

SERVICE NOTES

for

RCA Victor Console, R-43

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.

REPLACEMENT PARTS

Stock No.	DESCRIPTION	List Price	Stock No.	DESCRIPTION	List Price
RECEIVER ASSEMBLY					
2012	Capacitor—1200 Mmfd.....	\$0.55	7062	Capacitor—Adjustable oscillator trimming capacitor.	\$1.00
2563	Resistor—6000 Ohms—Carbon type—Package of 5.....	3.00	7241	Capacitor—3 Gang tuning capacitor complete with mounting screws and washers.....	8.00
2747	Cap—Radiotron grid contact cap—Package of 5.....	.50	7260	Tone or Volume Control—Complete less knob.....	1.50
2749	Capacitor—2400 Mmfd.—Mica type.....	1.50	7261	Coil—R.F. Coil complete with mounting washer and nut.....	1.70
2875	Knob—Station selector, tone control or volume control knob—Package of 5.....	1.50	7262	Transformer—1st Intermediate transformer—Complete with shield and mounting screws.....	3.00
2957	Capacitor—10 Mfd.—Electrolytic type.....	3.00	7263	Transformer—2nd Intermediate transformer—Complete with shield and mounting screws.....	3.00
2968	Socket—UX Radiotron socket complete with insulating shield—2 hole mounting—3 used.....	.50	7264	Capacitor Pack—R.F. by-pass capacitor in metal container.....	3.50
2993	Board—Resistor mounting board—Less resistor and coil.....	1.00	7265	Transformer—Interstage Audio transformer in metal container.....	4.50
2994	Coil—2nd detector R.F. coil complete with rivet.....	.60	9354	Chassis—Receiver chassis complete—Less all Radiotrons.....	40.00
2998	Coil—Detector and oscillator coil—Complete with mounting washers and nuts.....	2.40	REPRODUCER ASSEMBLY		
2999	Shaft—Dial drive shaft—Complete with mounting screws and lock washers.....	.50	8559	Ring—Cone retaining ring.....	.80
3000	Scale—Dial drum and scale complete with set screws.....	.60	8601	Cone—Reproducer cone complete with voice coil—Package of 5.....	15.00
3003	Cushion—Sponge rubber cushion—Package of 4.....	.50	9355	Speaker—Loudspeaker complete.....	13.50
3032	Socket—UX Radiotron socket complete with insulating shield—three hole mounting—5 used.....	.50	CABINET ASSEMBLY		
3033	Resistor—1 megohm—Carbon type—Package of 5.....	2.00	3020	Escutcheon—Station selector escutcheon complete with mounting screws.....	.60
3034	Resistor—180,000 Ohms—Carbon type—Package of 5.....	2.50	8585	Grille—Less grille cloth.....	2.00
3035	Resistor—1300 Ohms—Carbon type—Package of 5.....	2.50	8682	Board—Baffle board complete with grille cloth and baffle ring.....	1.50
3036	Resistor—29,000 Ohms—Carbon type—Package of 5.....	2.50	8683	Post—R.H. Front post.....	3.00
3037	Resistor—650 Ohms—Carbon type—Package of 5.....	2.50	8684	Post—R.H. Back post.....	3.00
3038	Resistor—350,000 Ohms—Carbon type—Package of 5.....	2.50	8685	Post—L.H. Front post.....	3.00
3039	Resistor—270,000 Ohms—Carbon type—Package of 5.....	2.50	8686	Post—L.H. Back post.....	3.00
3040	Capacitor—.0025 Mfd.—Paper type.....	.50	8687	Stretcher.....	5.00
3041	Board—Capacitor and resistor mounting board—Less resistor and capacitor.....	.50	8688	Top—Cabinet top.....	6.50
3042	Capacitor—0.1 Mfd.—Paper type.....	.70	8689	Foot—Cabinet foot.....	.60
3043	Resistor—0.8 Ohms—Wire wound.....	.50	8690	Panel—Control panel.....	5.00
3044	Resistor—4000 Ohms—Carbon type—Package of 5.....	2.50	9356	Cabinet—Cabinet complete less all equipment.....	47.50
3045	Resistor—40,000 Ohms—Carbon type—Package of 5.....	2.50			
3056	Shield—Radiotron shield—Package of 2—3 used.....	.50			
3086	Switch—Local distant switch.....	.80			
3087	Switch—Operating switch.....	1.60			
3088	Knob—Operating switch or local distant switch knob—Package of 5.....	.50			

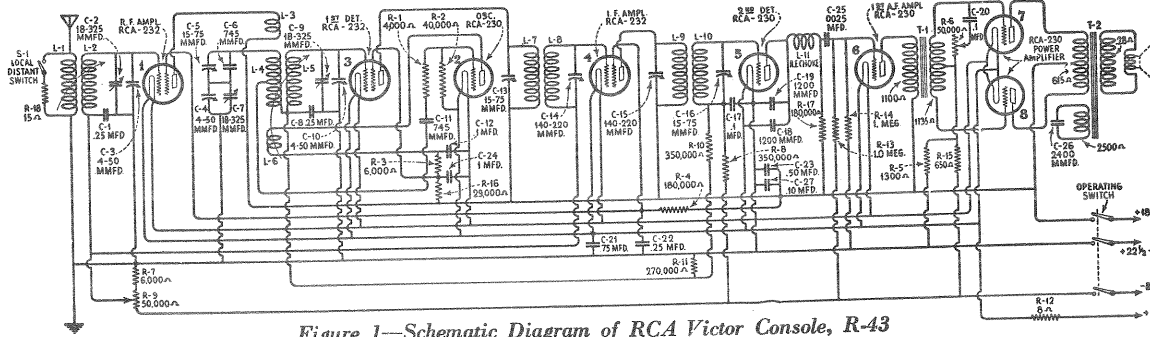


Figure 1—Schematic Diagram of RCA Victor Console, R-43

RADIOTRON SOCKET VOLTAGE

BATTERIES AT FULL VOLTAGE—NO SIGNAL BEING RECEIVED

These voltages are those obtained with one of the usual set analyzers. The values indicated, therefore, are not necessarily the voltages that actually appear at the Radiotron Sockets when the voltmeter is not connected.

VOLUME CONTROL AT MINIMUM					
Tube No.	Filament to Control Grid Volts	Filament to Screen Grid Volts	Filament to Plate Volts	Plate Current M. A.	Filament Volts
1	22	55	155	0	2.0
2	—	—	50	3.0	2.0
3	0.5	65	150	0.5	2.0
4	22	55	155	0	2.0
5	5.0	—	90	0	2.0
6	2.0	—	150	2.5	2.0
7	15.0	—	150	0.5	2.0
8	15.0	—	150	0.5	2.0

VOLUME CONTROL AT MAXIMUM					
Tube No.	Filament to Control Grid Volts	Filament to Screen Grid Volts	Filament to Plate Volts	Plate Current M. A.	Filament Volts
1	1.5	45	150	2.5	2.0
2	—	—	50	3.0	2.0
3	0.5	60	150	0.5	2.0
4	1.5	45	150	2.5	2.0
5	5.0	—	90	0	2.0
6	2.0	—	150	2.5	2.0
7	15.0	—	150	0.5	2.0
8	15.0	—	150	0.5	2.0

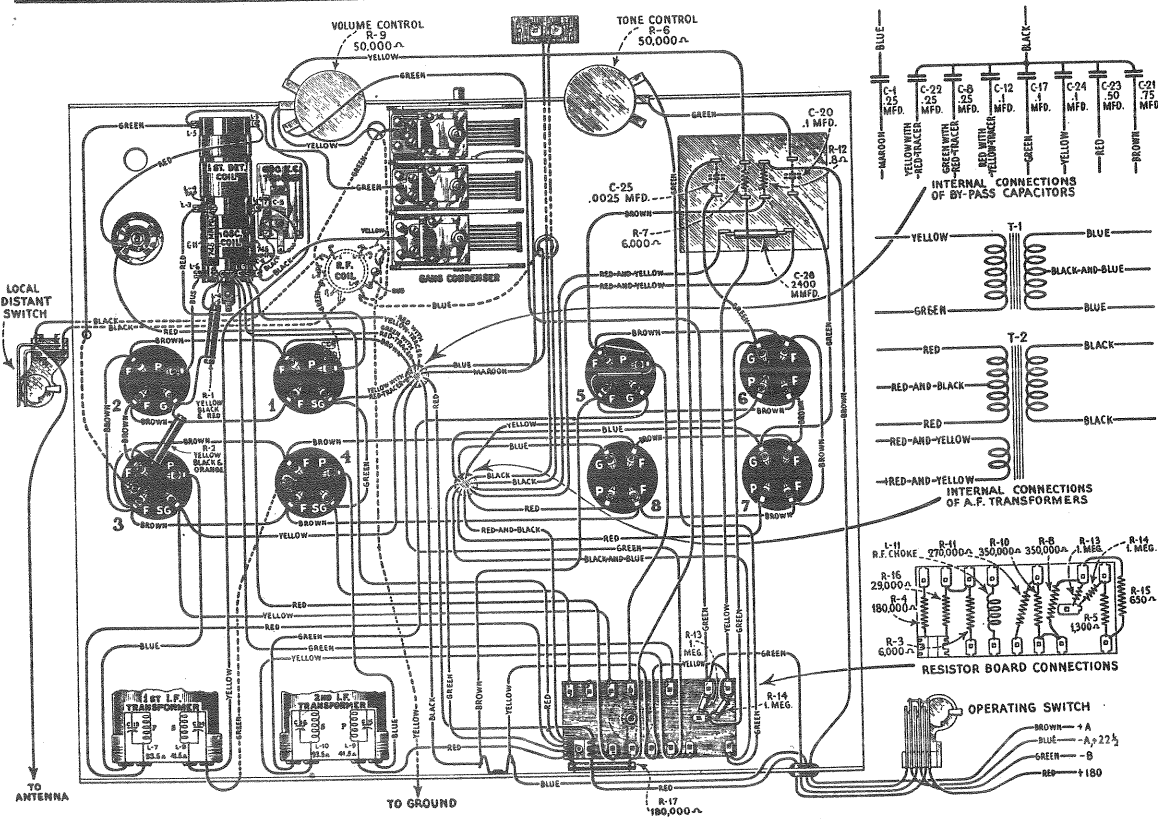


Figure 2—Wiring Diagram of RCA Victor Console, R-43

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