



MODEL V-305



RCA VICTOR



RADIO-PHONOGRAPH COMBINATION

MODEL V305 SERVICE DATA

—1950 No. 15—

GENERAL SERVICE DIVISION
RCA VICTOR COMPANY LIMITED
MONTREAL, QUE.

Electrical and Mechanical Specifications

TUNING RANGE

Standard Broadcast 540-1600 KC
Intermediate Frequency 455 KC

TUBE COMPLEMENT

(1) Type 12BE6 Converter
(2) Type 12SF7 I.F. Amplifier Det. & A.V.C.
(3) Type 12SC7 Audio Phase Inverter
(4) Type 35C5 Output
(5) Type 35C5 Output

A Selenium rectifier is used.

Dial Lamps (2) Mazda 47
Tuning Drive Ratio 11:1 (5½ turns of knob)

POWER SUPPLY RATING

Rating A.....105-125 Volts, 60 cycles, .40 amps. 46 watts
Rating B.....105-125 Volts, 25 cycles, .40 amps. 46 watts

LOUDSPEAKER

Size and type 6x9 in. P.M.
Voice coil impedance 3.4 ohms at 400 cycles

POWER OUTPUT

Undistorted 2.5 watts
Maximum 3.5 watts

RECORD CHANGER (RP-168-C)

Turntable speed 45 r.p.m.
Record capacity eight 7 in.
Pickup Crystal (Medium output)

CABINET DIMENSIONS

Height 29¾ in.
Width 29⅞ in.
Depth 14½ in.



The Dial Scale drawing shown is a full size reproduction. It can be used as a reference in alignment procedure.

Fig. 1—Dial Scale

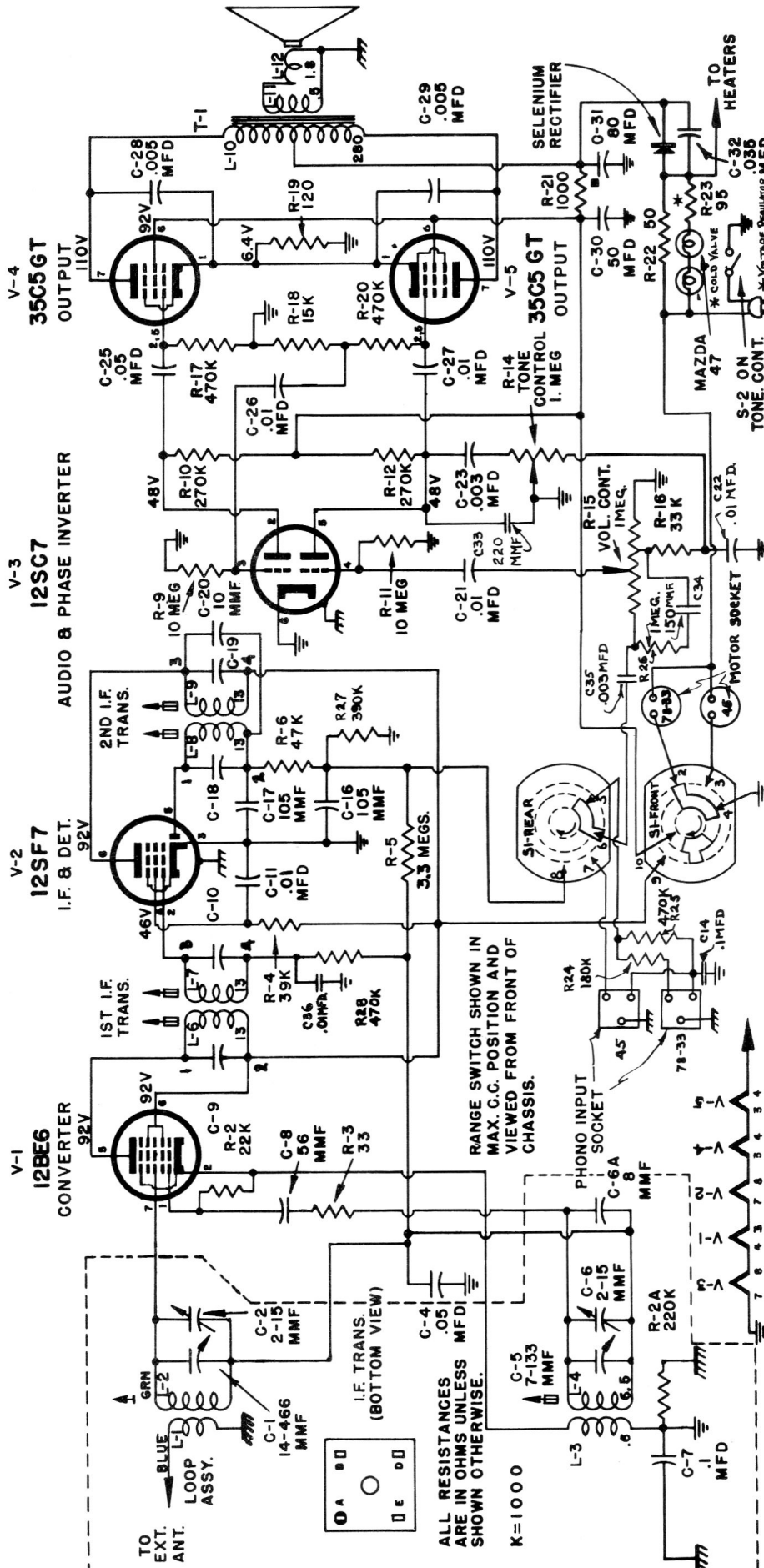


FIG. 2 — SCHEMATIC DIAGRAM

Pickup Landing Adjustment "A"

The pickup point should land half-way between the outer edge of the record and the first music groove.

If the pickup lands inside the starting grooves—turn screw "A" slightly clockwise. If pickup lands outside the starting grooves—turn screw "A" slightly counterclockwise.

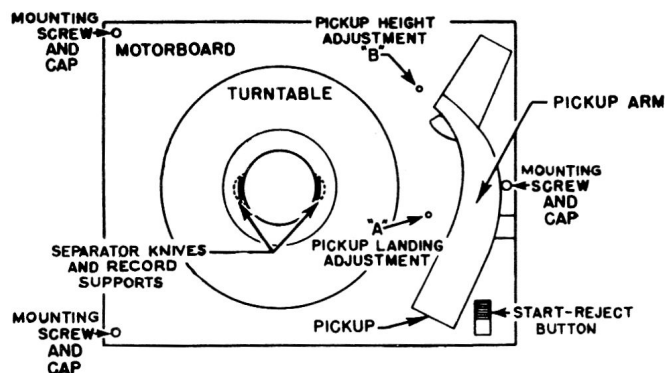


Fig. 3—Top View RP168C Record Changer

ALIGNMENT PROCEDURE

Before aligning the receiver, set the gang condenser for maximum capacity and then set the dial cursor on the calibration point at the extreme 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.

Pickup Height Adjustment "B"

During cycle the pickup arm must rise high enough to clear a stack of eight records on the turntable, but not high enough to cause the top of the arm to touch records resting on the record supports.

If pickup does not clear a stack of eight records—turn screw "B" slightly clockwise. If pickup arm touches records on record supports—turn screw "B" slightly counterclockwise.

Care of Sapphire

The record changer sapphire is protected by a permanent metal guard. LINT MAY COLLECT TO CLOG THE OPENING IN THE GUARD AT THE SAPPHIRE POINT AND CAUSE POOR RECORD REPRODUCTION. This may require occasional cleaning of the guard opening—clean by carefully brushing with a small soft brush.

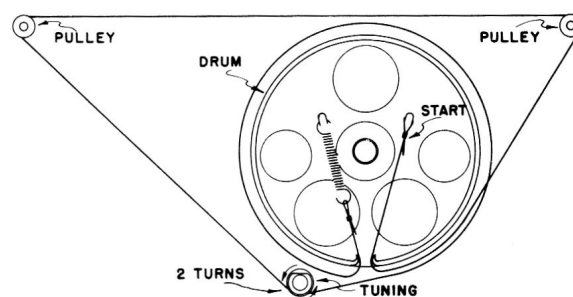


Fig. 5—Dial Cord Stringing

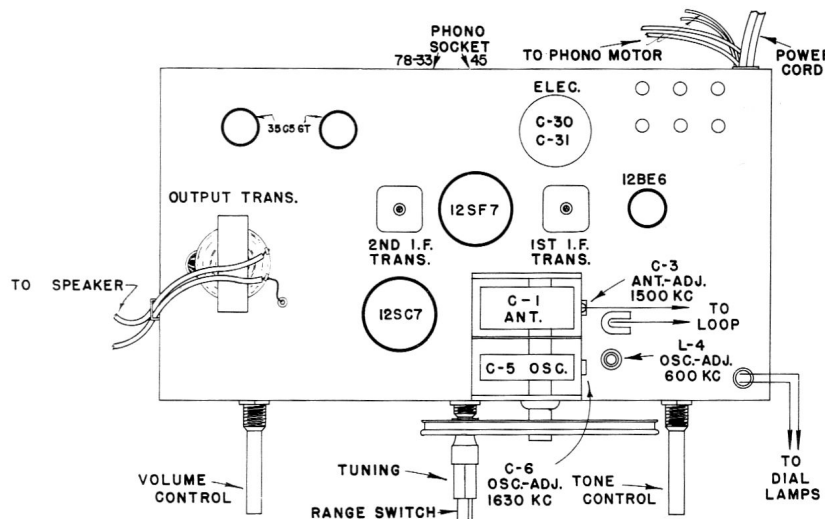


Fig. 4—Chassis Layout & Alignment Adj.

ALIGNMENT CHART

Order of Alignment		TEST OSCILLATOR				RECIEVER				
		Connect "HI" Side To	Connect "LO" Side To	Dummy Antenna	Frequency Setting	Range Selector	Receiver Dial Setting	Circuit To Adjust	Adjustment Symbols	Notes
I.F. Alignment	1	V-2, 12SF7 Pin #2	GND Common	0.1MFD	455KC	Radio	"HI" End	2nd I.F. Trans.	L-8, L-9	Max. Out.
	2	V-1, 12BE6 Pin #7	Same	Same	Same	Same	Same	1st I.F. Trans.	L-6, L-7	Same
	3	Repeat steps 1 and 2.								
S.B. Alignment	4	"Ant" Lead	Chassis GND	220 MMF	600 KC	Radio	600 KC	S.B.-Osc.	(Rock L-4 in to Loop)	Same
	5	Same	Same	Same	1500 KC	Same	1500 KC	S.B.-Osc.	C-6	Same
	6	Same	Same	Same	1500 KC	Same	1500 KC	S.B.-R.F.	C-2	Same
	7	Repeat Steps 4, 5 & 6.								

REPLACEMENT PARTS FOR MODEL V305

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

STOCK NO.	DESCRIPTION	STOCK NO.	DESCRIPTION
CHASSIS ASSEMBLY		CHASSIS ASSEMBLY (Cont'd)	
S-5384	Capacitor-8 MMF. +- 5% (C-6A)		Resistor-1 Megohm +-10% 1/2 watt (R-26)
S-5385	" -10 MMF.+-10% (C-20)		" -3.3 Megohm +-20% 1/2 watt(R-5)
S-4523	Capristor-56 MMF,33 ohms (C-8,R-3)		" -10 Megohm +-20% 1/2 watt (R-9, R11)
S-4614	" -2-105 MMF,4700 ohms (C-17,R-6)	S-5702*	Switch-Radio phono switch (S-1)
S-4221	Capacitor-150 MMF +- 10% (C-34)	S-5382	Selenium-Rectifier
	" -220 MMF +- 20% (C-33)	S-4487	Transformer-1st I.F. trans. (L-6,L-7)
	" -.003 Mfd.+-10% 400 V. (C-23)	S-4662	Transformer-2nd I.F. trans. (L-8 & L-9)
	" -.003 Mfd. + - 20% 200V. (C-35)	S-5921*	Transformer-Output (T-1)
	" -.005 Mfd. + - 10% 600V. (C-28)		
	" (C-29)		
	" -.01 Mfd. +- 10% 200 V. (C-22)	SPEAKER ASSEMBLY	
	" -.01 Mfd. +- 20% 200 V. (C-11, C-21,C-26,C-36)	S-5922*	Speaker (6 X 9)
	" -.01 Mfd. +- 20% 400 V. (C-27)	S-5923*	Cone-Cone & voice coil assy.
	" -.035 Mfd. +- 10% 400 V.(C-32)		
	" -.05 Mfd. +- 20% 400 V.(C-4,C25)	MISCELLANEOUS ASSEMBLIES	
	" -.1 Mfd. +- 10% 400 V.(C-7,C-14)	S-5700	Cover-Cabinet cover
S-5703	" -Electrolytic (50 -80 MF) 150 V. (C-30,C-31)	S-5924*	Decalcomania
S-5918*	Condenser-Gang condenser (C-1)	S-4313	Cord-Dial cord (standard)
S-5919*	Control-Volume control (R-15) 1 meg.	S-5281	Dial-Dial scale
S-5920*	Control-Tone control 1 Meg. (R14)	S-4390	Knob-Walnut (Tuning)
S-5701	Coil-Oscillator coil (L-4)	S-5275	Knob-Mahogany "
S-5459	Resistor-13.5 ohms at 104° 95 ohms at 38° +- 20% (%-23)	S-5276	Knob-Blonde "
	" - 50 ohms +- 20% 3 watt (R22)	S-4387	Knob-Walnut (Range)
	" -120 ohms +- 10% 1 watt (R-19)	S-5277	Knob-Mahogany "
	" -1000 ohms +- 10% 1 watt (R-21)	S-5278	Knob-Blonde "
	" -15,000 ohms +-10% 1/2 watt (R-18)	S-3870	Knob-Walnut (Vol. & Tone)
	" -22,000 ohms +-10% 1/2 watt (R-2)	S-5279	Knob-Mahogany "
	" -33,000 ohms +-10% 1/2 watt (R-16)	S-5280	Knob-Blonde "
	" -39,000 ohms +-10% 1/2 watt (R-4)	S-5699	Loop-Assembly
	" -180,000 ohms +-10% 1/2 watt(R-24)	S-5272	Pointer-Dial pointer
	" -220,000 ohms +-20% 1/2 watt(R-2A)	S-5925*	Trimmer-Loop trimmer
	" -270,000 ohms +-10% 1/2 watt(R-10, R-12)	S-5926*	Grille Cloth
	" -390,000 ohms +-10% 1/2 watt(R-27)	S-5927*	Door Pulls
	" -470,000 ohms +-10% 1/2 watt(R-20, R-25)		Skid Assembly
	" -470,000 ohms +-20% 1/2 watt(R-17, R-28)		
* Indicates New Stock Items.		* Indicates New Stock Items.	

All parts subject to change or withdrawal without notice.

Only items listed under stock numbers are available as Replacement Parts.