

Instructions for RCA Victor R-70 Radiola

INSTALLATION

Preliminary—After unpacking the instrument, remove the packing material from the Radiotrons. Refer to the tube location diagram on rear of receiver, and *make certain*:

- (a) That all tubes are in the proper sockets and pressed down firmly.
- (b) That all shields are rigidly in place over the Radiotrons shown by double circles on the diagram.
- (c) That the short flexible leads shown on the diagram are attached to the top grid contacts of the proper Radiotrons as indicated, and that the spring contact caps are pressed down firmly.
- (d) That the lid is securely in place on the shield of the RCA-58 Radiotron designated by the heavy circle on the diagram.

Location—The instrument should be located close to the antenna lead-in and ground connections, and near an electrical outlet.

External Connections—Figure 1 shows the external connections and recommended antenna system. It is essential

that a good ground connection be provided. Make connections to the antenna and ground as illustrated. Then connect

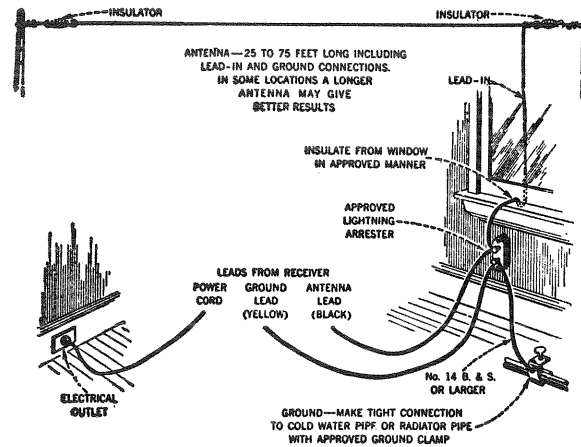


Figure 1

the power cord to an electrical outlet supplying alternating current at the voltage and frequency (cycles) for which the instrument is rated (see rating label on rear of receiver).

IMPORTANT—Before operating make sure that the thick cardboard shipping spacer has been removed from under chassis and that the four bolts which extend through bottom of cabinet have been loosened sufficiently to allow the chassis to float freely on its rubber cushions.

OPERATION

The operating controls are shown in Figure 2. Proceed as follows:

1. Apply power by turning the Tone Control knob clockwise from the "off" position; set this control near the middle of its range. Several seconds are required for the Radiotrons to heat before satisfactory reception is possible.



Figure 2

2. Advance the Volume Control about one quarter turn from the extreme counter-clockwise position and turn the Station Selector in either direction until a station is heard. (The dial scale is calibrated in kilocycles to facilitate selecting stations of known frequency.) If no station is heard, advance the Volume Control further in a clockwise direction and again rotate the Station Selector.

3. After receiving a signal, turn the Volume Control counter-clockwise until the volume is reduced to a low level. Now readjust the Station Selector accurately to the position mid-way between the points where the quality becomes poor or the signal disappears. *This setting minimizes the proportion of background noise and provides the fine quality of reproduction possible with this instrument.*

4. Adjust the Volume Control to secure the desired volume.

5. Adjust the Tone Control to obtain the desired tone quality, or turn it counter-clockwise to reduce noise interference.

6. When through operating, switch off the power by turning the Tone Control knob to the extreme counter-clockwise position.

Radiotrons—Improved results may sometimes be obtained by interchanging Radiotrons of the same type, either RCA-56 or RCA-58. *The power should be switched off before removing any Radiotron from its socket.* Spare Radiotrons should be kept on hand.

SERVICE DATA

Electrical Specifications

Voltage Rating.....105-125 Volts
Power Consumption.....85 Watts

Radiotrons Required

3 RCA-58, 2 RCA-56, 1 RCA-247, 1 UX-280—Total 7
Undistorted Output.....2.25 Watts
Intermediate Frequency.....175 K. C.
R. F. and Oscillator Line-up Frequency....1400 K. C. Only

This receiver is a seven tube Super-Heterodyne receiver incorporating such features as new high efficiency Radiotrons, Pentode Output Stage, continuously variable tone control and the inherent sensitivity, selectivity and tone quality of the Super-Heterodyne.

Service work in conjunction with this receiver will be similar to that of other Super-Heterodyne receivers. Line-up adjustments are made with a modulated oscillator and output meter. The I. F. amplifier consists of an untuned transformer and one tuned transformer. The I. F. frequency is 175 K. C. and the line-up capacitors should be adjusted for maximum output at this frequency. The three gang capacitor

trimmers are adjusted for maximum output when the dial and oscillator are both set at 1400 K. C.

Figure A shows the loudspeaker wiring, Figure B the schematic wiring and Figure C, the chassis wiring. The voltage readings are given on the next page and the replacement parts below.

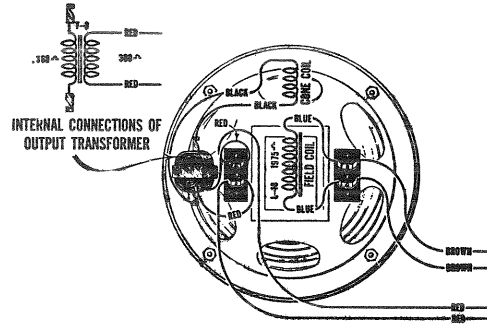


Figure A—Loudspeaker Wiring

REPLACEMENT PARTS

(Replacement parts may be purchased from authorized Distributors or Dealers Only)

Stock No.	DESCRIPTION	List Price	Stock No.	DESCRIPTION	List Price
RECEIVER ASSEMBLIES					
2532	Capacitor—230 mmfd.—Package of 5.....	\$3.15	6375	Transformer—Second Intermediate frequency transformer.....	\$1.88
2746	Socket—Dial lamp socket.....	.50	6376	Transformer—First intermediate transformer.....	2.12
2747	Cap—Contact cap—Package of 5.....	.50	6377	Shaft—Tuning capacitor drive shaft with one flat washer and two "C" washers.....	.32
2749	Capacitor—2,400 mmfd.....	1.50	7484	Socket—UY type hamiron socket.....	.65
3048	Resistor—500,000 ohms—Carbon type—½ watt—Package of 5.....	2.50	7485	Socket—Radiotron 6 contact socket.....	.70
3076	Resistor—1 megohm—Carbon type—¼ watt—Package of 5.....	2.50	7501	Capacitor—3 gang variable tuning capacitor complete with mounting screws.....	5.20
3077	Resistor—30,000 ohms—Carbon type—¼ watt—Package of 5.....	2.50	7510	Shield—Radiotron tube shield—Maroon finish.....	.50
3078	Resistor—10,000 ohms—Carbon type—¼ watt—Package of 5.....	2.50	7522	Tone control.....	1.90
3461	Coil—Second detector plate choke coil.....	.88	7557	Scale—Dial and dial scale.....	.80
3462	Resistor—2,500 ohms—Carbon type—1 watt—Package of 5.....	1.10	7558	Transformer—Interstage audio transformer in metal container.....	2.48
3463	Resistor—6,500 ohms—Carbon type—1 watt—Package of 5.....	1.10	7559	Capacitor pack—Comprising one 0.05 mfd., one 0.5 mfd., one 10.0 mfd., one 8.0 mfd., one 0.3 mfd., one 1.0 mfd. and three 0.1 mfd. capacitors in metal container.....	6.70
3464	Resistor—70,000 ohms—Carbon type—¼ watt—Package of 5.....	1.00	7560	Transformer—Power transformer—105-125 volts—50-60 cycles.....	6.14
3469	Resistor—2,500 ohms—Carbon type—1 watt—Package of 5.....	1.10	7570	Transformers—Power transformer—105-125 volts—25-40 cycles.....	7.40
3470	Resistor—6,500 ohms—Carbon type—1 watt—Package of 5.....	1.10	7571	Transformer—200-250 volts—50-60 cycles.....	6.28
3471	Capacitor—0.025 mfd.....	.32	REPRODUCER ASSEMBLIES		
3472	Capacitor—0.0024 mfd.....	.32	3005	Screw assembly—Comprising 4 screws, 8 nuts, 4 washers, and 4 eyelets—Package of 1 set.....	.50
3490	Screw assembly—Chassis mounting screw assembly comprising 4 screws, 4 washers and 4 spacers—1 set.....	.50	6184	Board—Terminal board with 3 terminals—Package of 5.....	.50
3495	Capacitor—320 mmfd.....	.50	6378	Transformer—Output transformer.....	1.94
6142	Resistor—6,000 ohms—Carbon type—¼ watt—Package of 5.....	2.00	8920	Ring—Cone retaining ring.....	.50
6192	Spring—3 gang tuning capacitor drive cord tension spring—Package of 10.....	.50	8935	Cone—Reproducer cone complete with voice coil—Package of 5.....	12.50
6288	Knob—Station selector—Volume control or tone control knob—Package of 5.....	1.50	9422	Coil assembly—Comprising field coil, magnet and cone support.....	4.32
6298	Cord—3 gang variable tuning capacitor drive cord—Package of 5.....	1.00	CABINET ASSEMBLIES		
6300	Socket—4 prong Radiotron socket.....	.55	6113	Foot—Felt foot—Package of 15.....	
6303	Resistor—20,000 ohms—Carbon type—½ watt—Package of 5.....	2.50	7437	Escutcheon—Tuning selector escutcheon.....	
6312	Capacitor—650 mmfd.—Oscillator series—Package of 5.....	2.50	X190	Cabinet—Complete less all equipment.....	
6318	Resistor—10,000 ohms—Porcelain type—20 watts.....	1.00	X191	Baffle board and grille cloth.....	
6372	Volume control.....	1.94	PARTS SPECIAL FOR NURSERY MODEL		
6373	Coil—R. F. coil complete.....	1.06	3492	Knob—Blue knob.....	.30
6374	Coil—Detector and oscillator coil.....	2.14	3493	Knob—Red knob.....	.30
			3494	Knob—Orange knob.....	.30
			X194	Escutcheon—Station selector escutcheon—Red finish.....	
			X195	Baffle board and grille cloth.....	
			X196	Cabinet—Cabinet complete less all equipment.....	

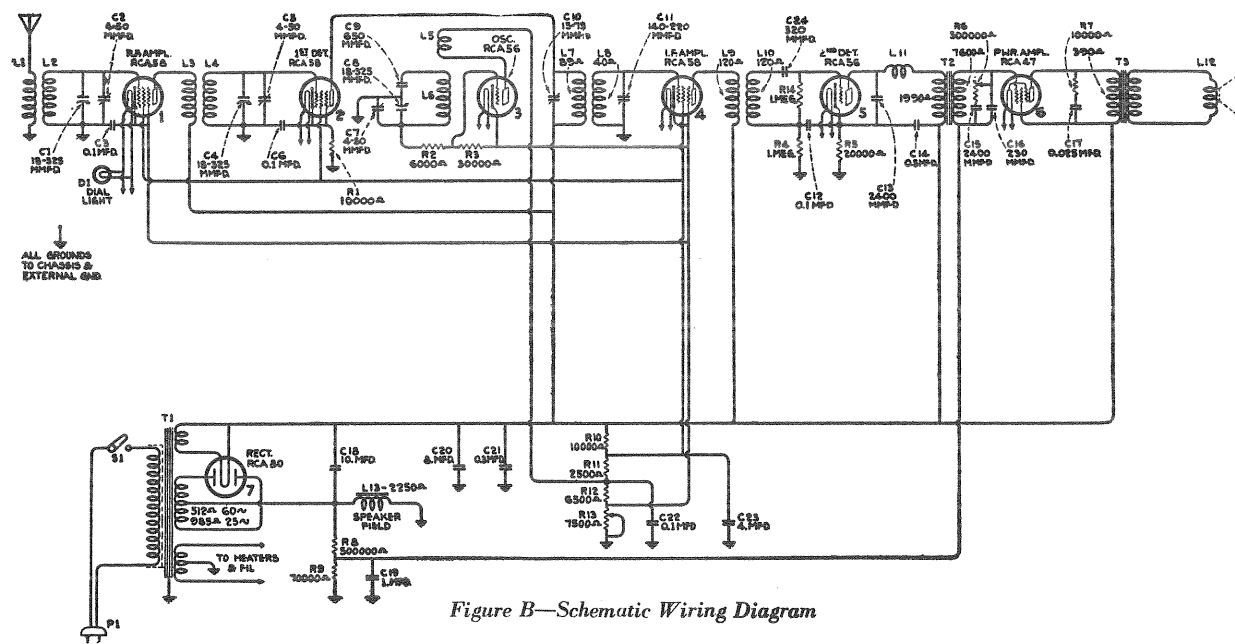
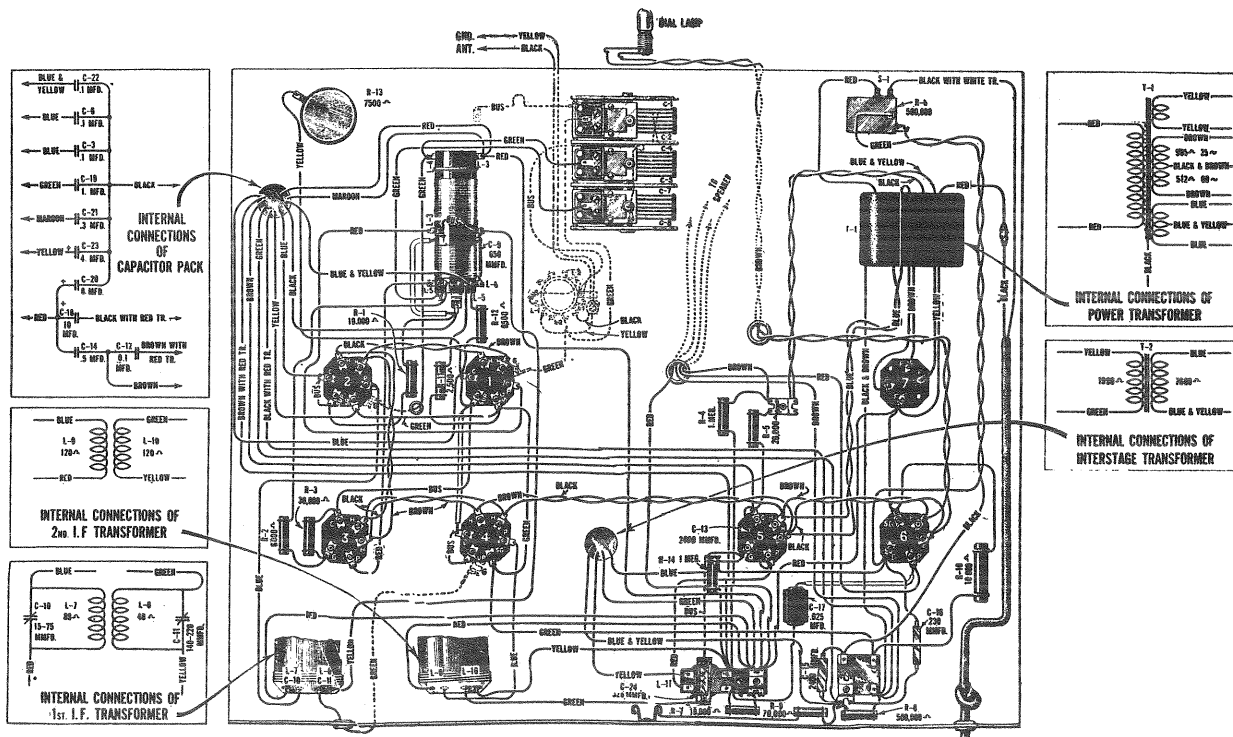


Figure B—Schematic Wiring Diagram

RADIOTRON SOCKET VOLTAGES

All Voltages Measured at Maximum Volume with No Signal Impressed on Input. 120 Volt 60 Cycle A. C. Source Used

Radiotron No.	Cathode or Filament to Control Grid Volts	Cathode or Filament to Screen Grid Volts	Cathode or Filament to Plate Volts	Plate Current M. A.	Heater or Filament Volts
1. R. F. RCA-58	4.5	100	245	6.0	2.37
2. Oscillator RCA-56	—	—	60	4.5	2.37
3. First Detector RCA-58	13.0	90	235	1.3	2.37
4. I. F. RCA-58	4.5	100	245	6.0	2.37
5. Second Detector RCA-56	18.0	—	230	1.0	2.37
6. Power RCA-247	16.5	250	240	30.0	2.37
7. Rectifier UX-280	370 Volts R. M. S. each plate			70.0	5.0



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Figure C—Chassis Wiring Diagram



TRADE MARKS REG. U. S. PAT. OFF.

RCA Victor Company, Inc.

Camden, N. J., U. S. A.