INSTRUCTIONS

FOR INSTALLATION, CARE
AND OPERATION OF

EDISON RADIO

Receivers

Models R-1, R-2, C-2

(*Electric Phonograph Unit in Model C-2 covered by Supplementary Insert*)

THOMAS A. EDISON, INC.
ORANGE, N. J.

FOREWORD

In presenting the new line of Edison Radio and Radio-Phonograph Combinations to the public, we have aimed to make each receiver the finest expression of engineering research and skill in the art of sound reproduction. A product of exceptional quality, musically as well as artistically, the Edison receiver is offered you with the hope that you will find in it the perfection so eagerly awaited by the world of music lovers.

Please remember that every Edison Radio Set is a sensitive electrical apparatus, built with scientific precision upon a sturdy chassis. It is designed to perform even under extraordinary conditions and to give uniformly good service unless subjected to abuse. Should you at any time encounter conditions which are not fully described and explained herein, do not fail to get in touch with the Edison dealer from whom you purchased your instrument.

Your satisfaction in the ownership of an Edison Radio or Radio-Phonograph Combination is a matter of greatest interest to Thomas A. Edison, Inc., and it is with this thought uppermost that we recommend to your careful reading the following instructions, in order that you may become fully acquainted with the proper installation, care and operation of your Edison receiver.

GENERAL DESCRIPTION

Models and Accessory Equipment

MODELS

Models R-1, R-2 and C-2 have been designed to operate on electric power lines varying from 90 to 130 volts, 60 cycles, alternating current. (These models are also available for 25 cycles at slightly increased cost.)

Models R-1 and R-2 are equipped with a Phonograph switch on the front panel and input jacks on the rear of the chassis for the connection of an electric pickup.

Model C-2 comprises both Radio and Electric Phonograph, being equipped with an Edison designed pickup, which plays both lateral cut and hill and dale records.

DYNAMIC SPEAKERS

All of the above models employ the new type, extra size Peerless Dynamic Speaker. This speaker, together with the improved power amplifier and radio frequency units used in all of the models make it possible for one to enjoy reproduction over the full musical tone range from the lowest tones of the organ to the highest notes of the piccolo.

CABINETS

All cabinets are built of selected walnut stock, in our own woodworking plants, with the superior craftsmanship so long associated with Edison products. Each model represents the mature experience of competent designers who have created strictly up-to-the-minute pieces of artistic furniture to harmonize with the decoration of any home.

TUBES

Experience has proven that Radiotron or Cunningham tubes possess the characteristics so essential for the best performance of the Edison Radio. The owner is therefore cautioned against the use of other tubes whose characteristics are questionable. When such tubes are used for replacement in Edison receivers, inferior reception may result, or the receiver may even be rendered inoperative.

INSTALLATION

Antenna. Ground. Lightning Arrestor

BEFORE MAKING INSTALLATION CONSULT FIGURE 2 — WHICH PICTURES COMPLETE INSTALLATION

Antenna. A Radio set is no better than its antenna—poor reception may often be the result of an improperly constructed antenna. The time expended in the construction of an efficient antenna system will bring gratifying results in reception.

An antenna with overall length ranging from 75 to 125 feet is recommended. Number 14 stranded enamel wire is generally used and is considered most satisfactory.

Wherever possible, the lead-in wire should be supported at a distance of about two feet from the building to the point of entrance.

An outside antenna is recommended for best results, as metal lath or steel construction will often make reception even of local stations difficult. However, where local conditions are favorable, an inside antenna may function with results comparable to those obtained from an outside antenna. This can be determined only by trial.

Ground. The ground connection is also very important. It should be as short as possible. Number 14 rubber covered wire is recommended for this connection. Where it is necessary for the lead to be run under rugs or around baseboards, stranded flexible covered wire may be found more suitable and will serve just as satisfactorily.

Lightning Arrestor. A lightning arrestor must be used on all outside antennae to conform to Fire Underwriters' requirements. This may be located either inside or outside the building, as desired.

INSTALLATION

Location of Set in the Home. Adjustment for Line Voltage. The Kind of Tubes to Use. Insertion of Tubes in Proper Positions. Connection of Receiver to Power Line. Speaker Connections. Adjustment for Minimum Hum.

Location of the Set. It is well to locate the receiver as near as possible to the point of entrance of the antenna lead-in wire, so that this wire may be made as short as possible, eliminating capacity and induction effects which may influence reception.

Caution: Under no circumstances should you attempt to change tubes, adjust speaker, or make any adjustments (other than hum adjustments) when the set is turned on. Damage to tubes and severe shock may result if this point is ignored.

Adjustment for Line Voltage. This receiver has been designed to operate, after proper voltage adjustment has been made, on all voltages from 90 to 130 volts, 60 cycles, alternating current. Before connecting the set to the wall socket the service man should measure the voltage at this particular socket, and if necessary make voltage adjustment on back of chassis. It is recommended that the owner refrain from attempting to make voltage adjustments, as serious damage may result to the tubes if improper adjustment is made.

Tubes. Radiotron or Cunningham tubes are recommended. Models R-1, R-2 and C-2 require the following tubes:

RADIOTRON	CUNNINGHAM
4 UX-226	4 CX-326
1 UY-227	1 C-327
1 UX-250	1 CX-350
1 UX-281	1 CX-381

Insertion of Tubes. The customer should exercise care in the handling of tubes and the following diagram should be followed closely when inserting tubes. Unless they are placed in their proper positions, serious damage and destruction of tubes may result. Tubes nearest to front panel should be inserted first.

INSTALLATION

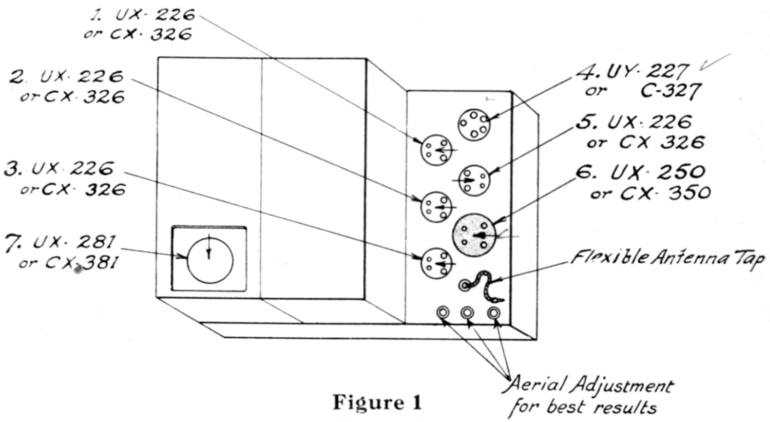


Figure 1

To avoid damage and severe shock, when inserting or removing tubes, power must be off. ***To make sure of this, pull the plug from the wall socket.***

Connection of Receiver to Power Line. The standard socket plug provided at the end of cord is to be inserted into wall receptacle or lamp socket. Insert plug on the other end of cord into socket on rear of chassis, as shown in diagram, Figure 2.

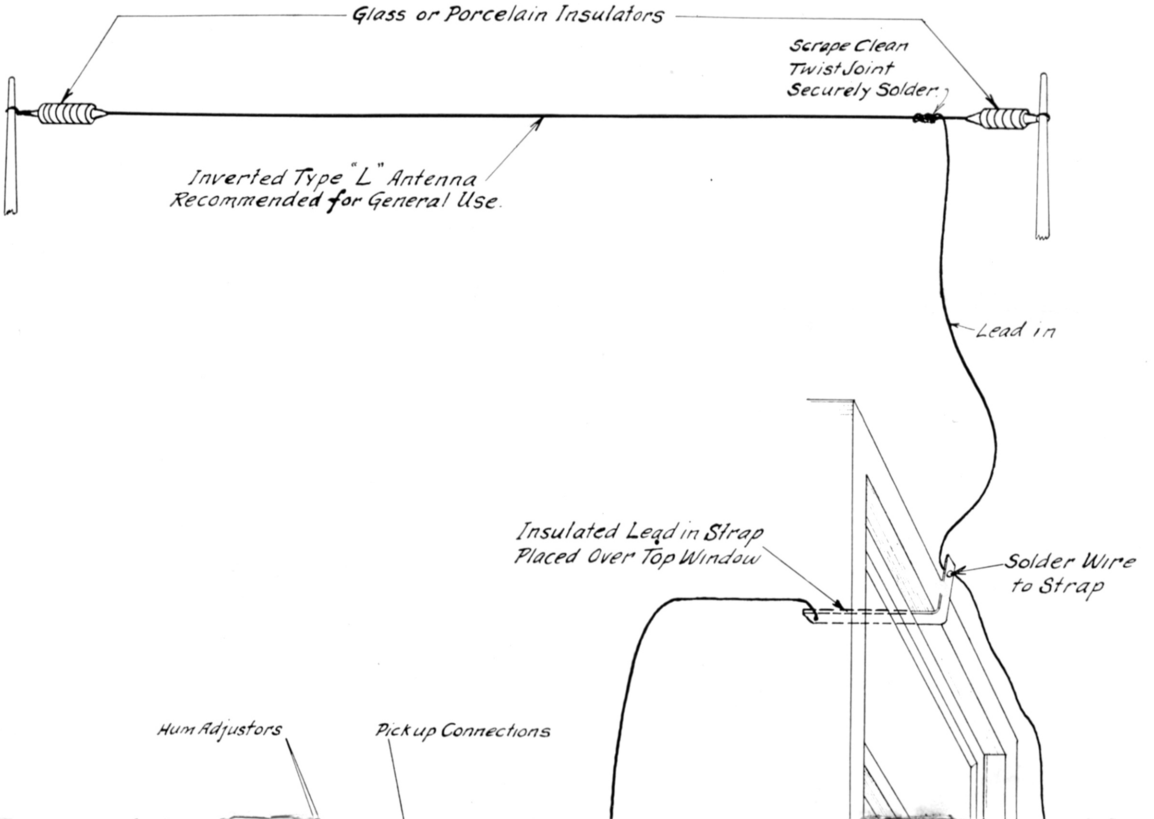
Speaker Connections. Speaker connections are plugged in when the set leaves the factory. If for any reason these connections have not been made or have become disconnected, observe diagram in Figure 2 for proper position of speaker plugs.

Adjustment for Minimum Hum. If excessive hum is apparent—and no stations can be heard, it is possible the speaker cables may be reversed. Consult Figure 2, which shows plugs in proper position. Due to varying line conditions and the slight differences in individual vacuum tubes, it may be found that the hum from the dynamic speaker is excessive. To correct this, first reverse the wall plug connection, trying in both positions

INSTALLATION

to obtain minimum hum, then insert screw driver blade in the slotted head of the upper hum adjustor (Figure 2) and turn in either direction. If hum increases, reverse direction of rotation and adjust hum to lowest point. Then proceed in same manner with lower hum adjustor. Best results will be obtained by adjusting the upper one first.

Note: To conform to Underwriters' regulations, a protective switch is installed on the back of the chassis. When back of cabinet is removed this switch opens the power circuit. While making hum adjustments it will be necessary to close the safety switch by hand and hold it in closed position until hum adjustment has been completed.



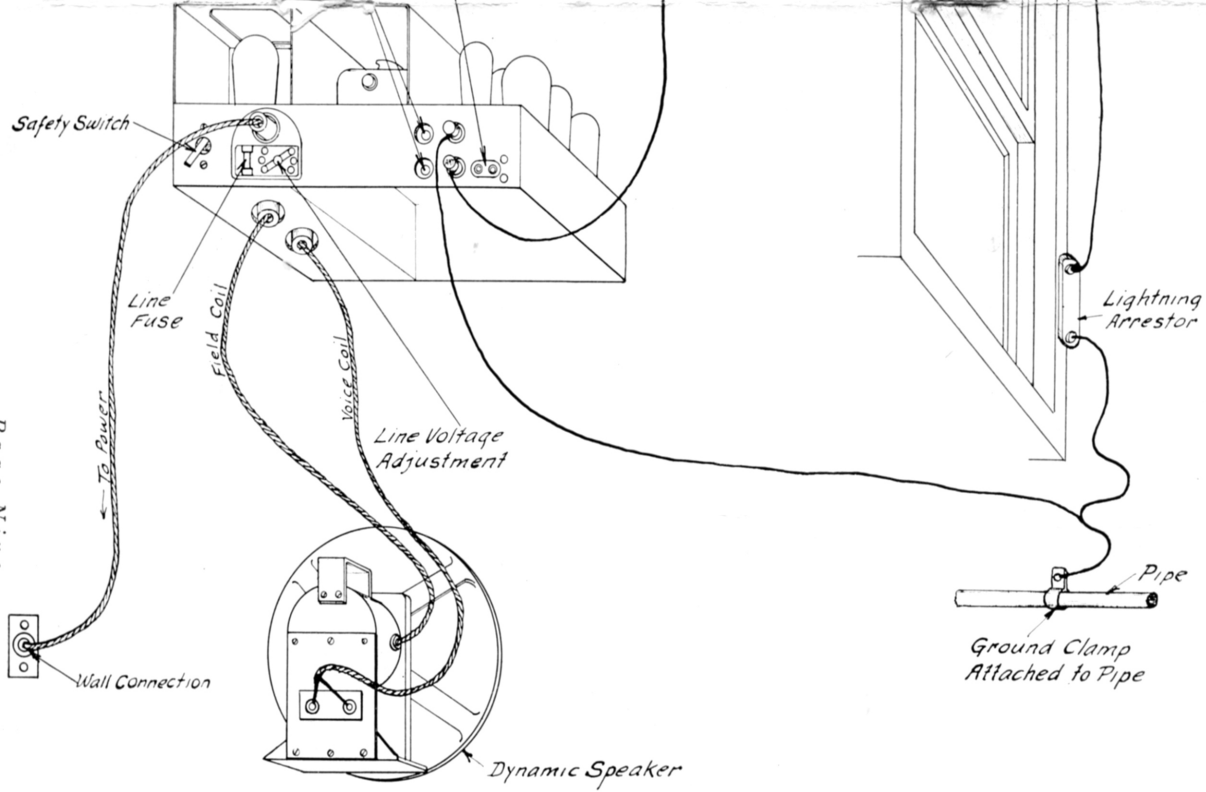


Figure 2

OPERATION

Manipulation of Control Knobs
Adjustment of Antenna Tap

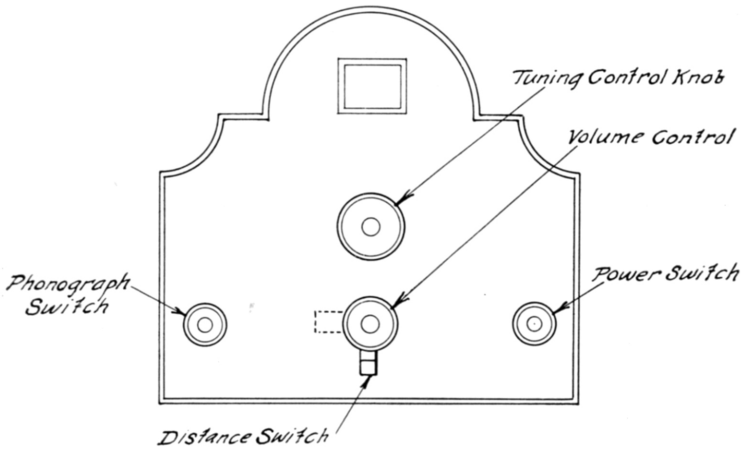


Figure 3

The lower *left* hand knob on front panel is called the Phonograph switch and should be turned clockwise as far as possible when operating Radio receiver, or counterclockwise if a phonograph pickup installation is to be played.

OPERATION

Turn the lower *right* hand knob clockwise. Illumination of the dial window indicates that power is on. Allow about sixty seconds for the tubes to reach operating temperature, during which time no stations will be heard. Set is now ready to operate.

The upper *central* knob is the single tuning control employed. Manipulation of this knob causes the dial to move and enables you to select any station within your receiving range.

The lower *central* knob controls volume. When turned clockwise, volume is increased. When turned counterclockwise, volume is decreased.

Projecting below the volume control knob is a small lever, controlling a "distant station" switch. If this lever is turned gently down into a vertical position, the set will operate as a radio frequency receiver. To tune for distant stations, turn the lever up and to the left, into a horizontal position. Then turn the tuning control knob to the dial setting for the station you want. Next turn the volume control knob clockwise until a whistling noise commences. Reduce the volume slightly to reach a point nearly up to, but slightly below the point at which whistling occurs. *This is the proper operating point for bringing in distant stations.* (If volume is too great after station has been brought in, reduce it as you would for local stations.) The final adjustment consists in moving the tuning control knob slightly in each direction, in order to locate the exact dial setting where the signal strength of the distant station is greatest.

Adjustment of Antenna Tap. See Figure 1 for position of antenna tap, located on rear of the tube shelf. Three jacks will be observed, any one of which may receive the plug attached to end of flexible wire. The plug should be placed in the position which gives the best results.

POOR RECEPTION

Its Causes and Suggested Remedies

If your set fails to operate, proceed as described below.

IF DIAL IS NOT ILLUMINATED, MAKE THE FOLLOWING INSPECTION:

Examine wall plug connection. Assure yourself that plug fits tightly. If loose, pull out plug and spread the prongs to insure positive contact when plug is replaced.

Make sure plug on the other end of this cord has not been pulled away from its socket in the rear of the chassis.

Make sure that the screen covered frame in the back of the cabinet is in its proper place. It must be pushed in far enough to turn on the safety switch.

A protective fuse is located on the back of the chassis and it may be possible that this has burned out or is loose in its clips. If fuse is burned out, the broken wire may be viewed through the glass, in which case replace with a new fuse. If loose in the clips, remove the fuse cartridge and press the clips together with the fingers, insuring positive contact when fuse is replaced.

IF DIAL IS ILLUMINATED AND SET FAILS TO OPERATE, PROCEED AS FOLLOWS:

Examine adjustable antenna tap on the rear of the tube shelf. It must at all times be inserted in one of the three holes provided for it.

Inspect antenna. In some cases where stranded lead-in wire is used, some of the loose strands may be touching the chassis, or antenna may have been pulled loose from the binding post.

Make sure that the connection plugs from the speaker are firmly pushed into their proper positions on the bottom of the chassis.

Examine the rectifying tube (No. 7, Fig. 1). If this tube is not lighted, or glows with a pronounced blue color, replace with a new tube.

POOR RECEPTION

If all these measures fail and your set refuses to operate, have all the tubes tested by your dealer. If tubes are replaced with no better results, consult your dealer for assistance in locating the trouble.

Poor reception is generally attributed to the set itself. However, in a great many cases poor reception is due, not to chassis defects, but to one or more of the following troubles. It is well to make reasonably sure none of these troubles exist, before calling in a service man.

Noises. Static, more prevalent in summer than in winter, is sometimes annoying, especially when tuning for distant stations. Static results from atmospheric discharges and science has failed to discover ways of eliminating entirely its effects on radio reception.

Static disturbances arising from the operation of household electrical equipment, medical devices, lighting equipment, power machinery, motion picture machines, flashing signs, street car systems, elevators, etc., can in many instances be lessened or even entirely eliminated. First, the source of such disturbance must be located. Your dealer may be equipped to cope with such difficulties and in all cases he should be consulted for his opinion as to the advisability and cost of eliminating them.

Any Radio receiver, if at all sensitive, is subject more or less to the noises mentioned above. Sometimes these noises may be minimized to a considerable extent by special antenna location, construction and proper grounding.

Heterodyning. Whistling sounds accompanying reception from some stations may be experienced. These noises arise from broadcast difficulties, such as shifting wave lengths, etc., and cannot be controlled in receiver construction. Such interference is rapidly being lessened with re-allocation of wave lengths by the Federal Radio Commission.

POOR RECEPTION

Microphoning. Michrophonic noises — which may be better termed moaning sounds—usually result from defective tubes, in which the elements have not been securely anchored or have become displaced. Such defective tubes may be located by placing the hand on each tube. If the vibration or moan stops, replace the tube causing the trouble. It is suggested that the detector tube (No. 4, Fig. 1) be checked first, as this tube is most subject to moaning.

Intermittent Noises. When noises start and then stop, it is an indication that some circuit is opening and closing. Such trouble may originate in the antenna system, or with a defective tube. All antenna connections should be examined. If corroded, the connection should be cut away and the free ends scraped clean, a firm mechanical joint made and well soldered. The antenna should be examined along its entire length from the free end to the point of entrance to see that it is not touching any "grounded" objects, such as tree foliage, damp roofs, etc.

Tubes, if suspected of causing noises, should be removed one by one and replaced with new tubes. Occasionally tapping each tube with the set in operation will reveal a defective tube. Tapping this tube will result in scratching noises issuing from the speaker—an indication of corroded or dirty socket prongs, or a loose connection within the tube.

Lack of Volume.

(a) Incorrect line voltage adjustment. This may be due to the dropping of the line voltage to a point below that for which the set was originally adjusted. In this case, consult your dealer.

(b) Antenna lead-in may be broken or antenna may be grounded.

(c) Insufficient volume may be caused by a defect in any one of the tubes. All tubes should be taken to your dealer for test.

POOR RECEPTION

Intermittent Reception. Music starts, then stops abruptly.

(a) Detector tube (No. 4, Fig. 1) may be defective. Replace with a new tube.

(b) If internal elements in any tube are displaced, vibration of the cabinet may cause them to touch one another intermittently. This condition may be detected by gently tapping each tube. If music stops, remove the tube causing trouble and replace with a new tube.

Poor Tone Quality. Inspect all tubes. Have them tested. One or more of the tubes in positions 4, 5, 6 and 7, Figure 1, may be defective and cause poor tone quality.

Excessive Hum. Ground lead may be disconnected, or broken. Also see paragraph on hum adjustment, under "Installation."

Fading, or Unsteady Reception. Where the incoming music or signals fluctuate in volume, it is usually due to atmospheric changes. Some stations may build up to maximum volume, then decrease to a minimum, or disappear entirely. Local reception is not usually affected in this manner. No remedy can be applied at the set for fading signals.

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