductory material in the November and December *Reports* for information on special antennas (loops and other built-in types), push-button tuning, shock hazard, frequency modulation, and the relative values of console and

table models of radios employing a similar chassis.

Unless specifically mentioned, all receivers and combinations are for a-c operation only, are without tuning eye, push-button tuning or special types of antenna, and do not present shock hazard.

UNDER \$30

Acceptable

Sears' Silvertone Cat. No.—6321 (Sears-Roebuck). \$19.95 plus transportation. Small table model. Ac-dc. 6 tubes. 540 to 1,635 kilocycles; 5.9 to 18.2 megacycles. Loop antenna for broadcast band. 2-point tone control. 5 push-buttons. Good tone; fair volume; poor sensitivity on broadcast band. Very good appearance. (This radio rates after the *Lafayette* Model D-42, reported on in the November *Reports*.)

Sears' Silvertone Cat. No.—6325. \$29.95 plus transportation. Medium table model. 8 tubes including tuning eye. 545 to 1,650 and 1,475 to 2,525 (police bands) kilocycles; 5.95 to 18.15 and 9.4 to 9.85 (bands) megacycles. Loop aerial for broadcast band. 3-point tone control. 6 unsatisfactory push-buttons. Good tone and volume; fair sensitivity; satisfactory selectivity—some whistles. (This radio rates after the *Ward's Airline* Cat. No.—715 in the November *Reports*.)

\$30 TO \$50

Best Buy

Ward's Airline Cat. No.—801¹ (Montgomery Ward). \$43.95 plus transportation.

Also Acceptable

(In estimated order of merit)

Lafayette Model BB-2^{1,2} (Radio Wire Television, Inc., NYC). \$39.95.

Sears' Silvertone Cat. No.—6336. \$47.95 plus transportation. Small console. 10 tubes including tuning eye. 540 to 1,730 kilocycles; 2.25 to 2.6 (bands) megacycles. 5.95 to 18.1, 9.4 to 9.85 (bands) megacycles. 4-point tone control. 6 unsatisfactory push-buttons. Good tone, volume, sensitivity and selectivity. Good appearance—cabinet flimsy. Slight shock hazard.

Philco Model 150-T¹ (Philco Radio & Television Corp., Philadelphia). \$55.

Ward's Airline Cat. No.—714¹ \$35.95 plus transportation.

Sears' Silvertone Cat. No.—6335. \$37.95 plus transportation. Small console. 8 tubes including tuning eye. 540 to 1,750 kilocycles; 2.3 to 2.55 (bands) megacycles. 5.9 to 18.2 and 9.4 to 9.8 (bands) megacycles. 3-point tone

¹For further information see December *Reports*.

²Also available at the same price from Cooperative Distributors, NYC.



THE RCA RECORD CHANGER

was occasionally stumped by some records

control. 6 unsatisfactory push-buttons. Fair tone; good volume; good sensitivity and selectivity. Fair appearance—cabinet work inferior. Slight shock hazard. Sloppy workmanship.

Not Acceptable

Zenith Model No. 6-P-448¹ (Zenith Radio Corp.). \$49.95.

¹ For further information see December Reports.

\$50 TO \$100

Best Buys

Lafayette Model BB-111.^{1,2} \$64.50.

Ward's Airline Cat. No.—1000.¹ \$55.95 plus transportation.

² Also available at the same price from Cooperative Distributors, NYC.

Also Acceptable

(In estimated order of merit)

Ward's Airline Cat. No.—1201.¹ \$73.95 plus transportation.

Sears' Silvertone Cat. No.—6337.¹ \$67.95 plus transportation.

RCA Victor Model K-80¹ (RCA Mfg. Co., Camden, N. J.). \$69.95.

Farnsworth Model AC-56^{1,3} (Farnsworth Radio & Television Corp., Fort Wayne, Ind.). \$54.95.

RCA Victor Model T-80.¹ \$54.95.

RCA Victor Model K-60.¹ \$59.95.

Philco Model 165-K. \$62.50. Small console. 6 tubes. 540 to 1,550 kilocycles; 1.5 to 3.5 and 6 to 18 megacycles. Loop and built-in aerials. Continuously variable tone control. 5 satisfactory push-buttons best set by serviceman. Good tone and volume; fair sensitivity and selectivity—whistles bad. Very good appearance—better than average cabinet work. Shock hazard negligible.

Stewart-Warner Model 01-817¹ (Stewart-Warner Corp., Chicago). \$79.95.

GE Model H-77^{1,3} (General Electric Co., Bridgeport, Conn.). \$79.95.

Chassis Duplication Table

IN THE following table, the basic model was tested in CU's laboratory and is rated in the present series of radio reports. Other models listed in the same group use the same essential chassis, but may have different equipment such as additional wave bands, a more elaborate cabinet or a larger speaker. Automatic radio-phonograph combinations are indicated by the abbreviations: "Auto. Radio-Phon." A number of models tested and rated do not appear in this listing because no other models were known to be using the same chassis.

Standard Receivers

Basic Model	Other Models	Type	Price (\$)
Anslley D-10	D-17	Radio-Phon. console.....	140.00
	D-23	Armchair Radio-Phon.....	115.00
	D-18	Auto. Radio-Phon.....	185.00
	U-10	Radio only—table model.....	44.50
		Smaller console.....	49.95
Farnsworth AC-56	AC-55	Console.....	59.95
	H-73	Console.....	39.95
GE H-77	BB-4	Console.....	99.95
	BB-7	Auto. Radio-Phon.....	84.95
Lafayette BB-2	BB-8	Radio-Phon.....	109.95
	BB-12	Auto. Radio-Phon.....	96.50
	BB-13	Radio-Phon.....	139.95
	BB-14	Auto. Radio-Phon. (period cabinet).....	127.50
	BB-15	Radio-Phon. (period cabinet).....	134.95
Lafayette BB-11	BB-16	Auto. Radio-Phon. (modern cabinet).....	119.95
	BB-17	Radio-Phon. (modern cabinet).....	65.00
	155-T	Table ¹	75.00
	180XF	Console.....	85.00
	185XX	Console ¹	92.50
Philco 150-T	190XF	Console ¹	139.50
	200XX	Console ¹	20.95
Philco 195XX	—6323	Ivory cabinet.....	20.95
	—6322	Early American cabinet.....	59.95
Sears' Silvertone—6321 ...	—6490	Period console.....	47.50
	—6495	Modern console.....	29.95
	—715	Table model ²	34.95
Sears' Silvertone—6335 ...	—800	Large table model.....	91.95
	—805	Auto. Radio-Phon.....	59.95
Ward's Airline—714	—1001	Console.....	34.95
	6-P-429	Table model.....	39.95
Ward's Airline—801	6-P-430	Table model.....	69.95
	6-R-485	Radio-Phon.....	
Ward's Airline—1000			
Zenith 6-P-448			

High-Fidelity Receivers

Philharmonic Futura	Carillon	Radio-Phon.....	219.00
		Auto. Radio-Phon. Non-mixer changer.....	244.00
		Auto. Radio-Phon. Mixer changer.....	272.00
Philharmonic Linear Standard	Croydon	Radio-Phon.....	295.00
		Auto. Radio-Phon. Non-mixer changer.....	320.00
		Auto. Radio-Phon. Mixer changer.....	348.00
WQXR	CU-13	Radio-Phon.....	190.00
		Auto. Radio-Phon.....	245.00

¹ Has minor circuit change consisting in substitution of two tubes for a dual purpose tube.

² This model was rated in the November Reports.

\$100 AND OVER

Acceptable

Philco Model 195XX. \$105. Large console. 10 tubes. 540 to 1,550 kilocycles; 1.5 to 4 and 6 to 18 megacycles. Loop and built-in aerials. Continuously variable tone control. 8 very satisfactory push-buttons best set by serviceman. Very good tone; good volume; good sensitivity and selectivity—whistles bad. Excellent appearance. Slight shock hazard. Loop effective in reducing man-made static noise. Overpriced. Except for appearance and better push-button action, no better than *Lafayette BB-11* at \$64.50.

Philco Model 205RX "Mystery Control." \$169.50. Large console. 12 tubes including 5 remote control tubes. 550 to 1,600 kilocycles. Loop aerial. Continuously variable tone control. Good tone and volume; fair sensitivity; good selectivity—some whistles. Excellent appearance—cabinet work above the average. Slight shock hazard. Loop effective in reducing man-made static noises. Radio performance equivalent to that of a 7-tube receiver, which should sell for not more than \$60. Good buy, however, if remote

³ Price has been increased, changing its position in the ratings as compared with the December ratings.

control feature is worth \$109.95 to the purchaser. Remote control box is reliable and will operate the radio from any point in the average home, including tuning, volume and turning off. It will not turn the radio on. Box is small, light (5 lbs.) and of good appearance. Inexpensive bat-

teries will last for more than a year of average use. No wires connected to the control box. Any desired 8 stations may be "dialed" from the control unit. Quality, volume, selectivity and background noise are not affected by the "Mystery Control" if properly set up by serviceman installing the radio.

cycles; 5.9 to 18.3, 9.4 to 9.8 (bandspread) and 11 to 12 (bandspread) megacycles. Loop and built-in antennas. 4-point tone control. 6 unsatisfactory push-buttons. Good sensitivity, except on 9.4 to 9.8 megacycle band; good selectivity. Poor cabinet work—only fair appearance. Radio difficult to service (chassis suspension may give trouble). Slight shock hazard. RCA record changer. Same comments apply as for the *Ward's Airline* Cat. No.—805, except that there is sufficient room for easier removal of 12-inch records. Phonograph motor very noisy. Phonograph quality only fair.

RADIO-PHONOGRAPHS

Best Buy

Lafayette Model BB-7.² \$99.95. Large low boy console with top closing over radio controls. 8 tubes including tuning eye. See *Lafayette* BB-2 in December Reports for data on radio. Very good tone and volume. *Garrard* automatic record changer for 10- and 12-inch records not mixed. Needle easy to insert. Reliable operation. Excellent appearance.

Also Acceptable

(In estimated order of merit)

Lafayette Model BB-13.² \$96.50. Tall console with radio in the center with exposed radio controls. 11 tubes including tuning eye. See *Lafayette* BB-11 in December Reports for data on radio. Very good tone and volume. Good appearance. *Garrard* single record player. Needle easy to insert. Stop reliable when properly adjusted.

Ansley Dynaphone Model D-10 (Ansley Radio Corp., NYC). \$84.50. Medium table model. Ac-dc. 7 tubes. 550 to 1,700 kilocycles; 6 to 20 megacycles. Continuously variable tone control. Exceptionally good tone for a receiver this size both on radio and phonograph. Good volume; good sensitivity and selectivity on both bands—some whistles. Excellent appearance. Slight shock hazard. Mechanical construction above average. In all-around value, does not compete with the *Lafayettes* rated above. However, for a person who desires a high-grade table model radio-phonograph combination in a better cabinet and is willing to pay for it, the *Ansley* D-10 is an excellent buy.

Ward's Airline Cat. No.—805. \$91.95 plus transportation. Low boy console with radio controls completely enclosed. 8 tubes including tuning eye. See *Ward's Airline* Cat. No.—801 in December Reports for data on radio. This model does not check with the

catalog illustration which shows a somewhat different cabinet and a record changer that resembles the *Garrard*. This model is equipped with the RCA record changer. Difficult to remove 12-inch records due to cramped cabinet space. Needle difficult to insert. Automatic record changer unsatisfactory. Conservative and attractive appearance.

Sears' Silvertone Cat. No.—6346A. \$77.95 plus transportation. Low boy console with radio controls enclosed. 11 tubes including tuning eye. 540 to 1,750 and 1,680 to 5,200 kilo-

Not Acceptable

Zenith Model 6-R-485. \$69.95. Console. 5 tubes. See *Zenith* 6-P-448 in December Reports for data on radio. Phonograph design unsatisfactory. Record player is in center of cabinet (with radio on top). Difficult to insert needle and place tone arm in playing position. No automatic stop. Bad hum. Slight shock hazard. Poor appearance.

HIGH-FIDELITY COMBINATIONS

Acceptable

(In order of tone quality)

Philharmonic Linear Standard "Croydon" (Philharmonic Radio Co., NYC). \$295. Large console radio-phonograph. 14 tubes including tuning eye. 550 to 1,600 kilocycles. 4-point treble and 6-point bass tone control. Each tone control operates independently of the other so that if bass is boosted, none of the treble is lost. Equipped with a double-speaker system using a 15-inch low-frequency speaker in a bass reflex enclosure and a 6-inch high-frequency speaker. Quality of reproduction judged best of high-fidelity radios tested. For critical listeners who want the best possible tone quality regardless of price, the extra cost of this model is justified, but the *Futura* model will give reproduction which will be found perfect by most persons.

Philharmonic Futura "Carillon." \$219. Large console radio-phonograph. 11 tubes including tuning eye. Tuning range and tone controls are the same as for the *Linear Standard*. Equipped with a double-speaker system using a 12-inch low-frequency speaker in a bass reflex enclosure and

a 6-inch high-frequency speaker. Sensitivity and selectivity equivalent to *Linear Standard*, but audio amplification system less powerful—adequate for the average living room. Difference in quality of reproduction between this model and the *Linear Standard* discernible only to the musician or engineer. To the average listener the tone quality of this set will be considered perfect.

WOXR CU-13 (Interstate Broadcasting Co., NYC). \$190. Large console radio-phonograph. Ac-dc. 14 tubes including tuning eye. 550 to 1,700 kilocycles. Continuously variable treble and bass tone controls (bass control on rear of chassis). More sensitive than either *Philharmonic* model. Selectivity variable in two steps. Equipped with single 12-inch speaker in "infinite baffle" enclosure. Power output (volume) less than that of *Philharmonic Futura*, but considered adequate for average home use. Tone quality nearly as good as in *Philharmonic* radios; difference discernible only to the trained ear. Should be considered a "Best Buy" among high-fidelity radios for persons located in d-c localities; where a-c is available, the *Philharmonic Futura* should be worth the difference in price.

²Also available at the same price from Cooperative Distributors, NYC.