

Radiola III

INTRODUCTION

The RADIOLA III is a high grade regenerative radio receiving set especially designed for broadcasting reception. It uses two WD-11 Radiotrons which are arranged to operate as a detector and audio amplifier. Four antenna binding posts are provided so that a choice of two types of tuning circuit may be had. One is a sensitive single tuning circuit that has made an excellent reputation in the Radiola Senior, while the other is a more selective circuit for use when interference is present. The apparatus is mounted below an attractive horizontal panel of durable molded material and is enclosed in a solid mahogany case. A flexible cable is provided, by which all battery connections are made, thus, the set may be placed on a table while the batteries are placed on the floor or elsewhere out of the way.

EQUIPMENT

Material Furnished

Under the name of RADIOLA III, there is included the following material:

RADIOLA III Receiving Set as described,
Two RADIOTRONS, Type WD-11,
One Telephone Headset.

Additional Material Needed

To complete a new installation, the following material will also be needed:

Complete Antenna and Ground Outfit, A, B and C Batteries as follows:

"A" Battery for filament heating, consisting of from four to six $1\frac{1}{2}$ volt dry cells connected in parallel, such as one of the following:

4 to 6 Eveready Radio "A" Batteries # 7111.

4 to 6 Burgess "A" Batteries # 6.

4 to 6 Ray-O-Vac "A" Dry Batteries # 1211.

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4 to 6 Manhattan Red Seal Dry Cells # 2445.

4 to 6 Columbia Ignitor # 6 Dry Cells.

or any other make of good dry cell having approximate dimensions of $2\frac{1}{2}$ inches diameter by 6 inches high.

A two volt (one cell, lead type) storage battery may be used.

“B” Battery for supplying power to the plate circuits, consisting of two $22\frac{1}{2}$ volt plate batteries connected in series or of one 45 volt plate battery, such as one of the following:

2 Eveready # 766 Plate Batteries.

2 Burgess # 2156 Plate Batteries

2 Ray-O-Vac # 2151 Plate Batteries.

2 Ace # 115 Plate Batteries.

or

1 Eveready # 767 Plate Battery.

1 Burgess # 2306 Plate Battery.

1 Ray-O-Vac # 2301 Plate Battery.

or any other good make of radio plate battery. The ones listed are of the large size which are most economical but the intermediate size may also be used.

“C” Battery for producing a negative grid potential, consisting of one $1\frac{1}{2}$ volt dry cell. This may conveniently be the same as one of the cells of the “A” Battery and this is recommended.

INSTALLATION

Location—The RADIOLA III should be placed as near as possible to the incoming wire from the antenna. A good ground, such as a water pipe, should be not far away. The set may be placed on a small table so that the batteries may rest on the floor or elsewhere out of the way.

Antenna

Outdoor Type—In general, best results will be obtained with an outdoor antenna from 50 to 150 feet long and 20 or more feet above the ground. If these dimensions cannot be secured, approach them as nearly as possible. The antenna should be located in a space above the tops of surrounding buildings and in a space as free as possible from other objects. It should not be touched by any

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other object than the antenna insulators. The same precautions apply to the lead-in, which should preferably be a continuation of the antenna wire to eliminate joints, and should run as directly as possible to the receiver. The antenna should be at right angles to any electric light and other wires and if practicable, at least 15 feet distant from them and from other antennae. It should be erected in a strong and durable manner in accordance with the requirements of the National Electric Code.

Indoor Type—For local reception, and in some cases for distant reception, satisfactory results may be secured by using 20 to 40 feet of ordinary cotton covered magnet or bell wire (about 18 to 22 B & S gauge) strung around a picture moulding or elsewhere as high up as possible. This type of antenna is particularly suitable for use in apartment houses or similar buildings but will not give satisfactory results in steel frame buildings or in ones having metal lath under the plaster.

Ground

A good ground is as necessary as a good antenna. The best ground is a good electrical connection to a water pipe. If this is not convenient, a connection to the steam or hot water heating system will usually serve almost as well. Connections to gas pipes should be avoided. If nothing of this nature is available, a pipe or metal rod may be driven into the ground to a depth of several feet, preferably where the soil is moist. The ground connection should be made with a ground clamp to which the wire is soldered or securely held by gripping under a screw or nut. In any case the pipe must be scraped or filed until clean and bright before attaching the ground clamp. Usually, connecting to more than one ground, for instance, to both water and steam pipes, will improve reception.

Connections

Three separate batteries are needed to operate Radiola III. The "A" battery heats the filament of the Radiotrons, the "B" battery supplies the power to the plate circuits and the "C" battery controls the grid potential of the amplifier Radiotron so that amplification will be undistorted and the "B" battery will last longer.