



MODEL VA-350



# RCA VICTOR



RADIO-PHONOGRAPH COMBINATION

## Model VA-350

### SERVICE DATA

— 1953 No. 18 —

HOME INSTRUMENT SERVICE DIVISION  
RCA VICTOR COMPANY, LTD  
MONTREAL, CANADA

#### ELECTRICAL AND MECHANICAL SPECIFICATIONS

**Tuning Range** ..... 540 - 1600 kc.

**Intermediate Frequency** ..... 455 kc.

#### Tube Complement

1. RCA 12BE6 ..... Converter
2. RCA 12BA6 ..... I.F. Amplifier
3. RCA 12AV6 ..... Detector—A.F. Amplifier
4. RCA 50C5 ..... Output
5. RCA 35W4 ..... Rectifier

#### Power Supply Rating

115 volts A.C., 60 cycles  
(uses 124330 Record Changer) ..... 45 watts

**Dial Lamp (1)** ..... Mazda type 47 (6-8 volts, 0.15 amp.)

#### Loudspeaker

Size and type ..... 5¼" P.M.  
Voice coil impedance ..... 3.2 ohms at 400 cycles

#### Power Output

Undistorted ..... 1.5 watts  
Maximum ..... 1.1 watts

#### Dimensions (overall)

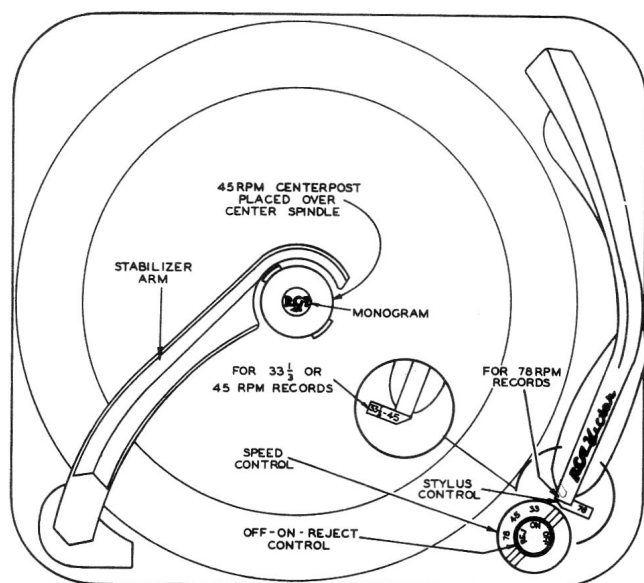
Height 9¼"      Width 15"      Depth 17¼"

#### Tuning Drive Ratio

1:1 (Direct Drive)

#### Record Changer (124330 Series)

Turntable speed ..... 33½, 45 or 78 r.p.m.  
Record capacity ..... up to fourteen 7 inch RCA type  
or twelve 10 inch  
or ten 12 inch  
or ten 10 in. and 12 in. intermixed.  
Pickup (Stock No. 77779) .. Crystal with replaceable styli.



Record Changer Controls

#### RECORD CHANGER CONTROLS

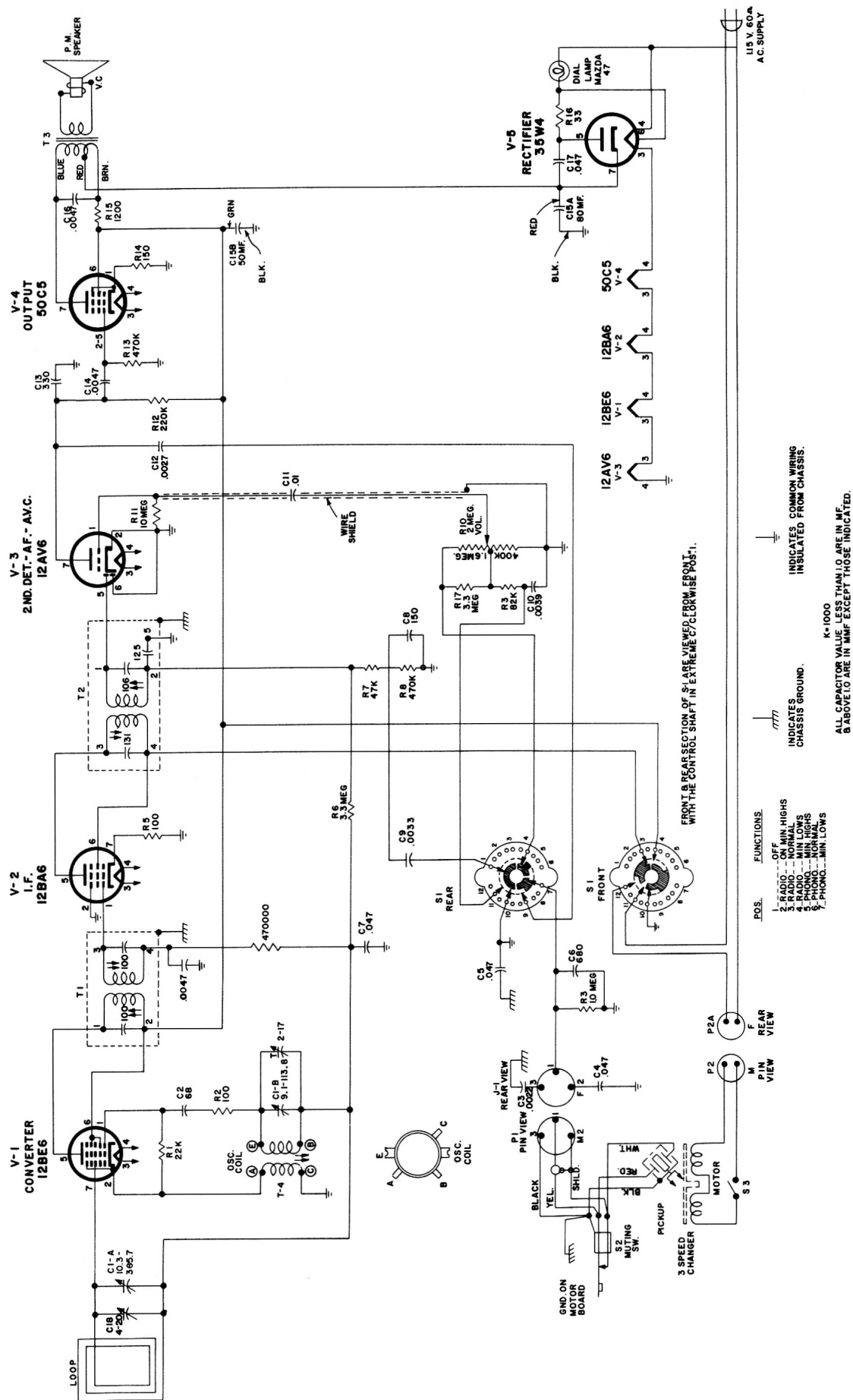
The record changer has a dual control on the motor-board and a stylus selector control on the pickup arm. The inner control (circular knob) is the OFF-ON-REJECT control. Turning this knob to the center position energizes the motor and starts the turntable, when turned to the right (clockwise) it starts the mechanism in to complete automatic operation. The mechanism will shut off automatically after the last record has been played but can be shut off manually by turning this knob to the left (counter-clockwise).

The outer control (double ended lever) is the speed control. It has three normal positions, "33", "45", "78" to select the turntable speed desired and a neutral position (midway between "45" and "78"). The control should be turned to this neutral position if the changer is not expected to be in use for an extended period of time.

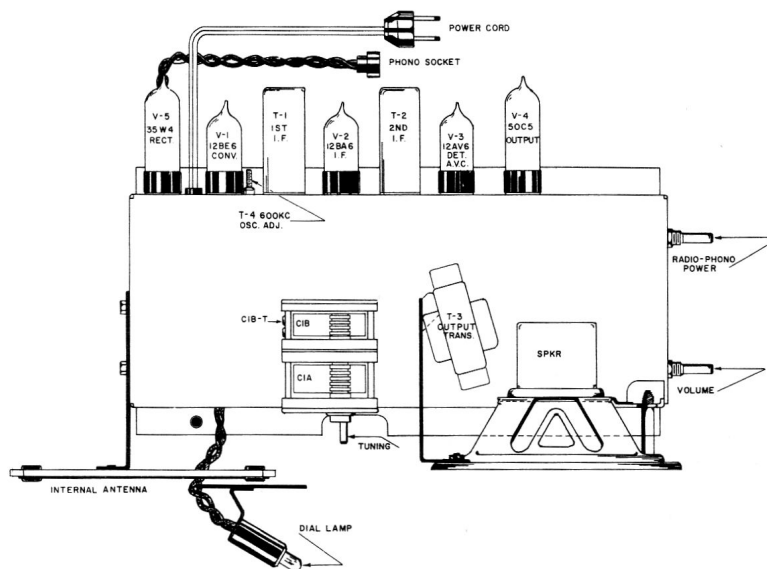
The stylus control has two normal positions (right and left) and one shipping position (lever pointing up). When playing 33½ or 45 r.p.m. records the lever is turned so that "33/45" is visible on the TOP of the lever; likewise for 78 r.p.m. records "78" should be visible on the TOP.

The removable centerpost is for use with 45 r.p.m. records having the large centerhole. It must be placed over the center spindle with the "RCA" trademark monogram FACING to the FRONT.

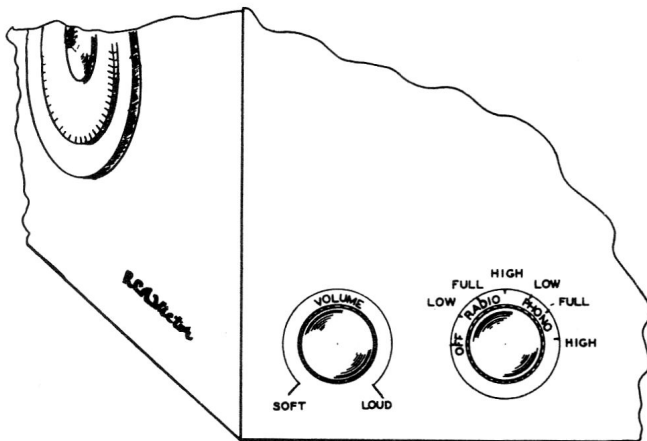
To load or remove records, the record stabilizer is lifted and turned off-side. After loading it is turned to the center where it rests on top of the stack of records.



### Schematic Diagram



### Chassis Layout



## Radio Controls

### Critical Lead Dress

1. Dress heater leads down to chassis and as far as possible from audio grid and plate wiring.
2. Dress 33 ohm limiting resistor away from all leads.
3. Wire C16 with short lead to pin #7 of 50C5 socket.
4. Wire C11 with short lead to pin #1 of 12AV6 socket.

The wire shield around this capacitor is to minimize any feedback from the output plate capacitor. Therefore, sufficient turns of wire around the capacitor to assure shielding are to be utilized.

\* C18 ant. trimmer (1400 kc) is mounted on loop antenna.

## Alignment Procedure

Before aligning the receiver, set the gang condenser for maximum capacity and then set the dial knob opposite 55 on left hand end of the dial.

When only a portion of the circuit is to be aligned select the required portion and perform all the remaining steps.

In order to obtain best results, it is advisable to align the 455

KC I.F.'s with the help of a cathode ray oscilloscope. The scope should be connected across the volume control. If this equipment is not available, use the method outlined below in the alignment chart.

**NOTE:** If the test-oscillator is ac/dc operated, it may be necessary to use an isolation transformer (117 v./117 v. for the receiver during alignment.)

TEST OSCILLATOR						RECEIVER				
Order of Alignment		Connect "HI" Side To	Connect "LO" Side To	Dummy Antenna	Frequency Setting	Range Selector	Receiver Dial. Setting	Circuit To Adjust	Adjust Adjustment Symbols	Notes
I.F. ALIGNMENT	1	12BA6 Pin #1	Gnd.	Mfd .01	455 KC		"HI" End	2nd I.F. Trans.	Top & Bottom cores	Max. Out.
	2	12BE6 Pin #7	Same	Same	Same	Same	Same	1st I.F. Trans.	Top & Bottom cores	Same
S.B. ALIGNMENT	3	Radiate Signal			1620 KC		1620 KC	Osc.	C-7	Same
	4	Same			1400 KC		1400 KC	Ant.	C-18	Same
	5	Same			600 KC		600 KC			T4 (Rock Gang)
	Repeat Steps 3,4,5 if Necessary, Readj. .C18 For Max. Output After Placing Chassis in Cabinet.									

## REPLACEMENT PARTS FOR MODEL VA-350

Insist on Genuine Factory Tested Parts, which are readily identified and may be purchased from Authorized Dealers.

SYMBOL #	STOCK #	DESCRIPTION	SYMBOL #	STOCK #	DESCRIPTION
C-1 <sup>a</sup> C-1 <sup>b</sup>	*S-20041	Capacitor-Gang 10.3 365.7 mmf. 9.1 -113.8 mmf.	S-1	*S-20042	Switch - Function switch
C-2		Capacitor 68 mmf. 500 V.	T-1	S-5720	Transformer - 1st I. F. Transf.
C-3		Capacitor .0022 mfd. 600 V.	T-2	S-5721	Transformer - 2nd I. F. Transf.
C-4		Capacitor .047 mfd. 400 V.	T-3	*S-20037	Transformer - Audio output
C-5		Capacitor .047 mfd. 400 V.	T-4	*S-20035	Coil - Osc. coil
C-6		Capacitor 680 mmf. 500 V.			
C-7		Capacitor .047 mfd. 400 V.			
C-8		Capacitor 150 mmf. 20% 500 V.			
C-9		Capacitor .0033 mfd. 400 V.			
C-10		Capacitor .0039 mfd. 400 V.			
C-11		Capacitor .01 mfd. 200 V.			
C-12		Capacitor .0027 mfd. 400 V.			
C-13		Capacitor 330 mmf. 20% 500 V.			
C-14		Capacitor .0047 mfd. 400 V.			
C-15 <sup>a</sup> C-15 <sup>b</sup>	*S-20024	Capacitor Electrolytic 80 mfd. 150 V.			
C-16		Capacitor 50 mfd. 150 V.			
C-17	75189	Capacitor .0047 mfd. 400 V.			
C-18		Capacitor .047 mfd. 400 V.			
C-18		Capacitor Adj. capacitor 4-20 mmf.			
	*S-20041	Capacitor Var. Capacitor & Drum			
R-1	*20038	Resistor 2200 ohms 20% 1/2 watt	*S-20039		Back Cover & Loop
R-2		Resistor 100 ohms 20% 1/2 watt	*S-20036		Cabinet
R-3		Resistor 560, 000 ohms 20% 1/2 watt	S-6370		Cord - Power cord
R-4		Resistor 47, 000 ohms 10% 1/2 watt	74273		Decal - Victrola
R-5		Resistor 390 ohms 10% 1/2 watt	S-6926		Decal - Monogram
R-6		Resistor 3.3 megohms 10% 1/2 watt	*S-20048		Dial - Dial scale
R-7		Resistor 47, 000 ohms 10% 1/2 watt	*S-20053		Foot - Cabinet foot
R-8		Resistor 470, 000 ohms 10% 1/2 watt	*S-20050		Grille - Perforated Grille for Cabinet Front
R-9		Resistor 82, 000 ohms 10% 1/2 watt	78299		Hinge - Cabinet lid hinge
R-10		Resistor Vol. control 2 megohms	*S-20045		Knob - (Maroon) Volume
R-11		Resistor 10 megohms 10% 1/2 watt	*S-20046		Knob - Function Knob
R-12		Resistor 220, 000 ohms 10% 1/2 watt	*S-20052		Knob - (Tuning Knob complete with station pointer)
R-13		Resistor 470, 000 ohms 10% 1/2 watt	*S-20043		Panel - For inside of Cabinet - Top
R-14		Resistor 150 ohms 10% 1/2 watt	36422		Socket - Phono socket
R-15		Resistor 1200 ohms 10% 1 watt	*S-20044		Trim (Upper Trim for Cabinet Front)
R-16		Resistor 33 ohms 20% 1 watt	*S-20049		Trim - L.H. Trim Strip for Cabinet Front
R-17		Resistor 3.3 megohms 10% 1/2 watt	*S-20051		Trim - R.H. Trim Strip for Cabinet Front
			*S-20040		Trim Strip for bottom of Cabinet Front)
			*S-20241		Clip - Metal Clips for Strips at Upper Corners of Cabinet Front.
			(*) Indicates new stock items		

All parts subject to change or withdrawal without notice. \*Indicates New Stock Items.