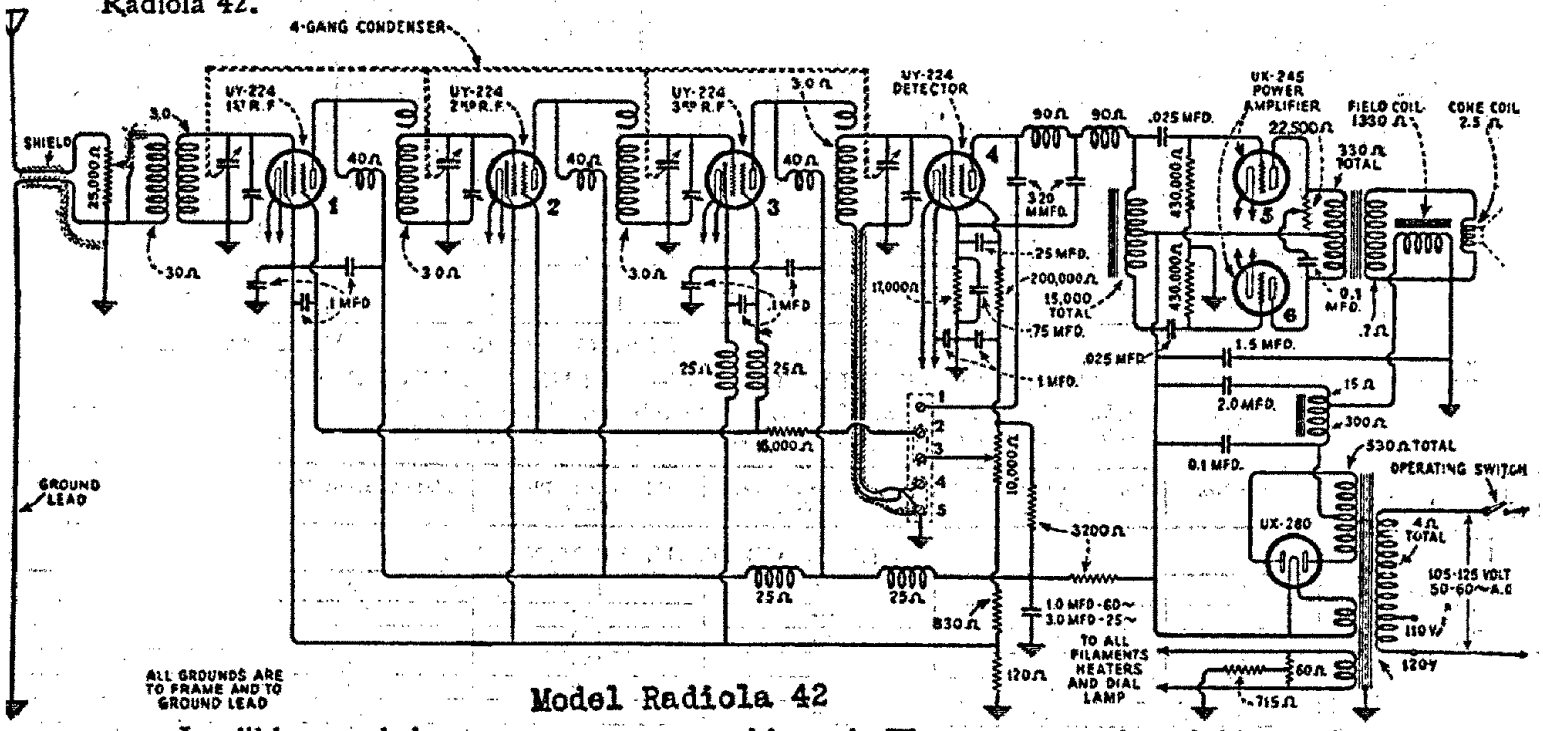
Radiola 42 Schematic
Model R-43 Notes

R. C. A. - VICTOR CO., INC.

All the information contained in the Radiola 48 Service Notes will therefore apply to the Radiola 42.



Model Radiola 42

It will be noted that a new volume control is used. The antenna section of this unit has a value of 25,000 ohms instead of 50,000 ohms as used in the Radiola 48. This volume control is also being used as a replacement in Radiola 48. The screen grid voltage section has a value of 10,000 ohms and the 12,000 ohm shunt resistor is not used. The 0.005 mfd. condenser across the plates of Radiotrons UX-245 has been omitted due to the connection of the tone control in the same position. When making replacements of the condenser and reactor unit it will be necessary to clip the two leads that are connected to the .005 mfd. condenser close to the container. The reason for this is that the replacement unit supplied is suitable for either the Radiola 42 or 48.

Model R-43 Service Notes

The RCA Victor Console, R-43 is an eight tube screen grid battery operated Super-Heterodyne radio receiver.

Three Radiotrons RCA-232 are used in the R.F., 1st detector and I.F. stages respectively. Five Radiotrons RCA-230 are used in the Oscillator, 2nd detector, 1st audio and push-pull power stage.

A reference to the RCA Victor Radiola Superette Service Notes will give the details of circuit operation up to and including the second detector. The audio circuits of the R-43 are however, considerably different from the R-7. A discussion of their function follows:

The first audio stage operates in the usual manner, its output being fed into the grid circuit of the push-pull stage. The output stage is of the push-pull type, in which the tubes are biased to substantially plate current cut-off. The arrangement is such that the output stage may deliver substantially four times the output that would be obtained with the same tubes operated in the usual circuit. This system is very economical due to there being but a small amount of residual plate current flowing in the output stage.

Current is drawn only when a modulated signal is being received.

An extra winding, shunted by a capacitor, is placed on the output transformer. The purpose of this circuit is to provide a high frequency cut-off for the audio amplifier.

A tone control is provided, which consists of a 0.1 mfd. capacitor and a 50,000 Ohm variable resistor connected across one half of the secondary of the input transformer. This circuit functions to reduce the high frequency output as the resistance is decreased.

The permanent magnet dynamic loudspeaker used with this receiver is a new development and gives all the fine quality and life-like reproduction inherent in this type of reproducer.

The receiver is designed for use with the new Eveready Aircell "A" battery which provides a life in excess of 600 ampere hours. The receiver draws but .48 amperes, giving approximately 1200 hours life from a single filament battery.

The plate and grid supply for all Radiotrons is furnished from four heavy duty "B" batteries. Due to the low current drain—8 to 15 M.A.—excellent life is obtained from this source of current.

SERVICE DATA

A reference to the RCA Victor Superette, R-7 Service Notes will give complete details on R.F., oscillator and I.F. adjustments as well as the usual service information required with this type of receiver.

BATTERIES

The Eveready Aircell "A" battery must be kept clean and the plates covered with water at all times. Operation at temperatures of 40 degrees Fahrenheit or lower is not recommended and if attempted will result in damage to the battery. Having the battery idle at this temperature does not in any way affect it. If it is essential that an installation be made where the receiver is to be operated at 40 degrees Fahrenheit or less, a single cell storage battery should be used. Due to the low current drain, excellent life from one charging will be obtained.

"B" batteries should be replaced when their output voltage has dropped 25% under load.