



# RCA Victor

## VICTROLA MODEL VR-41

### Five-Tube, Single-Band, A-C, Superheterodyne Victrola

### TECHNICAL INFORMATION AND SERVICE DATA

SERVICE DIVISION • RCA VICTOR COMPANY LIMITED • MONTREAL



### Electrical Specifications

Frequency Range ..... 540 to 1,600 k.c.  
 R.F. Alignment Frequency .... 1,500 k.c. (osc., ant.)  
 Intermediate Frequency ..... 455 k.c.

LOUDSPEAKER..... CRL-515-2  
 Type ..... 6 inch Permanent Magnet Dynamic  
 Voice-coil Impedance ..... 3 ohms at 400 cycles

### Tube Complement

(1) Type 6SA7 ..... First-Det., Osc.  
 (2) Type 6SK7..... Intermediate Frequency Amp.  
 (3) Type 6SQ7..... Second-Det., A.V.C., A.F.

(4) Type 6K6-G..... Power Output  
 (5) Type 5Y4G..... Full Wave Rectifier

#### POWER SUPPLY RATING

Rating A..... 105-125 volts, 50-60 cycle 90 watts  
 Rating B..... 105-125 volts, 25-60 cycle 90 watts

#### PHONOGRAPH MOTOR

Self starting, constant speed, induction type

#### POWER OUTPUT

Undistorted ..... 1 watt  
 Maximum ..... 2 watts  
 Crystal Pickup.  
 Impedance..... 100,000 ohms at 1000 C.P.S.  
 Average Output..... 1.5 volts at 1000 C.P.S.  
 across 500,000 ohm load

### Mechanical Specifications

|                               | Height        | Width         | Depth         |
|-------------------------------|---------------|---------------|---------------|
| Cabinet Dimensions .....      | 11 1/4 inches | 15 1/2 inches | 13 1/4 inches |
| Chassis Base Dimensions ..... | 1 7/8 inches  | 9 3/4 inches  | 5 7/8 inches  |
| Overall Chassis Height .....  |               |               | 4 inches      |
| Weight (net) .....            |               |               | 25 pounds     |
| Weight (shipping) .....       |               |               | 28 pounds     |

## General Description

The model VR-41 is a five tube single band Victrola combining the latest developments in both radio and phonograph circuits. The mechanism is housed in a table type cabinet of modern design. Features of the radio include a built-in loop antenna: new single ended, metal tubes; full automatic volume control; stabilized oscillator circuit; aurally compensated volume control; full vision dial; radio phono tone switch and a six inch Permanent Magnet dynamic high efficiency loudspeaker.

Features of the Victrola include: crystal pickup, constant speed rim drive synchronous motor and an automatic motor start switch.

## Alignment Procedure

Cathode-ray Alignment is the preferable method. Connections for the oscillograph are shown in the wiring diagram.

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

Test-oscillator. For all alignment operations, connect the low side of the test-oscillator to the receiver chassis, and keep the output as low as possible to avoid a-v-c action.

Pre-setting Dial. With gang condenser in full mesh position, move pointer to coincide with calibration mark at the low frequency end of dial.

| Steps | Connect the high side of test-oscillator to— | Tune test-osc. to— | Tune radio dial to—            | Adjust the following for max. peak output                          |
|-------|----------------------------------------------|--------------------|--------------------------------|--------------------------------------------------------------------|
| No. 1 | 6SK7 I-F grid, in series with .01 mfd.       | 455 kc             | Quiet point between 550-750 kc | L5 and L6 (2nd I-F Transformer)<br>L3 and L4 (1st I-F Transformer) |
| No. 2 | 6SA7 1st-det. grid in series with .01 mfd.   | 455 kc             |                                |                                                                    |
| No. 3 | Antenna lead, in series with 300 ohms        | 1,500 kc           | 1,500 kc                       | C5 *(oscillator)<br>C2 (antenna)                                   |

\* Trimmer C21 on gang condenser should be unscrewed one complete turn before adjusting C5.

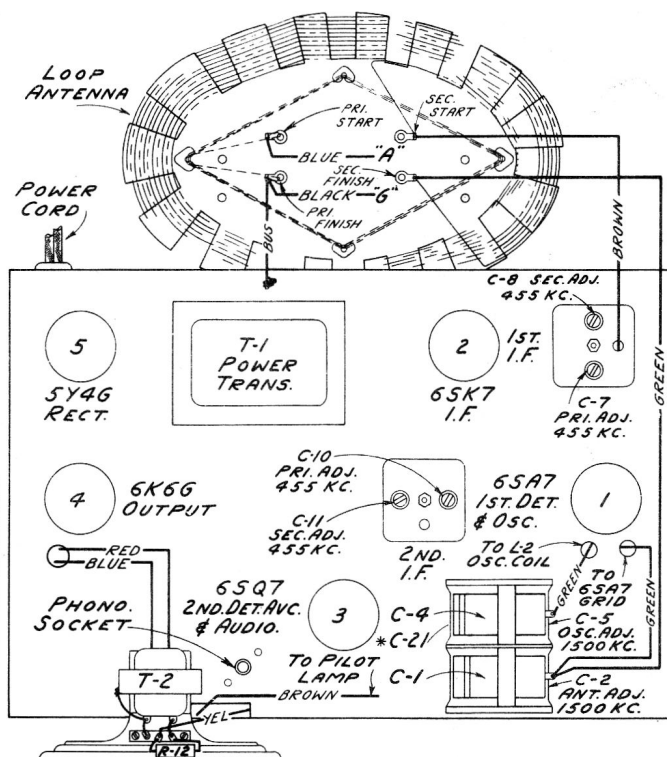


Fig. No. 1 Tube & Trimmer Locations

## Radiotron Socket Voltages

| Type      | Plate     | Screen Grid | Cathode | Filament    |
|-----------|-----------|-------------|---------|-------------|
| 6SA7 det. | 195 V     | 65 V        | 0.V     | 6.3 V, A.C. |
| 6SA7 osc. | 65 V      | ...         | ...     | 6.3 V. A.C. |
| 6SK7      | 195 V     | 65 V        | 0.V     | 6.3 V. A.C. |
| 6SQ7 amp. | 62 V      | ...         | 0.V     | 6.3 V, A.C. |
| 6K6G      | 185 V     | 195 V       | 12.5 V  | 6.3 V, A.C. |
| 5Y4G      | 290/290 V | ...         | 295 V   | 5 V. A.C.   |

The above measurements are all made to chassis. Measurements made with set tuned to quiet point, volume control set at minimum, using 1,000-ohm-per-volt meter, having ranges of 10, 50, 250, and 500 volts. (Use nearest range above the specified measured voltage.)

All the above values should hold within approximately  $\pm 20\%$  for 115 volt, 25-60 cycle supply.

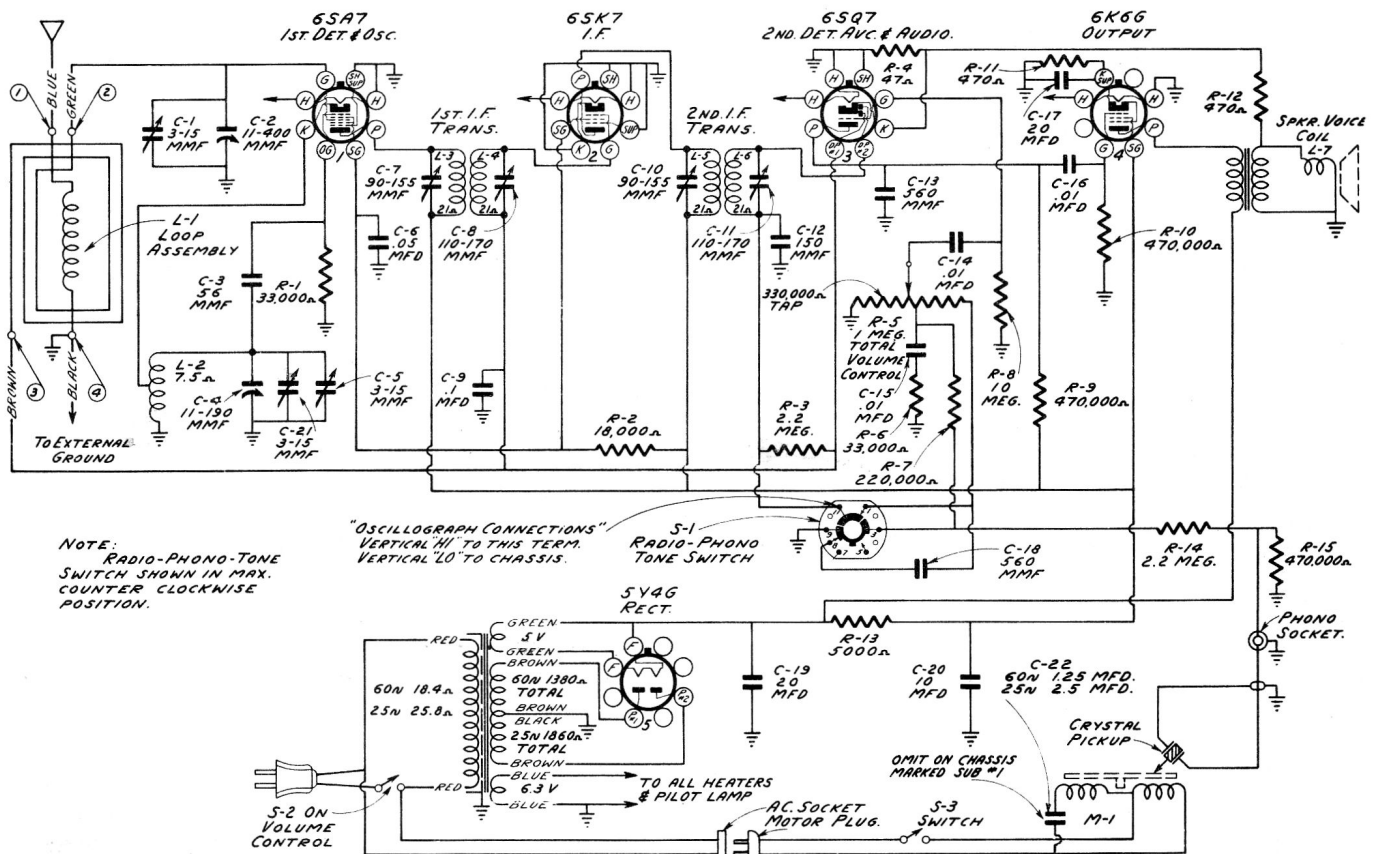


Fig No. 2 Schematic Circuit Diagram

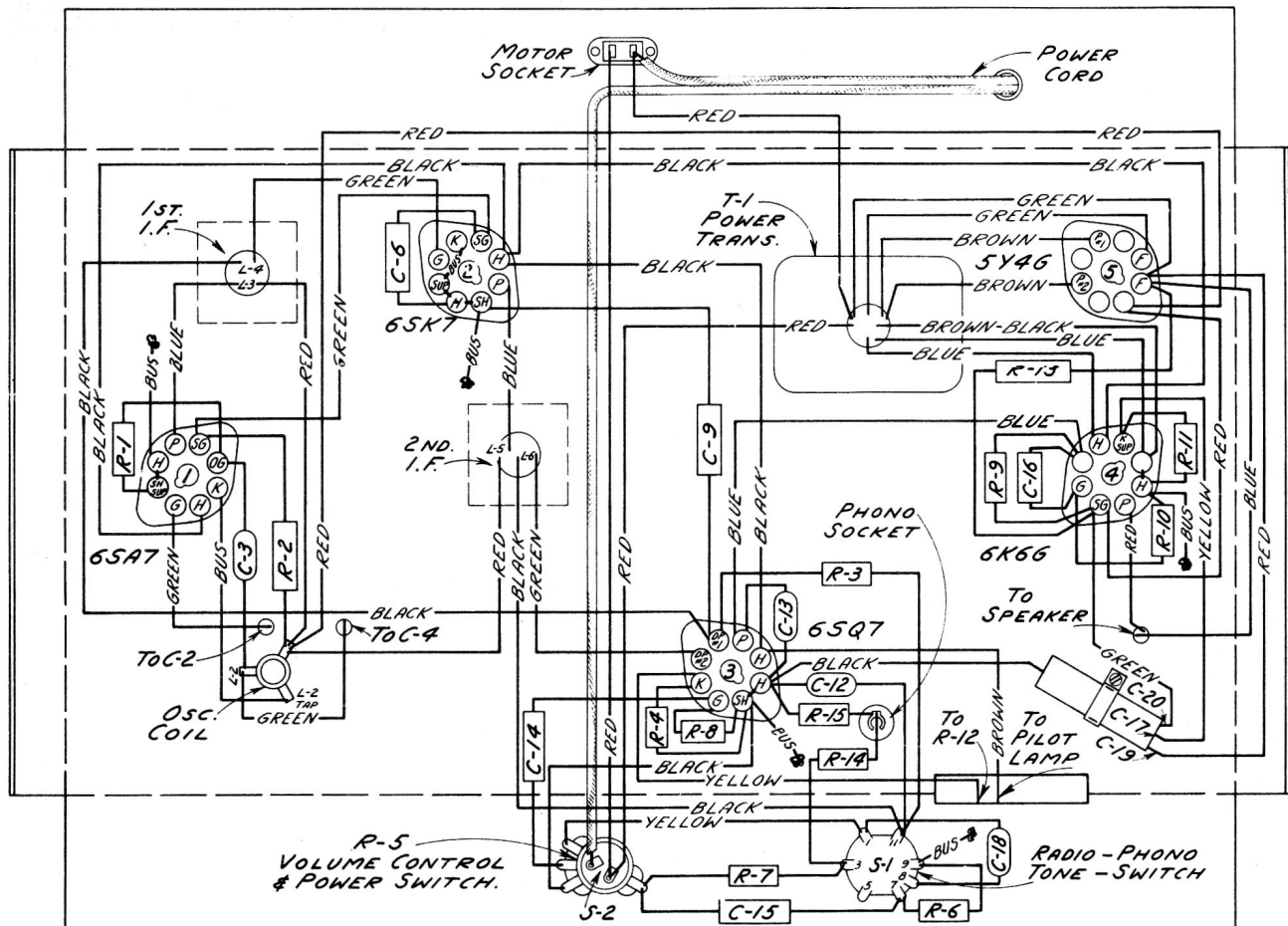


Fig. No. 3 Chassis Wiring Diagram

## Precautionary Lead Dress

- (1) Keep a-c leads away from volume-control wiring.
- (2) Keep lead from high side of volume control away from plate circuit of 6SQ7 tube.
- (3) Dress speaker leads to front of chassis away from 6K6G tube.

## REPLACEMENT PARTS FOR MODEL VR-41

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

| STOCK NO.                                   | DESCRIPTION                                                                                            | STOCK NO.                                    | DESCRIPTION                                                       |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------|
| <b>RECEIVER ASSEMBLIES</b>                  |                                                                                                        | <b>MOTOR ASSEMBLIES</b>                      |                                                                   |
| 12723                                       | Capacitor-56 mmfd. (C3).....                                                                           | 36986                                        | Arm-Drive wheel or idler wheel support arm.....                   |
| 12725                                       | Capacitor-150 mmfd. (C12).....                                                                         | 36989                                        | Bushing-Motor mounting rubber bushings.....                       |
| 12537                                       | Capacitor-560 mmfd. (C13, C18).....                                                                    | 36990                                        | Capacitor-Motor capacitor 1.25 mfd. for 60 cycle motor (C22)..... |
| 4858                                        | Capacitor-.01 mfd. (C14, C15).....                                                                     | 4577                                         | Connector-2 prong male connector plug.....                        |
| 14393                                       | Capacitor-.01 mfd. (C16).....                                                                          | 36984                                        | Motor-110 volt 60 cycle motor.....                                |
| 30847                                       | Capacitor-.05 mfd. (C6).....                                                                           | S-2872                                       | Motor-110 volt 25 cycle motor.....                                |
| 4839                                        | Capacitor-.1 mfd. (C9).....                                                                            | 36995                                        | Plate-Motor support plate with turntable bearing.....             |
| S-3069                                      | Capacitor-Electrolytic, comprising 2 sections of 20 mfd. and 1 section of 10 mfd. (C17, C19, C20)..... | 36997                                        | Spring-Idler tension spring (Pkg. 2).....                         |
| S-2707                                      | Coil-Oscillator coil (L2).....                                                                         | 36996                                        | Spindle-Turntable spindle.....                                    |
| S-2708                                      | Condenser-2 gang variable tuning condenser (C1, C2, C4, C5, C21).....                                  | 34422                                        | Turntable 9 inch diameter.....                                    |
| S-2709                                      | Cord-Variable condenser drum drive cord.....                                                           | 36994                                        | Wheel-Rubber tired idler or drive wheel.....                      |
| S-2710                                      | Dial-Station selector dial scale assembly.....                                                         | <b>MOTOR ASSEMBLIES Chassis Marked Sub.1</b> |                                                                   |
| S-2712                                      | Indicator-Station selector indicator pointer.....                                                      | 4577                                         | Connector-2 prong male connector plug.....                        |
| 11765                                       | Lamp-Dial lamp.....                                                                                    | S-3077                                       | Motor-110 volt 60 cyc. motor.....                                 |
| S-3002                                      | Loop-Antenna loop assembly (L1).....                                                                   | S-3078                                       | Motor-110 volt 25 cyc. motor.....                                 |
| S-3074                                      | Resistor-Wire wound resistor 5000 ohms (R13).....                                                      | S-3079                                       | Spindle-Turntable spindle.....                                    |
| S-3075                                      | Resistor-47 ohm 1/2 watt (R4).....                                                                     | S-3080                                       | Spring-Drive wheel tension spring (Pkg. 2).....                   |
| 30499                                       | Resistor-470 ohm 1/2 watt (R11, R12).....                                                              | S-3081                                       | Turntable-Turntable less spindle.....                             |
| S-2060                                      | Resistor-18,000 ohm, 1 watt (R2).....                                                                  | S-3082                                       | Wheel-Rubber tired drive wheel.....                               |
| 12454                                       | Resistor-33,000 ohm 1/4 watt (R1, R6).....                                                             | <b>AUTOMATIC SWITCH ASSEMBLY</b>             |                                                                   |
| 12264                                       | Resistor-220,000 ohm, 1/4 watt (R7).....                                                               | S-3083                                       | Bracket-A.C. switch bracket and hub..                             |
| 12285                                       | Resistor-470,000 ohm, 1/4 watt (R9, R10, R15).....                                                     | S-3084                                       | Screw-Set screw for hub (Pkg. 2).....                             |
| 12679                                       | Resistor-2.2 meg., 1/4 watt (R3, R14).....                                                             | S-3085                                       | Switch-A.C. motor switch only (S3).....                           |
| 13601                                       | Resistor-10 meg. 1/4 watt (R8).....                                                                    | <b>PICKUP AND ARM ASSEMBLIES</b>             |                                                                   |
| 14887                                       | Retainer-Drive shaft or pulley retainer (Pkg. 10).....                                                 | S-2451                                       | Base-Pickup arm pivct shaft and base assembly.....                |
| 3903                                        | Screw-Drive cord drum set screw (Pkg. 10).....                                                         | 33122                                        | Crystal-Pickup crystal and needle screw.....                      |
| S-3076                                      | Shaft-Station selector drive shaft.....                                                                | 33123                                        | Damper-Viscoid damper for pickup armature.....                    |
| S-2824                                      | Socket-A.C. socket.....                                                                                | S-2853                                       | Pickup arm and crystal assembly complete.....                     |
| S-2719                                      | Socket-Pilot lamp socket and lead..                                                                    | 33529                                        | Screw-Needle screw.....                                           |
| 14278                                       | Socket-Phono socket.....                                                                               | 33591                                        | Shell-Pickup shell less crystal unit and base.....                |
| 31251                                       | Socket-Tube socket.....                                                                                | <b>MISCELLANEOUS ASSEMBLIES</b>              |                                                                   |
| 31418                                       | Spring-Drive cord tension spring (Pkg. 3).....                                                         | S-2706                                       | Crystal-Dial crystal.....                                         |
| S-3001                                      | Switch-Radio phono Tone switch (S1).....                                                               | S-2368                                       | Escutcheon-Station selector dial escutcheon.....                  |
| S-2715                                      | Transformer-1st I.F. transformer (L3, L4, C7, C8).....                                                 | S-3086                                       | Knob-Tone control knob.....                                       |
| S-2716                                      | Transformer-2nd I.F. transformer (L5, L6, C10, C11).....                                               | S-3087                                       | Knob-Volume control or tuning knob..                              |
| S-2316                                      | Transformer-Power transformer 105/125 volt 25-60 cycle.....                                            | 30900                                        | Spring-Knob spring (Pkg. 2).....                                  |
| S-2317                                      | Transformer-Power transformer 105/125 volt 50-60 cycle.....                                            |                                              |                                                                   |
| S-2998                                      | Volume control and power switch (R5, S2).....                                                          |                                              |                                                                   |
| <b>SPEAKER ASSEMBLIES CRL 515-2 6" P.M.</b> |                                                                                                        |                                              |                                                                   |
| 32907                                       | Cap-Dust cap for cone centre (Pkg. 5).....                                                             |                                              |                                                                   |
| 35441                                       | Cone-Speaker cone (L7).....                                                                            |                                              |                                                                   |
| S-3003                                      | Speaker-Complete.....                                                                                  |                                              |                                                                   |
| S-3042                                      | Transformer-Output transformer.....                                                                    |                                              |                                                                   |