R.C.A. Victor Co., Inc.

	Model: R-11	**Chassis:**	**Year:** Pre June 1932
	Power:	**Circuit:**	**IF:**
	Tubes:		
	Bands:		

Resources
Riders Volume 2 - RCA 2-21
Riders Volume 2 - RCA 2-22
Riders Volume 2 - RCA 2-23

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

MODEL R-11 AC
Parts List
Notes

RCA Victor Console, R-11

REPLACEMENT PARTS

Stock No.	DESCRIPTION	List Price
2563	Resistor—6,000 ohms—Carbon type—Package of 5	$3.00
2730	Resistor—18,000 ohms—Carbon type—Package of 5	2.00
2734	Capacitor—745 mmfd.—Package of 5	2.20
2746	Socket—Dial lamp socket	.50
2747	Contact cap—Package of 5	.50
2749	Capacitor—2400 mmfd.	1.50
2875	Knobs—Package of 5	1.50
2882	Socket—UY Radiotron socket—Complete with insulating shield—8 used	.50
2908	Socket—UX Radiotron socket—Complete with insulating shield—1 used	.50
2999	Shaft—Dial drum drive shaft	.50
3029	Indicator—Tuning dial indicator—Complete with brackets	.50
3046	Resistor—100,000 ohms—Carbon type—Package of 5	2.50
3047	Resistor—1500 ohms—Carbon type—Package of 5	2.50
3048	Resistor—500,000 ohms—Carbon type—Package of 5	2.50
3049	Resistor—150 ohms—Carbon type—Package of 5	2.50
3050	Resistor—11,000 ohms—Carbon type—Package of 1	.60
3051	Resistor—5 megohm—Carbon type—Package of 5	2.00
3053	Capacitor—9 mmfd.—Package of 2	.50
3054	Escutcheon—Station selector escutcheon—With 4 mounting screws	.60
3055	Cushion—Chassis support cushion—Package of 4	.50
3056	Shield—Radiotron shield—6 used—Package of 2	.50
3076	Resistor—1 megohm—Carbon type—Package of 5	2.50
3077	Resistor—30,000 ohms—Carbon type—Package of 5	2.50
3078	Resistor—10,000 ohms—Carbon type—Package of 5	2.50
3079	Resistor—40,000 ohms—Carbon type—Package of 5	2.50
3085	Capacitor—400 mmfd.	.60
3089	Terminal board—Magnetic pickup terminal board	.50
3090	Board—A. V. C. and 2nd detector R. F. choke mounting board—Less choke coils	.50
3091	Board—Resistor board—Less resistor and capacitors	1.00
3092	Volume control—Complete with mounting nut	1.50
3093	Tone control—Complete with mounting nut	1.90
3094	Shield—Radiotron shield—1 used—Package of 2	.50
3095	Coil—R.F. coil—Complete with mounting bracket	1.90
3096	Coil—1st detector and oscillator coil—Complete with mounting bracket	3.55
3097	Scale—Dial drum scale with set screws—Pkg. of 2	$0.50
3098	Capacitor—0.008 mfd.	.50
3099	Capacitor—0.005 mfd.	.75
7054	Cord—Power cord	1.00
7062	Capacitor—Adjustable oscillator trimmer capacitor	1.00
7241	Capacitor—3 gang tuning capacitor with mounting screws and washers	8.00
7266	Transformer—1st intermediate transformer	3.00
7267	Transformer—2d intermediate transformer	3.00
7268	Coil—Detector or A.V.C. R.F. choke coil—Complete with mounting rivet	.60
7269	Capacitor pack—In metal container—60 cycle	7.25
7270	Reactor—Filter reactor	4.00
7271	Transformer—Interstage transformer	4.25
7272	Transformer—Power transformer—105–125 volt, 50–60 cycles	12.00
7273	Capacitor pack—By-pass capacitor pack—25–10 rs.	10.00
7274	Transformer—Power transformer—105–125 volts, 25–40 cycles	15.00
7275	Transformer—Power transformer—220 volts, 50–60 cycles	10.00
	LOUDSPEAKER ASSEMBLY	
7257	Coil—Cone support with retaining ring, magnet and field coil	6.00
7258	Transformer—Output transformer	1.70
8559	Ring—Cone retaining ring	.80
8601	Cone—Cone with voice coil—Package of 5	15.00
	CABINET ASSEMBLY	
8691	Panel—Control panel	8.50
8692	Grille cloth and baffle board	.90
8693	Leg—Front—Right or left	1.25
8694	Leg—Back—Right hand	1.00
8695	Leg—Back—Left hand	1.00
8696	Stretcher	2.50
8697	Foot	.75
8698	Top	5.50
8699	Ornament—Control panel ornament	2.25
9358	Cabinet—Complete less all equipment	62.50

In previous automatic volume control receivers, the volume control was placed in the grid circuit of the automatic volume control tube, its action being to vary the control grid voltage of this tube. When operating sets of this character, the receiver jumped to full sensitivity when not tuned to a signal and if in a noisy location, this noise was very objectionable.

In this instrument, however, the volume control is not in the automatic volume control tube circuit, but in the grid circuit of the second detector. By means of it the signal voltage applied to the second detector is controlled and under no conditions can noise or other signals exceed the level for which it has been set. Electrically, the primary and secondary of the second I. F. transformer are shielded from each other so that there is no transference of energy except by means of a small pickup coil. The volume control is a potentiometer shunted across this coil which determines the amount of pickup that will be used. As a further means of controlling a strong signal, a second section is provided which places up to 10,000 ohms (R-21) in series with the tuned circuit of second detector grid. This effectively reduces even the most powerful signals received.

A 0.005 mfd. condenser connected in series with a 10,000 ohm resistor is placed across the primary of the output transformer. This functions to reduce the third harmonic distortion, an inherent characteristic of the Pentode output tube. The direct plate and grid voltages are supplied from high voltage alternating current which is rectified by means of Radiotron UX-280. The filter is of the tapped reactor type which gives an output of well filtered D. C. The bias voltage for the Radiotrons RCA-247 is obtained by using a portion of the drop across the reproducer field. One 100,000 ohm and one 40,000 ohm resistors act as the voltage dividing resistors.

A tone control, consisting of a 0.008 mfd. condenser in series with a 200,000 ohm variable resistor connected across the two grids of Radiotrons RCA-247 is incorporated in this stage. The tone control functions to reduce the high frequency output as the resistance is reduced. At the extreme low position, the condenser and secondary of the A. F. transformer resonate at a low frequency and thereby further accentuate the bass response. The two 0.0004 mfd. condensers, connected in series with their mid-point grounded are connected across the secondary of the input transformer. The purpose of these condensers is to prevent audio oscillations and provide a high frequency audio cut-off.

The next circuit to examine is the first detector. The circuit is tuned by means of one of the gang condensers to the frequency of the incoming signal. Radiotron UY-224 is used in this stage. In the grid circuit there is present the incoming signal and the oscillator signal, the latter being at a 175 K. C. difference from the former. The first detector is biased so as to operate as a plate rectification detector and its purpose is to extract the difference or beat frequency, produced by combining the signal and oscillator frequencies. The beat frequency—175 K. C.—appears in the plate circuit of the first detector which is accurately tuned to 175 K. C.

The next stage is that of the I. F. amplifier. A single stage is used, requiring two I. F. transformers, consisting of four tuned circuits. The plate circuit of the first detector, the grid and plate circuit of the I. F. amplifier and the grid circuit of the second detector are all tuned to 175 K. C. Radiotron RCA-235 is used in this stage and its control grid voltage is also varied by means of the automatic volume control tube.

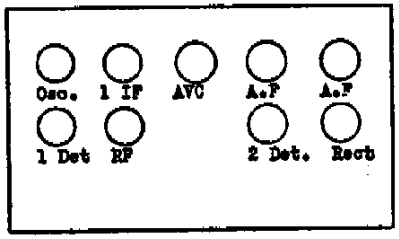
SERVICE DATA

Information pertaining to general service data for this type receiver may be obtained from the Service Notes already issued on the RCA Victor Radiola Superette.

All tubes removed from sockets and AC plug removed from power supply.
Field coil disconnected

From Chassis To	Correct		Incorrect
Aerial to Ground post	40	ohms	
Chassis to			
			TC-Y
RF Control Grid(early model)	1,000,005	ohms	BLC- in tuned circuit (.1 mfd)
			BC-AVC chk-Y
RF Control Grid(late model)	1,500,005	ohms	BLC- in tuned circuit (.05 mfd)
			BC- 1 IF Tr. Sec -Y
RF Cathode	150	ohms	BC- rf K-Y (.1 mfd)
RF Screen Grid	18,150	ohms	BC- rf Sg- Y (1. mfd)
			BC-47 Sg- Y (.5 mfd)
			BC-'80 F- Spkr div. tap
RF Plate	32,508	ohms	BC- rf P-Y (1. mfd)
			See RF Screen Grid
RF Plate to '80 Fil	58	ohms	
1 Detector Control Grid	5	ohms	TC-Y
1 Detector Cathode	1,500	ohms	BC-Y (.1 mfd)
1 Detector Screen	18,150	ohms	See R-F Screen
1 Detector Plate	32,541.5	ohms	See R-F Plate
1 Detector Plate to '80 Fil	93.5	ohms	TC- 1 IF Tr.
Oscillator Control Grid	41,500	ohms	BLC-Osc.Grid Cir.(.0074)
			BC-Osc K-Y (.1 mfd)
Oscillator Cathode	1,500	ohms	BC-Osc K-Y (.1 mfd)
Oscillator Plate	18,151	ohms	See R-F Screen
Osc Plate and Det Screen	1	ohm	
IF Control Grid (all models)	500,041.5	ohms	BC-Y (.5 mfd)
IF Control Grid- AVC Plate (early)	121.5	ohms	TC-1 IF Tr Sec
IF Screen Grid	18,150	ohms	See RF Screen
IF Plate	32,491.5	ohms	See 1 Detector Plate
IF Plate -'80 Fil	41.5	ohms	TC- 2 IF Tr.Pri.
AVC Control Grid (early)	7,230,285	ohms	BLC- if P- AVC Cg(9mmfd)
			BC-5 meg - AVC H (.1mfd)
			BC-1 meg- Y (.1 mfd)
			FC-'80 Anode -80 F(2mfd)
			FC filter chk-80 F(4 mfd
			BC-AVC K-Y (.5 mfd)
			BC-Spkr divides tap -Y
			BC-AVC K-AVC P(.0024 mfd
AVC Control Grid (late)	4,230,285	ohms	See early model
AVC Cathode	270,000	ohms	BC-AVC K-AVC P
			BC-AVC K-Y
AVC Plate	1,000,085	ohms	BC-AVC P-AVC K
			See RF Control Grid
2 Det Control Grid(Pickup Board Ter#2)	93.5	ohms	
2 Det Control Grid to V.C. Arm	3,093.5-10,093.5	ohms	TC-2D Cg- VC Arm
			BC-Ter#1-Ter#3
2 Det Cathode	30,000	ohms	BC- 2 DK -'80 Fil

From Chassis To	Correct		Incorrect
Pickup Board Terminal 2	1,000,000	ohms	BC-Ter#1- Ter#3
2 Detector Plate	54,850	ohms	See RF Plate
2 Detector Plate-'80 Fil	2,580	ohms	
'47 Control Grid	43,850	ohms	BC- 47 Cg-Y
			See AVC Cathode
'47 Control Grid to Control Grid	7,700	ohms	Tone Control Cond
			Tone Control Resist
'47 Screen	52,450	ohms	See 2 Detector Plate
'47 Screen - '80 Fil	0	ohms	
'47 Plate	52,755	ohms	See 2 Detector Plate
'47 Plate to Plate	610	ohms	Harmonic condenser
80 Anode to chassis	250,400	ohms	See AVC Control Grid
80 Anode to Anode	250	ohms	
80 Fil to chassis	52,450	ohms	See RF Plate
			See RF Screen Grid
Across Speaker field	860	ohms	



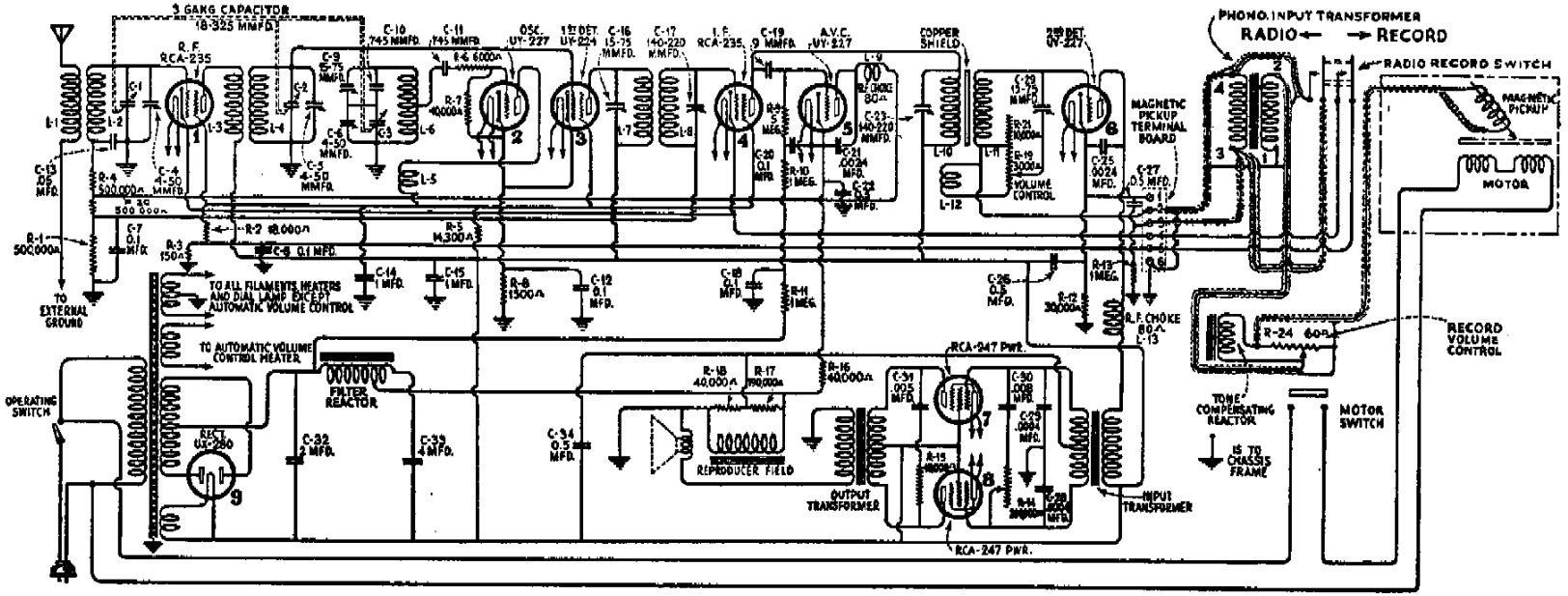
Line Voltage 110. Volume Control does not change voltages.

Tube	Cathode-Heater	Control Grid-Cathode	Screen Grid-Cathode	Plate-Cathode	Plate Current	Filament Voltage
RF	2.	0.1*	75.	205.	5.0 ma	2.2
Osc.	8.	0.	-	60.	5.0	2.2
1 Det.	7.	7.0	70.	200.	0.5	2.2
IF	2.	0.1*	75.	205.	5.0	2.2
AVC	0.	0.	-	25.	-	2.2
2 Det.	20.	8.0*	-	180.	0.5	2.2
Pwer	-	10.	210.	205.	25.	2.2
Pwer	-	10.	210.	205.	25.	2.2

* Not true reading due to resistance in the circuit.

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

MODEL RE-18
Schematic



IF PEAK 175 KC.

This is a combination radio and electrola incorporating a new type automatic volume control that is quiet between stations. The new motor - board equipment has a synchronous motor using the R. C. A. - Victor Inertia tone arm. The motor is fitted with a speed reducing gear that allows for the playing of both standard and Program Transcription Records.

In many respects this receiver is similar to the R. C. A. - Victor Model R-11 and methods similar to those used in servicing the R-11 can be applied to this Model, noting, of course, that there are some differences.

Models R-11, RE-18, RE-18A, RAE-26 (1931)