



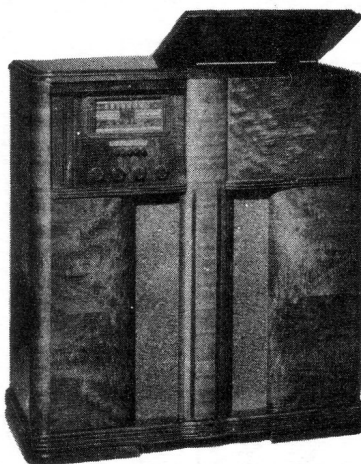
RCA Victor

VICTROLA MODEL VR-51

Seven-Tube, Two-Band, A-C, Superheterodyne, Victrola

TECHNICAL INFORMATION AND SERVICE DATA

SERVICE DIVISION • RCA VICTOR COMPANY LIMITED • MONTREAL



Model VR51

Electrical Specifications

FREQUENCY RANGES

"Standard Broadcast" (A) 540-1,720 kc "Short Wave" (C) 7.0-22 mc
Intermediate Frequency 455 kc

TUBE COMPLEMENT

(1) Type-6SA7	First Detector—Oscillator	(4) Type-6AD7G	Inverter and Power Output
(2) Type-6SK7	Intermediate-Frequency Amplifier	(5) Type-6F6-G	Power Output
(3) Type-6SQ7	Second Detector, 1st A-F & A.V.C.	(6) Type-5Y4G	Rectifier
Pilot Lamps		(7) Type-6U5	"Magic Eye" Tuning Indicator

POWER SUPPLY RATINGS

A	105-125 volts,	60 cycles, 115 watts
B	105-125 volts,	25 cycles, 115 watts

POWER OUTPUT

Undistorted 2.5 watts
Maximum 4.0 watts

LOUDSPEAKER

Type 12-inch Electrodynamic
Voice Coil Impedance 2.2 ohms at 400 cycles

PHONOGRAPH

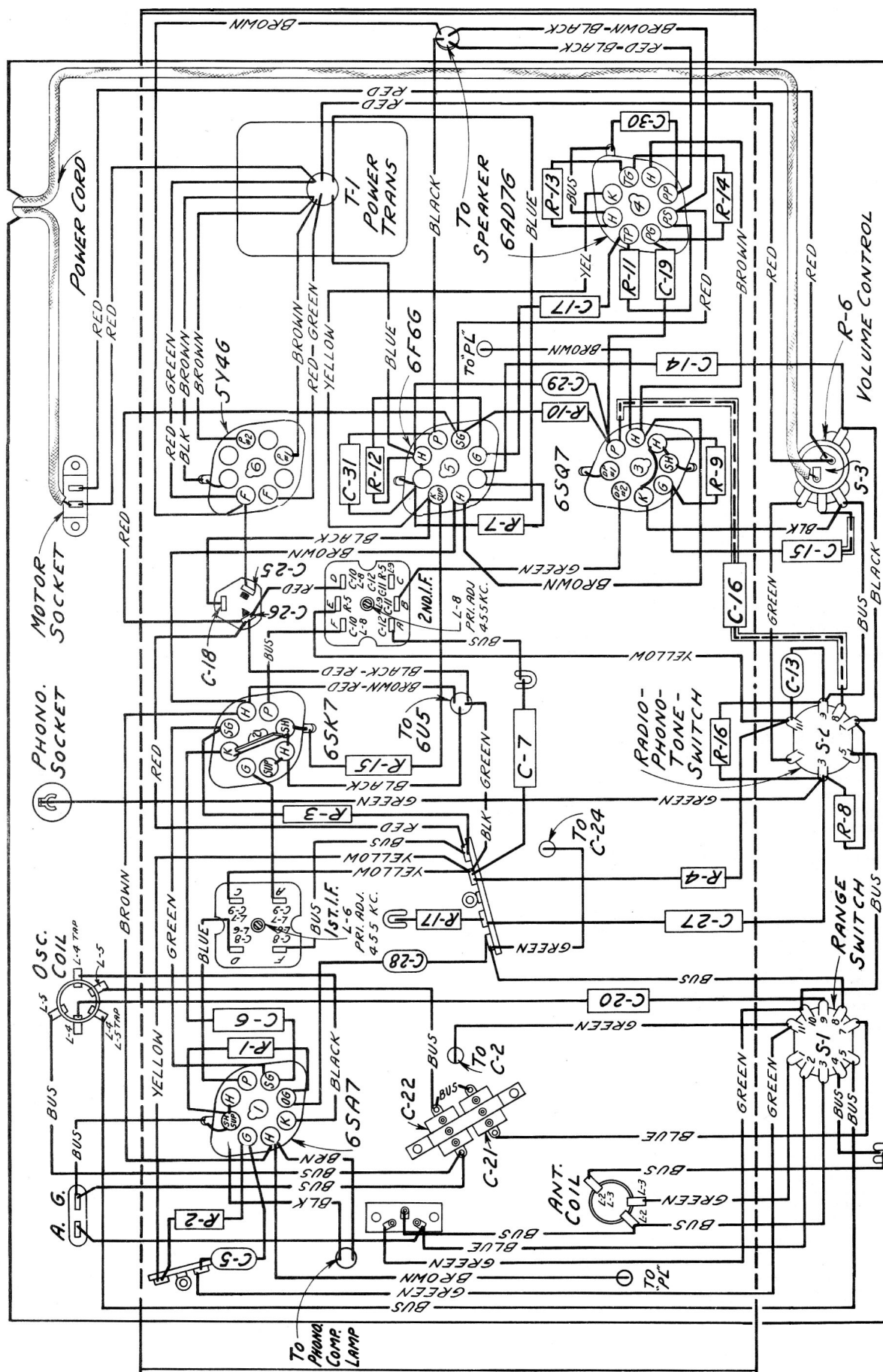
Type Automatic
Record Capacity Eight 10-inch or seven 12-inch
Turntable Speed 78 r.p.m.

PICKUP

Type Crystal
Impedance 100,000 ohms at 1,000 cycles
Average Output 1.5 volts at 1,000 cycles
across 500,000 ohm load

Mechanical Specifications

Height	35¼ inches
Width	34 inches
Depth	17 inches
Net Weight	100 pounds
Shipping Weight	120 pounds

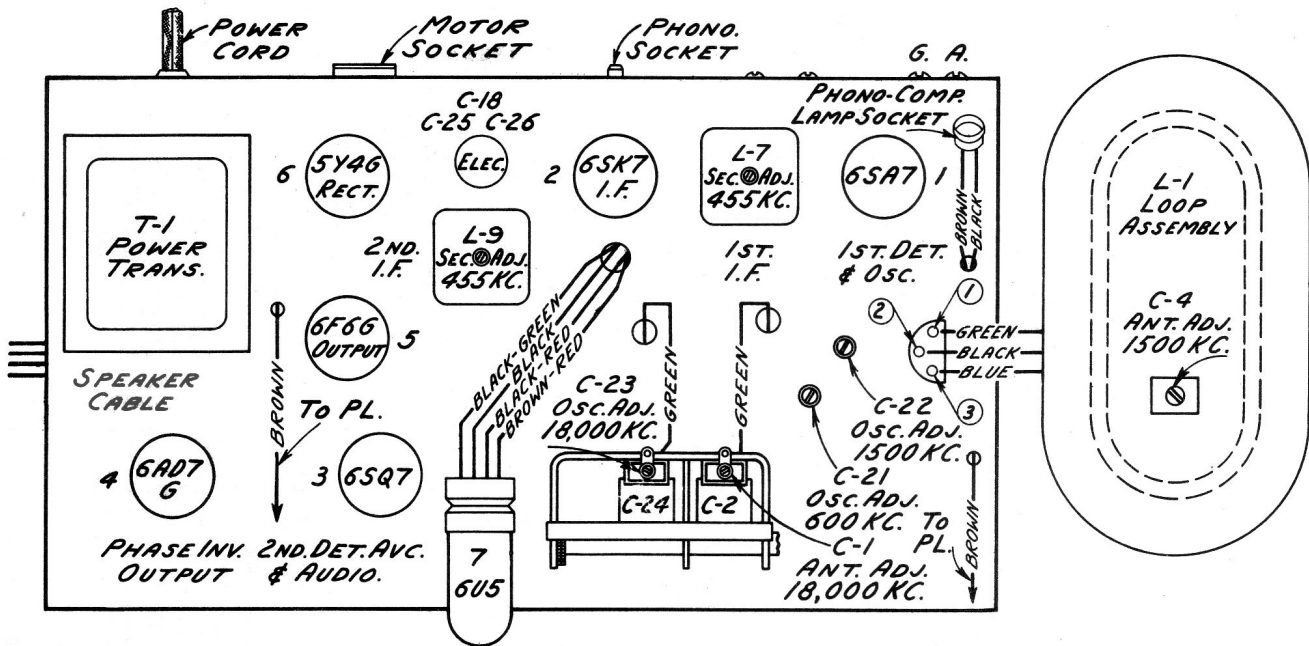


Chassis Wiring Diagram

General Description

The RCA Victrola Model VR-51 is a deluxe combination radio and phonograph housed in a console cabinet of exceptional beauty. The automatic phonograph incorporates the type RP152E mechanism which uses the rim drive type of motor. Reference to the RP152E service notes will disclose details of

adjustment. Features of design include:—Rotatable Magic loop antenna, Magic Eye tuning indicator, aurally compensated volume control, Radio-Phono tone switch, stabilized oscillator coil, a large easy to read dial, inverter push pull output stage and a twelve inch electrodynamic loudspeaker.



Alignment Procedure

Output Meter Alignment.—If this method is used, connect the output meter across the voice coil, and turn the receiver volume control to maximum.

Test Oscillator.—For all alignment operations, keep the oscillator output as low as possible to avoid a-v-c action.

Dial Indicator Adjustment.—With the gang condenser in full mesh, the indicator should point to the extreme left (low frequency) mark on the dial scale.

Steps	Connect test-osc. output to—	Tune test-osc. to—	Turn radio dial to	Adjust the following for maximum peak output
1	6SK7 I-F grid through 0.1 mfd capacitor and ground	455 kc	Quiet point between 600-800 kc	L9 & L10 (2nd I-F trans.)
2	6SA7 1st det. grid through 0.1 mfd capacitor and ground			L7 & L8 (1st I-F trans.)
3	Ant. & Grd. Terminal Board	18 mc	Rock at 18 mc	C-1 antenna† C-23 oscillator
4	Radiation Loop consisting of two turns of wire located 4 to 6 feet from receiver	600 kc	Rock at 600 kc	C-21 oscillator
5		1,500 kc	1,500 kc	C-4 antenna C-22 oscillator

When making adjustments 4 and 5 the chassis must be in the cabinet, the loop connected, and all leads in their normal positions. When mounting chassis in cabinet if calibration does not line up with dial scale mounted on cabinet move pointer to agree with dial scale on cabinet.

†If two peaks can be obtained use low frequency (maximum capacity) peak.

RADIOTRON SOCKET VOLTAGES

Type	Function	Plate	Screen Grid	Cathode	Heater
6SA7	Det.	260V	80V		6.6V
	Osc.			2.3V	
6SK7	I.F.	260V	80V		6.6V
6SQ7	Audio	80*V			6.6V
6AD7G	Inverter	175V		22V	6.6V
	Output	240V	250V	22V	6.6V
6F6-G	Output	240V	250V	22V	6.6V
5Y4-G	Rectifier	Measured Across C-25		350V	5.0V

*Cannot be measured with an ordinary voltmeter.

The above voltages are measured with a 1000 ohm-per-volt meter. All values should hold within plus or minus 20 percent.

REPLACEMENT PARTS FOR MODEL VR-51

Insist on genuine factory tested parts, which are readily identified and may be purchased from authorized dealers.

STOCK NO.	DESCRIPTION	STOCK NO.	DESCRIPTION
RECEIVER ASSEMBLIES			
S-2842	Board-Ant. and Grnd terminal board.	S-2859	Switch-Range switch (S1).....
S-2466	Capacitor-Adjustable capacitor, one 2-20 mmfd; one 300-800 mmfd. section (C21,C22).....	S-2860	Switch-Phono & tone switch (S2)....
12723	Capacitor-56 mmfd (C13).....	S-2861	Transformer-First I.F. Transformer (L6,L7,C8,C9).....
13057	Capacitor-68 mmfd (C3).....	32825	Transformer-Second I.F. transformer (L8,L9,C10,C11,C12,R5).....
12720	Capacitor-100 mmfd.(C28).....	S-2457	Transformer-Power transformer 110 volt, 50/60 cycle (T1).....
12694	Capacitor-220 mmfd. (C5).....	33619	Transformer-Power transformer 110 volt, 25 cycle (T1).....
30433	Capacitor-470 mmfd. (C29).....	33776	Volume control and power switch (R6,S3).....
13895	Capacitor-5600 mmfd.(C20).....	SPEAKER ASSEMBLY (12" - CRL 523)	
5107	Capacitor-.0025 mfd.(C15,C16).....	13866	Cap-Dust cap for cone centre (Pkg.5).....
4838	Capacitor-.005 mfd. (C30,C31).....	S-2458	Coil-Field coil (L12).....
4858	Capacitor-.01 mfd. (C17,C19).....	11469	Coil-Hum neutralizing coil (L11)....
11315	Capacitor-.015 mfd.(C14,C27).....	31275	Cone-Speaker cone and voice coil (L10).....
32787	Capacitor-.05 mfd.(C7).....	5039	Plug-4 contact plug (male).....
4839	Capacitor-.1 mfd. (C6).....	S-3036	Speaker complete.....
32240	Capacitor-Electrolytic comprising two 10 mfd., and one 20 mfd. section (C18,C25,C26).....	S-2934	Transformer-Output transformer (T2)
S-2856	Coil-"C" band antenna coil(L2,L3)..	Refer to RP-152E Service Notes for Record Changer Mechanism Parts.	
S-2857	Coil-Oscillator coil (L4,L5).....	MISCELLANEOUS ASSEMBLIES	
S-3033	Condenser-2 gang variable tuning condenser complete with push-button mechanism(C1,C2,C23,C24)..	S-2641	Button-Station selector push button.
S-3037	Cord-Variable condenser drive cord	S-2862	Dial-Station selector dial scale....
33633	Indicator-Station selector indicator pointer.....	32994	Escutcheon-Call letter escutcheon...
11765	Lamp-Dial lamp Mazda #51.....	S-2971	Knob-Range switch and tone control knob.....
5040	Plug-4 contact female speaker plug	S-2972	Knob-Tuning or volume control knob..
S-3066	Resistor-560 ohm, 1 watt (R15)....	S-3031	Loop-Antenna loop assembly (L1,C4)..
14075	Resistor-8200 ohms, 1/4 watt (R17)	31589	Marker-Station call letter marker (1 set).....
33489	Resistor-15000 ohm, 2-1/2 watt (R3)..	S-1797	Jewel-Compartment lamp jewel.....
13998	Resistor-22000 ohm, 1/4 watt (R7)..	30900	Spring-Knob spring (Pkg.5).....
12454	Resistor-33000 ohm, 1/4 watt (R1)..		
30180	Resistor-120,000 ohm, 1/2 watt (R13)		
12748	Resistor-150,000 ohm, 1/4 watt (R11,R16).....		
30784	Resistor-330,000 ohm, 1/2 watt (R14)		
12285	Resistor-470,000 ohm, 1/4 watt (R10,R12).....		
12486	Resistor-560,000 ohm, 1/4 watt (R8)..		
12679	Resistor-2.2 meg. 1/4 watt (R2)....		
S-2038	Resistor-4.7 meg., 1/4 watt (R4)....		
13601	Resistor-10 meg., 1/4 watt (R9)....		
33725	Shaft-Station selector drive shaft		
S-2824	Socket-A.C. outlet socket		
31364	Socket-Dial lamp socket.....		
14278	Socket-Phono input socket.....		
31319	Socket-Tube socket.....		
30585	Spring-Drive cord tension spring (Pkg.3)		