RCA
Radiola 62

Super-Heterodyne

"AC" Lighting Circuit Operated

50 to 60 Cycles, 105 to 125 Volts

Instructions

IB-62

Radio Corporation of America

233 Broadway New
York City
100 West Monroe Street
Chicago, III.
235 Montgomery Street
San Francisco, Cal.

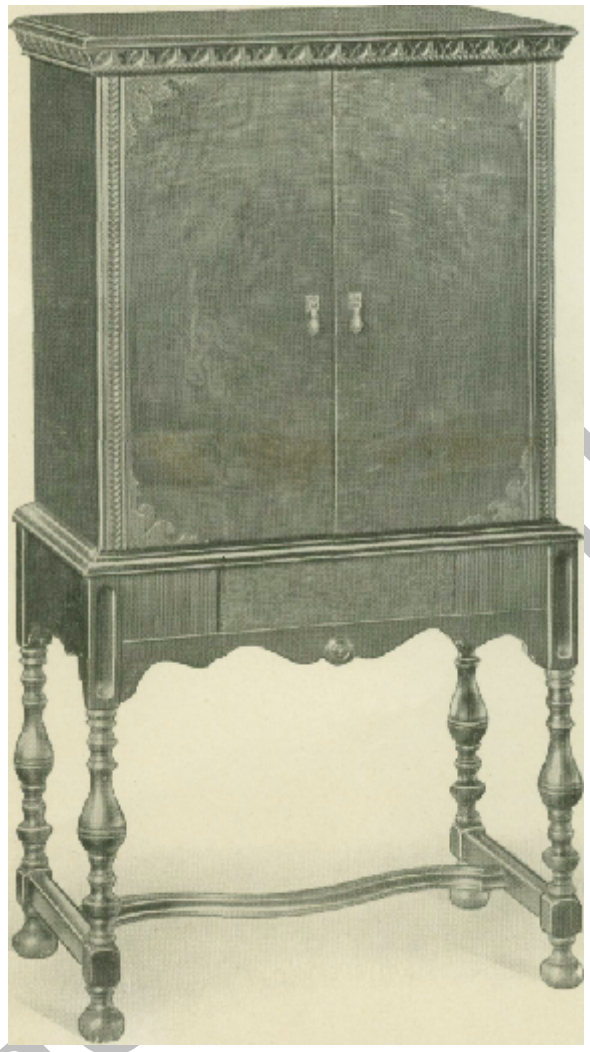


Fig. 1—RCA Radiola 62

RCA
Radiola **62**

REG u & PAT off.

Super-Heterodyne

"AC" Lighting Circuit Operated 50 to 60 Cycles,

105 to 125 Volts

INTRODUCTION

RCA Radiola 62 Super-Heterodyne is a lighting circuit operated radio receiver of the antenna type utilizing the new powerful "AC" Radiotrons. The receiver and RCA electro-dynamic loudspeaker are mounted in a beautiful console cabinet.

Seven "AC" Radiotrons UY-227 and one power amplifier Radiotron UX-171-A are used in the super-heterodyne circuit which includes two stages of radio frequency amplification, oscillator, first detector, two stages of intermediate frequency amplification, second (power) detector and one stage of audio-frequency power amplification. Radiotron UX-280 is used in the power unit to rectify the "AC" current input for the plate and grid supply of all Radiotrons.

Tuning is extremely simple as there is only one Selector for locating stations. A pilot lamp illuminates the Selector dial and serves as an indicator to show whether the power is on or *off*.

The powerful built-in RCA electro-dynamic loudspeaker furnishes excellent reproduction of both voice and music. The quality of reproduction is equally as good whether the loudspeaker is operating at low or at full volume. Direct current for the loudspeaker field is delivered by a junction type rectifier on the field supply unit.

Excellent sensitivity and selectivity are provided over the entire broadcast range, 550 **to** 1500 kilocycles (545 to 200 meters).

RCA Radiola 62 may be connected to any alternating current circuit within the limits of 50 to 60 cycles and 105 to 125 volts.

Part I—Installation and Operation

EQUIPMENT

Furnished—

1. One complete set of Radiotrons, as follows:
Seven RCA Radiotrons UY-227
One RCA Radiotron UX-171-A
One RCA Radiotron UX-280

2. One pilot lamp. Type T-3 Mazda, miniature base, 6 volts, 0.15 ampere (packed in the instruction book envelope).

3. One 8-foot power cord with attaching plugs.

To Be Provided—

1. Antenna and ground equipment (refer to page 8).

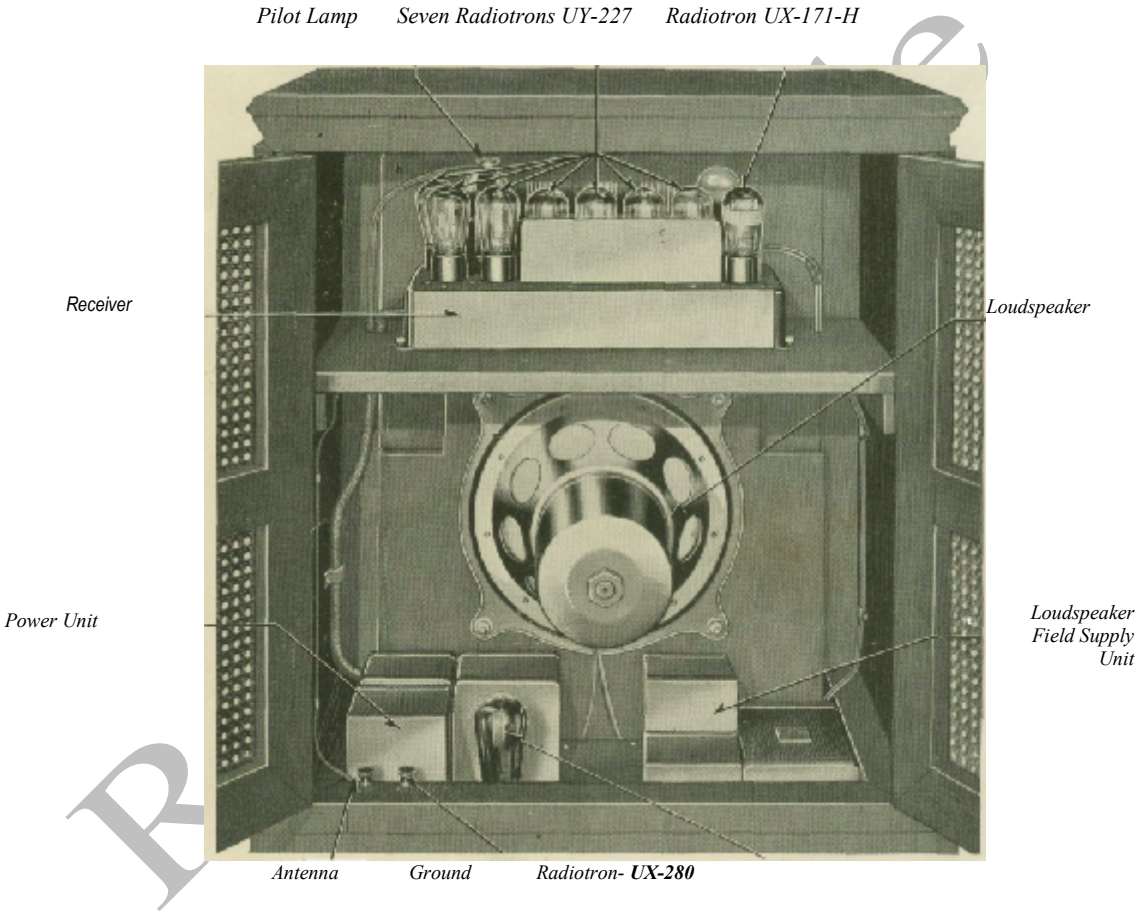


***Fig.* 2—Rear View with Doors Open**

INSTALLATION

Preliminary—After removing RCA Radiola 62 from the shipping container, open the rear doors. Unwrap the power cord and carefully remove the Radiotrons from the cabinet. Plug the power cord into the bottom of the power connector, and see that the plug on the short cord from the power unit is properly inserted at the top of the power connector (see Fig. 6).

Remove the *red* "U" clamp and wood block which serve to support the loudspeaker unit during shipment. (Save the clamp, nuts, washers and wood block for use in the event of reshipment at a later date.)

Locate the Radiola near an electrical outlet, preferably where the antenna lead-in and ground connections will be as short as practicable.

Antenna and Ground—Satisfactory reception is dependent upon proper installation of the antenna and ground. (See page 8.) Two holes are provided in the bottom of the cabinet, to the rear of the power unit, for bringing in the antenna lead-in and ground conductors, both of which should be of insulated wire. No. 14 gauge or larger. Connect the antenna lead-in to the "Antenna" binding post and the ground wire to the "Ground" binding post (see Figures 2 and 6).

Pilot **Lamp**—The pilot lamp socket is located within the cabinet above the Selector dial, as shown on Fig. 2. Remove the pilot lamp socket clamp from the fixed bracket (see Fig. 3) and screw the pilot lamp securely into the socket. Replace the socket clamp on its bracket. (See Part III, page 9.)

Important—*Never apply power to RCA Radiola 62 unless all Radiotrons are in the sockets.*

Radiotrons — The •Radiotrons should always be handled carefully. Insert the Radiotrons in the proper sockets, as shown in Fig. 2. Be sure that the UX-171-A and UX-280 Radiotrons are faced so that the two large pins enter the large holes, and that the base of every Radiotron rests squarely against its socket.

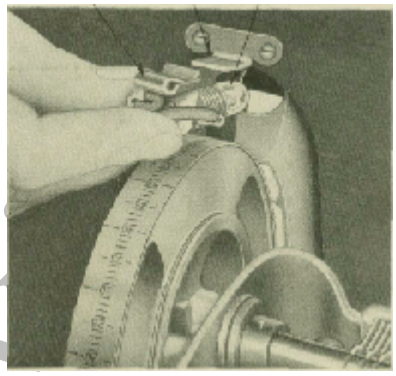


Fig. 3—Pilot Lamp Mounting
Showing Method of Installing Pilot Lamp. Socket Clamp Slides over Fixed Bracket

Loudspeaker—See that the connections are secure at the two loudspeaker terminals (Fig. 6).

Power Supply—RCA Radiola 62 should never be connected to any circuit supplying other than alternating current, within the limits of 50 to 60 cycles and 105 to 125 volts. Failure to observe this requirement may result in damage to the Radiola. If there is any doubt about the rating of the house lighting circuit, consult the Electric Light and Power Company before connecting the Radiola.

The Voltage Switch, Fig. 5, has been previously set at the "120V." position and should not be changed unless it is definitely known that the supply is below 115 volts. (See "Voltage Switch", Part II.)

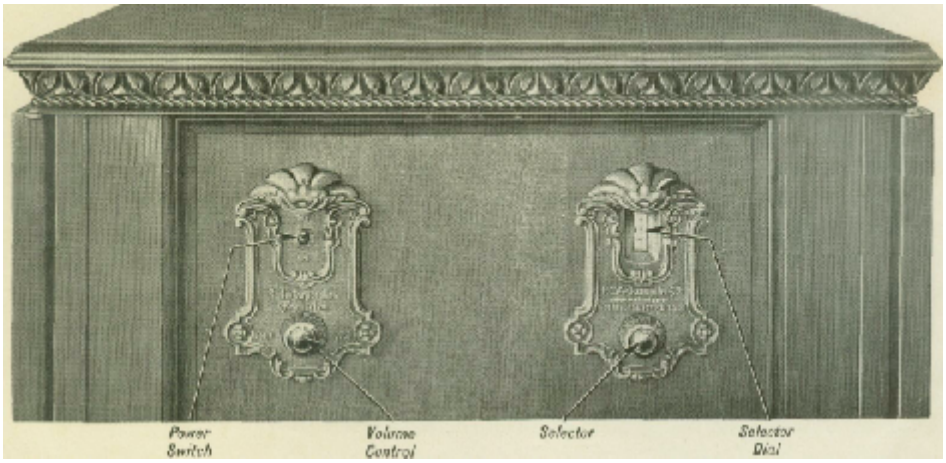


Fig. 4—Panel Controls

Insert the attachment plug of the power cord in an electrical outlet. Set the Power Switch (Fig. 4) to the "ON" position, and after allowing a few seconds for the UY-227 Radiotrons to heat, make sure that all Radiotrons and the pilot lamp are lighted. (If they are not lighted, refer to "Power Supply", Part III, page 9, for further instructions.) When sure that all Radiotrons are lighted, snap "OFF" the Power Switch.

OPERATION

To operate RCA Radiola 62 refer to Fig. 4 and proceed as follows:

1. Set the Power Switch to the "ON" position. The pilot lamp should light. An interval of approximately 30 seconds is required for Radiotrons UY-227 to heat before satisfactory reception is possible.
2. Set the Volume Control in approximately the middle position (radial line indicator on knob in vertical position). Then turn the Selector slowly in either direction. If no station is heard at any point advance the Volume Control in the clockwise direction slowly, while rotating the Selector, until a station is heard.
3. Adjust the Selector for maximum signal strength.
4. Adjust **to** the desired volume by means of the Volume Control.
5. When through operating, raise the Power Switch to the "OFF" position.

Note—If the Volume Control is too far advanced when receiving strong signals, it may occur that the station can be tuned in over a broad continuous range or at more than one setting of the Selector. In such cases, the Volume Control should be turned in the counter-clockwise direction until the station is received at only one point on the dial. In general, best reception of any station will be obtained if the tuning is done with the Volume Control set at the lowest position at which the station can be heard. After the correct setting of the Selector is thus obtained the volume may be increased, as desired, with the Volume Control.

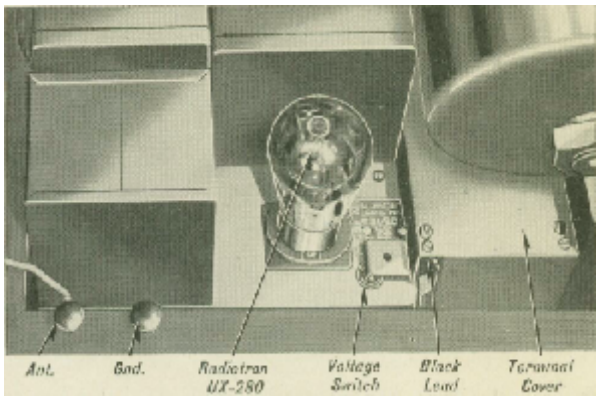


Fig. 5—Power Unit—Showing Voltage Switch and Terminal Cover

Part II—General Information

The following suggestions are offered to assist the user in obtaining the best performance from RCA Radiola 62:

Voltage Switch—Where the supply is below 115 volts, improved reception with normal life of the Radiotrons will be obtained if the Voltage Switch (Fig. 5) is set at the "110 V." position. To determine whether the supply is below 115 volts, consult the RCA Authorized Dealer or the Electric Light and Power Company.

The Voltage Switch is accessible by removing the terminal cover (Fig. 5). Before removing this cover, the Power Switch should be set in the "OFF" position and left in this position until the cover is replaced. When replacing the terminal cover, make sure that the terminal of the black lead of the main cable is clamped securely between the cover and the rear bracket of the power unit (see Figures 5 and 6).

Power Supply—Reception may possibly be improved by reversing the attachment plug (Fig. 6) at the electrical outlet.

Radiotrons—The characteristics of the circuits connected with sockets Nos. 2 and 7 are such that they have an important bearing upon the operation of the Radiola. It is therefore advisable, when installing, to interchange the UY-227 Radiotrons in sockets Nos. 2 and 7 with the others until best reception is obtained. This arrangement, once made, should not be changed.

Always switch off the power before interchanging Radiotrons.

Volume—Reduction of volume should be accomplished by adjustment of the Volume Control rather than the Selector.

Selector Dial—The dial scale is arbitrarily graduated from "0"to"100".The shorter wave length (higher frequency) stations are received toward the zero end of the scale. The dial settings may be recorded on the Station Log, at the rear of this book.

Antenna—

(a) *Outdoor Type*—A single-wire (No. 14 bare copper is recommended) outdoor antenna 25 to 50 feet long will usually provide good reception. A shorter antenna is preferable in a locality near high-power broadcast stations. A longer antenna may give improved results in a locality distant from broadcast stations.

The antenna should be isolated from other objects. It should be erected as high as possible and at right angles to all electric light and power lines and must not cross either above or below such lines. The antenna and lead-in should be supported by high-grade glass or glazed porcelain insulators, and the lead-in should be spaced a foot or more from the building. All splices should be soldered.

The lead-in and ground connections should be separated from one another and as short and direct as practicable. It is preferable that the lead-in wire be a continuation of the antenna itself, and where brought through the wall or window frame it should be insulated therefrom by some means, such as a porcelain tube.

An outdoor antenna should be protected by an approved lightning arrester, in accordance with the requirements of the National Board of Fire Underwriters.

(b) *Indoor Type*—An indoor antenna is not as effective for distant reception as a properly installed outdoor antenna. Where the installation of an outdoor antenna is not practicable, satisfactory results may be obtained by using about 20 to 40 feet of insulated wire inside the building. The size of the wire is not particularly important, though No. 18 bell wire is suggested. In buildings with metal lath, satisfactory results are not always possible with this type of antenna. Under such conditions, various arrangements of the indoor antenna may be tried.

Ground—A good connection to ground is as important as a well constructed antenna. Definite instructions cannot be given, as conditions vary in different locations. Water pipes or steam pipes generally make good grounds. The use of gas pipes should be avoided. The ground lead should be connected by means of an approved ground clamp to a section of the pipe that has been scraped thoroughly clean. If water or steam pipes are not available, a pipe or metal rod may be driven into the ground to a depth of several feet. The success of this type of ground depends upon the presence of moisture in the soil.

Part III—Maintenance

Radiotrons—Before inserting or removing Radiotrons, always be sure that the Power Switch is in the "OFF" position. (See **"Important",** page 5.)

The contact pins of the Radiotrons should be inspected occasionally and kept clean. It is a good plan to have available at least one new RCA Radiotron of each type. Periodically, the condition of each Radiotron in use should be checked by substituting a new one and comparing results in reception, both local and distant.

Power Supply—Should the pilot lamp and Radiotrons fail to light with the Power Switch in the "ON" position, it is probable that the Radiola is not properly connected to the power supply. Make sure (1) that the attachment plug is properly inserted in the electrical outlet; (2) that both the upper and lower attaching plugs are properly inserted at the power connector, Fig. 6; and (3) that the current is not switched off at any point.

Volume Control—If the operation of the Volume Control should at times produce a grating sound in the loudspeaker, this may be remedied by turning the knob back and forth between the extreme positions a few times in order to remove any foreign material which may have collected on the control resistance.

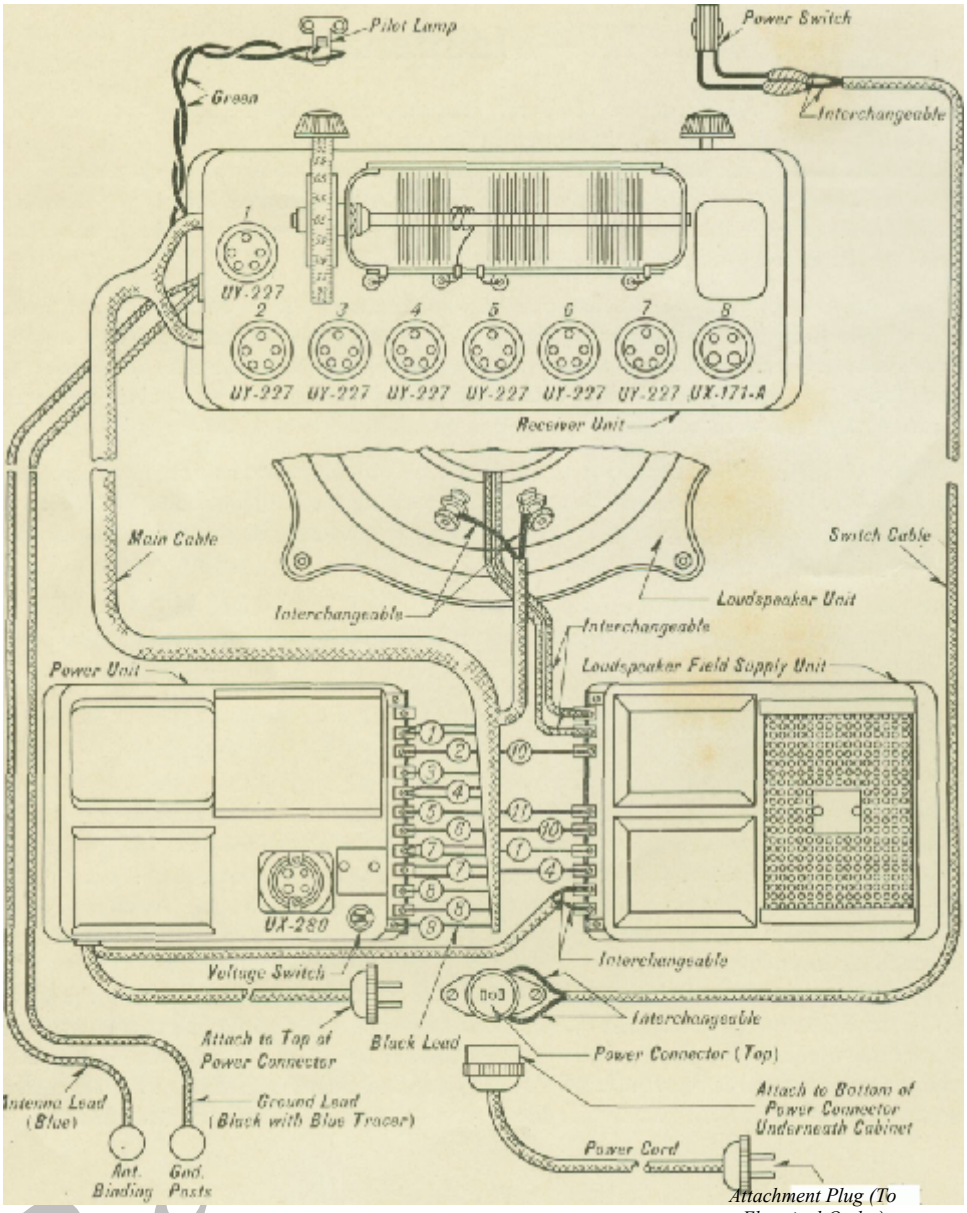
Antenna and Ground—A decrease in receiving range and volume may be caused by loose or corroded connections in the antenna and ground circuit, or by an accumulation of dirt or soot on the antenna insulators.

Pilot Lamp—Renewal bulbs (see **"EQUIPMENT—Furnished",** page 4) may be purchased from any RCA Authorized Dealer. Before removing the pilot lamp socket from its bracket, always switch "OFF" the power.

RCA Authorized Dealer —The RCA Authorized Dealer is required to test this Radiola and assure himself that it is in satisfactory operating condition when installed.

This Radiola is guaranteed to be free from defects as outlined on the guarantee tag accompanying the instrument. Should any part become defective within the guarantee period, the RCA Authorized Dealer will furnish a new part to replace the defective one. A reasonable charge may be made for installing such parts.

If any service on this Radiola is needed, either before or after the expiration of the 90-day guarantee, the RCA Authorized Dealer from whom it was purchased should be consulted. If this Dealer cannot be reached because of change in location, or other reasons, the nearest RCA Authorized Dealer should be consulted. RCA Authorized Dealers are organized to handle customers' service needs either by their own service department or by arrangement with their distributors.



LEAD COLORS

1 Red
*2 Maroon & **Red***
3 Maroon
4 Green with Red Tracer
5 Black & Green
6 Black with Green Tracer
7 Green
8 Blue
9 Black
10Brown
77Black with Brawn Tracer

Fig. 6—Cabinet Wiring of RCA Radiola 62

Important

The RCA 90-day guarantee on this Radiola is not effective unless the RCA Guarantee Tag is countersigned and dated at time of sale by the RCA Authorized Dealer from whom it was purchased. If you have not received the signed Guarantee Tag, be sure to have the RCA Authorized Dealer give it to you immediately.

NOTICE

The apparatus and devices which, or the use of which, are covered by patents are sold only under certain specified licenses set forth in a notice attached permanently to the said apparatus and devices, or if this is impracticable on account of size, then on tags or wrappers attached to the Said apparatus and devices or on the cartons containing the same. This license notice is as follows:

"In connection with devices it sells. Radio Corporation of America has rights under patents having claims (a) on the devices themselves and (b) on combinations of the devices with other devices or elements, as for example in various circuits and hook-ups.

"The sale of this device carries a license under the patent claims of (a), but only for (1) talking machine uses, (2) radio amateur uses, (3) radio experimental uses and (4) radio broadcast reception; and only where no business features are involved.

"The sale does not carry a license under patent claims of (b) except only (1) for legitimate renewals and repairs in apparatus and systems already licensed for use under such patent claims on combinations, (2) for assembling by amateurs and experimenters, and not by others, with other licensed parts or devices, or with parts or devices made by themselves, but only for their own amateur and experimental radio uses where no business features are involved, and not for sale to or for use by others, and (3) for use with licensed talking machines and licensed radio broadcast receiving devices; and only where no business features are involved."

RADIO CORPORATION OF AMERICA

STATION LOG

Date	Call Letters	Location	Frequency in Kilocycles	Wave Length	Selector Dial Setting

Printed in U.S.A.