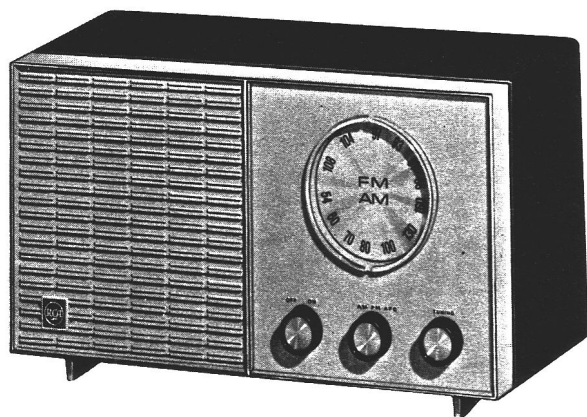




RCA VICTOR



Model RHC 13W—Gray/Walnut Gr.

RADIO

SERVICE DATA

RHC 13 Series

SPECIFICATIONS

FREQUENCIES	TUNING	IF	POWER OUTPUT
AM	535-1605 kc.....	455 kc.....	Maximum
FM	87.5-108.5 mc.....	10.7 mc.....	Undistorted
			2 watts
			1 watt
TUBE COMPLEMENT			
(V1) RCA 17C9	FM RF Amp & Converter		
(V2) RCA 12BE6	AM Converter		
(V3) RCA 12BA6	AM & 1st FM IF Amplifier		
(V4) RCA 12AU6	2nd FM IF Amplifier		
(V5) RCA 12AV6	AM Detector & IF Amplifier		
(V6) RCA 50C5	Output		
(CR1) Type 1N60 }	FM Detector		
(CR2) Type 1N60 }			
(CR3) Type 1N3756	Rectifier		
(CR4) Type 1S554	FM AFC		
LOUDSPEAKER			
4" PM			8 ohm v.c.
POWER SUPPLY			
120 volts, 50 to 60 cycle or DC			35 watts
TUNING DRIVE			7½:1 (3¾ turns of knob)
DIMENSIONS (approx.)			
Height	5⅝"	Width	10"
Weight (approx.)		Depth	4½"
			4.1 lbs.

DESCRIPTION

The model RHC 13 is a table model radio designed to be operated from AC or DC power lines for the reception of AM or FM broadcasts. It is contained in a one-piece plastic cabinet with a hardboard "snap-in" back cover.

Three controls (On-Off/Volume, AM/FM/AFC, Tuning) are provided on the front panel for the operation of this instrument. A ferrite rod antenna is utilized for reception of the AM band from 535 kilocycles to 1605 kilocycles, and a "Wav/A/Tron" line cord antenna is employed for reception of the FM band from 87.5 megacycles to 108.5 megacycles. If desired an external FM antenna may be connected

to the FM antenna terminals on the back cover.

The circuitry of this instrument features a minimum amount of switching, none of which is in the RF circuits. Four tubes and a silicon rectifier handle the signal when operated in the AM mode and an additional fifth tube is used in the FM mode.

A power line interlock connector is attached to the back cover to remove power from this instrument when the back cover is removed.

WARNING

THIS CHASSIS IS CONNECTED DIRECTLY TO THE POWER LINE, THEREFORE AN ISOLATION TRANSFORMER SHOULD BE USED TO AVOID SHOCK HAZARD DURING SERVICING.

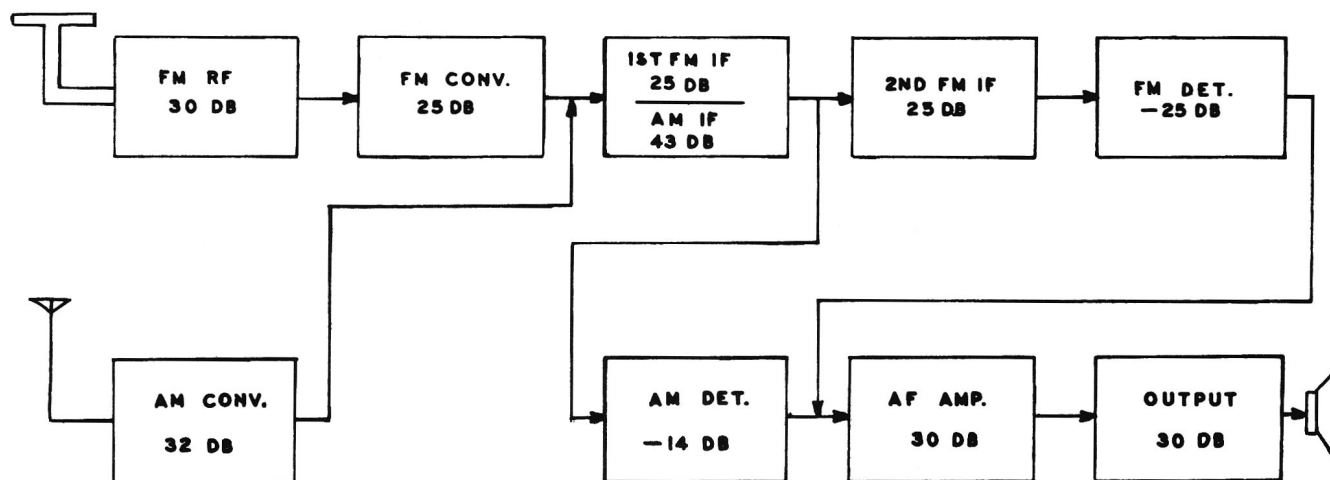
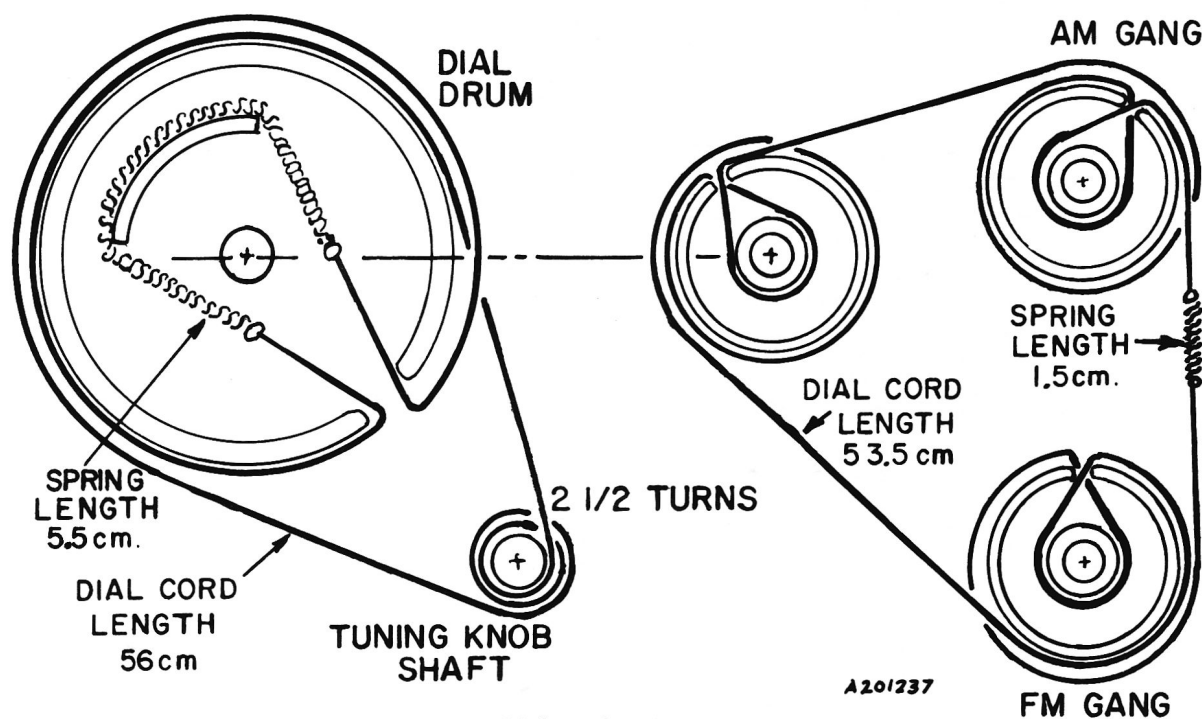
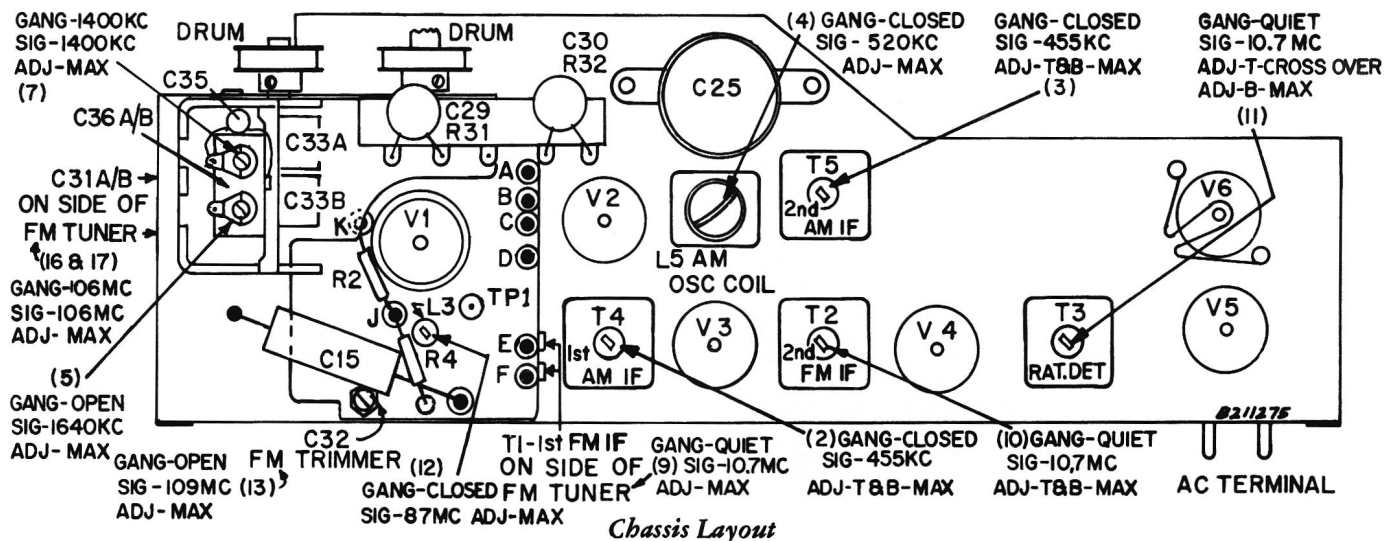
SUPPLEMENTARY INFORMATION LISTINGS

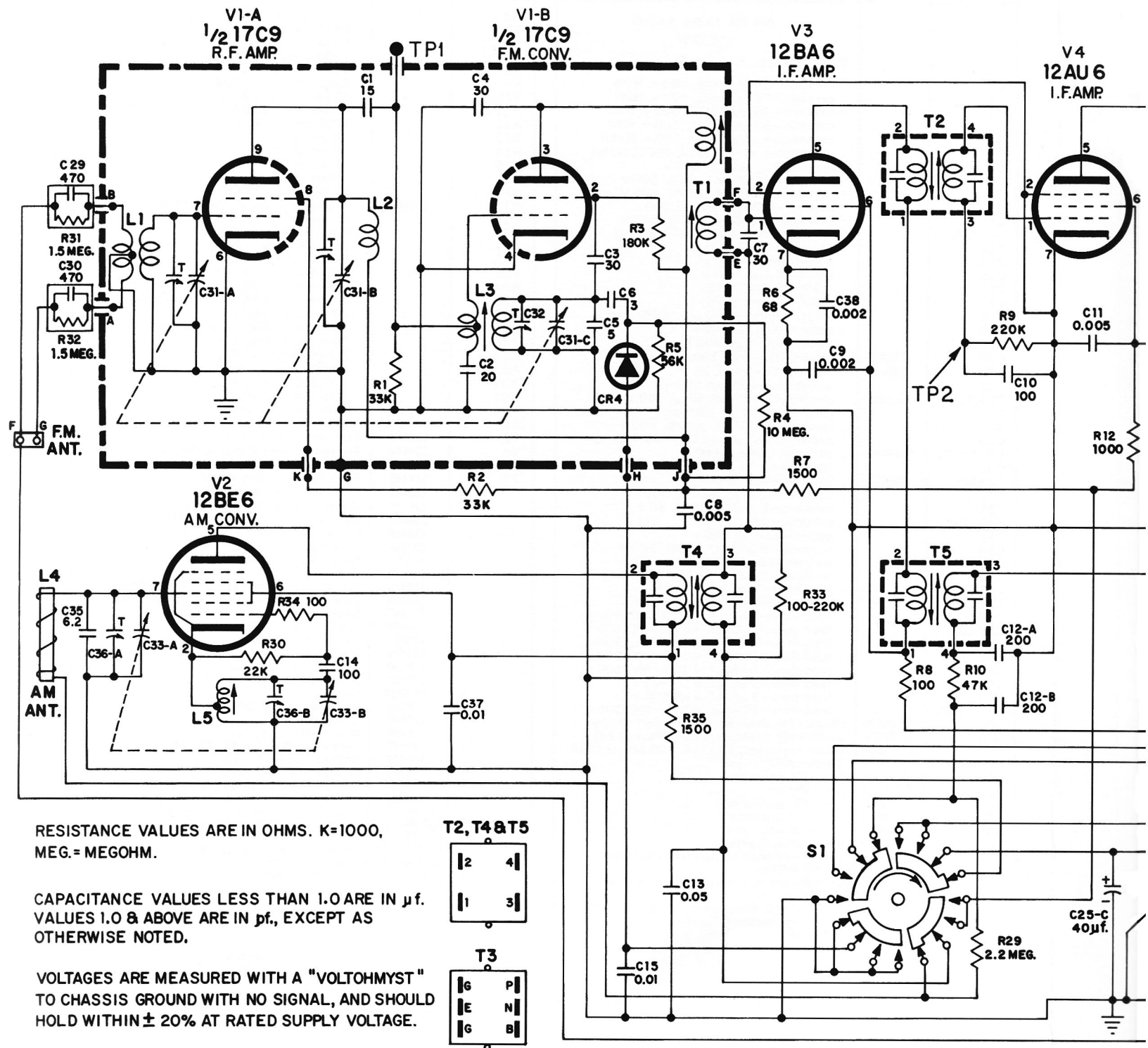
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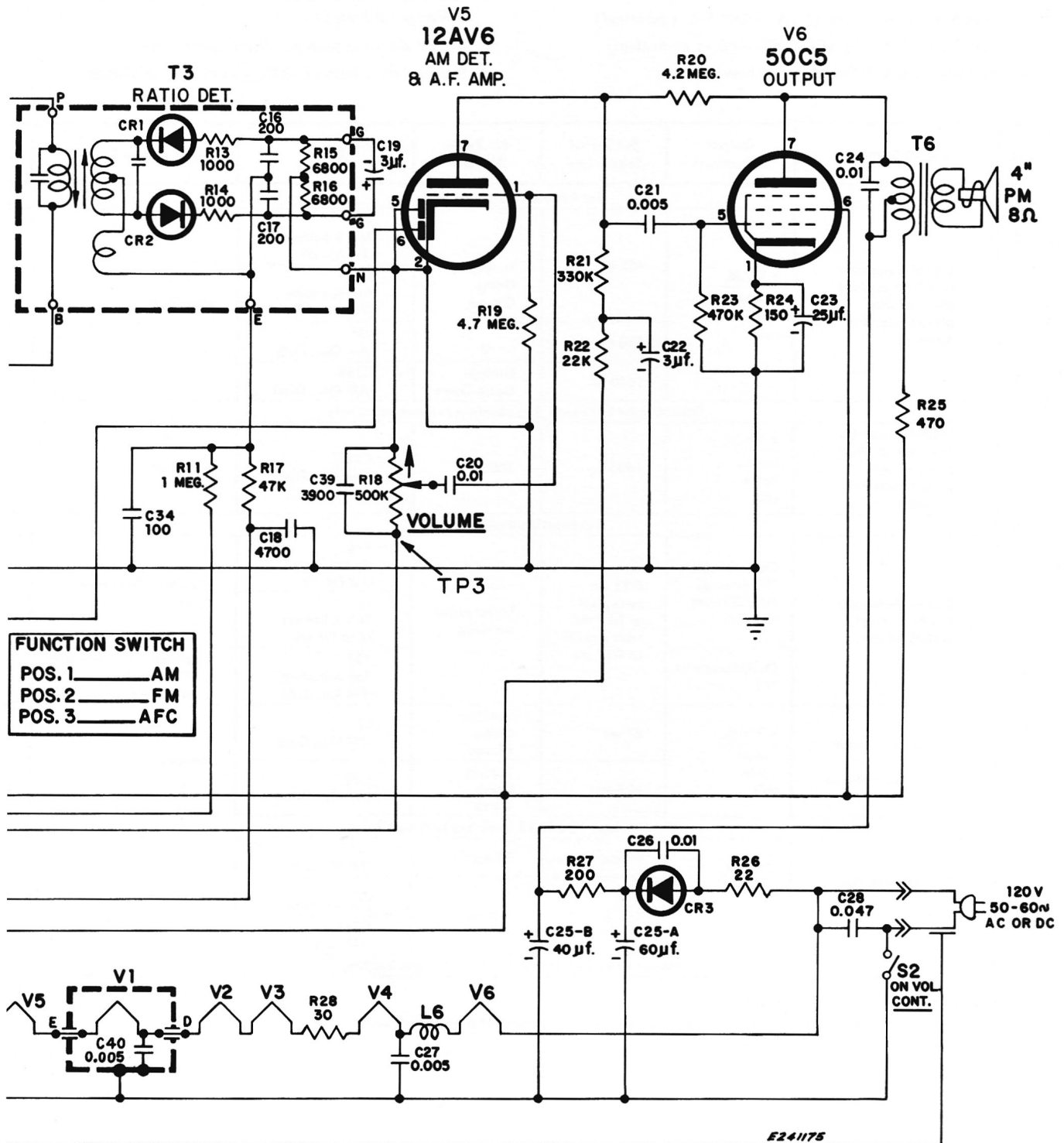
SERVICE DIVISION PUBLICATIONS
RCA VICTOR COMPANY, LTD.
MONTREAL, CANADA

RHC 13 Series





Schematic Diagram



Schematic Diagram

ALIGNMENT PROCEDURE

INSTRUMENTS REQUIRED

1. RF Signal/Sweep Generator (RCA WR-50B or equivalent) or TV/FM Sweep Generator (RCA WR-69A or equivalent) and RF Signal Generator (RCA WR-50A or equivalent)
2. TV/FM Marker Generator (RCA WR-99A or equivalent)
3. Vacuum-Tube Voltmeter (RCA WV-98B or equivalent)
4. Oscilloscope (RCA WO-91A or equivalent)

GENERAL CONDITIONS

1. Signal input must be kept as low as possible to avoid overloading or clipping. (Use highest possible sensitivity of output indicator)
2. Signal and Marker frequencies must be accurate. (Crystal controlled or calibrated)
3. Marker insertion must not distort input signal.
4. Standard modulation is 400 cycles at 30% amplitude.

Step	Signal Source—	Output Indicator—	Set Signal Source to—	Set Radio Dial to—	Adjust	Adjust for	Step
1	Set Function Switch to AM						1
2	Signal Generator to a loop or short piece of wire placed near AM Antenna	V.T.V.M. across voice coil	455 kc	Tuning Gang Closed	T4 Top & Bottom (1st AM IF)	Maximum	2
3					T5 Top & Bottom (2nd AM IF)		3
4			520 kc		L5* (AM Osc. Coil)		4
5			1640 kc	Tuning Gang Open	C36B (AM Osc. Trim)		5
6	Repeat steps 2 through 5 to obtain maximum sensitivity						6
7	Signal Generator to a loop or short piece of wire placed near AM Antenna	V.T.V.M. across voice coil	1400 kc	1400 kc	C36A (AM Ant. Trim)	Maximum	7
8	Set Function Switch to FM						8
9	Sweep Generator to TP1 through a 0.05 μ f cap.	Oscilloscope to TP2 through 100,000 ohm resistor	0.25 mc sweep set at 10.7 mc with marker at 10.7 mc	Quiet point on band	T1‡ (In FM Tuner) (1st FM IF)	Maximum balanced curve	9
10		Oscilloscope to TP3			T2 Top & Bottom (2nd FM IF)		10
11					T3† Top & Bottom (FM Rat. Det.)	Balanced "S" curve with 10.7 mc marker at zero cross-over	11
12	Signal Generator across FM Antenna Terminals	V.T.V.M. across voice coil	87 mc	Tuning Gang Closed	L3 (FM Osc. Coil)	Maximum	12
13			109 mc	Tuning Gang Open	C32 (FM Osc. Trim)		13
14	Repeat steps 12 and 13 to obtain best maximum						14
15	Signal Generator across FM Antenna Terminals	V.T.V.M. across voice coil	90 mc	90 mc	L2** (FM RF Coil)	Maximum	15
16			106 mc	106 mc	C31B (FM RF Trim)		16
17					C31A (FM Ant. Trim)		17
18	Repeat steps 15 through 17 to obtain best tracking						18

*L5 is adjusted by moving loop inside of coil.

†T3 top core is adjusted for zero cross-over at 10.7 mc. Bottom core is adjusted for a maximum balanced curve.

‡T1 is two separate coils on the side of the FM tuner.

**L2 is adjusted by spreading or contracting the coils.

REPLACEMENT PARTS LIST

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

SYMBOL NO.	STOCK NO.	DESCRIPTION	SYMBOL NO.	STOCK NO.	DESCRIPTION
AM-FM TABLE RADIO RHC 13-W					
CAPACITORS:					
C1		ceramic—15 μf , $\pm 5\%$, 500 v, NPO	R4		10 megohm, $\pm 10\%$
C2		ceramic—20 μf , $\pm 5\%$, 500 v, N80	R5		56,000 ohm, $\pm 10\%$, $\frac{1}{4}$ w
C3		ceramic—30 μf , $\pm 10\%$, 500 v, N80	R6		68 ohm, $\pm 20\%$
C4		ceramic—30 μf , $\pm 10\%$, 500 v, N80	R7		1500 ohm, $\pm 20\%$
C5		ceramic—5 μf , $\pm 0.5 \mu f$, 500 v, N150	R8		100 ohm, $\pm 20\%$
C6		ceramic—3 μf , $\pm 0.25 \mu f$, 500 v, N150	R9		220,000 ohm, $\pm 20\%$
C7		mica—30 μf , $\pm 10\%$, 500 v	R10		47,000 ohm, $\pm 20\%$
C8		ceramic—0.005 μf , $\pm 20\%$, 500 v	R11		1 megohm, $\pm 20\%$
C9		ceramic—0.002 μf , $\pm 20\%$, 500 v	R12		1000 ohm, $\pm 20\%$
C10		ceramic—100 μf , $\pm 10\%$, 500 v	R13		Part of T3
C11		ceramic—0.005 μf , $\pm 20\%$, 500 v	R14		Part of T3
C12A/B		ceramic—dual section 200/200 μf	R15		Part of T3
C13		paper—0.05 μf , 400 v	R16		Part of T3
C14		polyethylene—100 μf , 500 v	R17		47,000 ohm, $\pm 20\%$
C15		paper—0.1 μf , 400 v	R18	118463	control—"Volume," with "Off/On" switch
C16		200 μf (Part of T3)	R19		4.7 megohm, $\pm 20\%$
C17		200 μf (Part of T3)	R20		4.2 megohm, $\pm 20\%$
C18		polyethylene—4700 μf , $\pm 10\%$, 125 v	R21		330,000 ohm, $\pm 20\%$
C20		paper—0.01 μf , 400 v	R22		22,000 ohm, $\pm 20\%$
C21		paper—0.005 μf , 400 v	R23		470,000 ohm, $\pm 20\%$
C22	118456	electrolytic—3 μf , 150 v	R24		150 ohm, $\pm 20\%$
C23	118457	electrolytic—25 μf , 25 v	R25		470 ohm, $\pm 10\%$, 2 w, wirewound
C24		oil tubular—0.01 μf , 500 v	R26		22 ohm, 1 w, fuse
C25A/B/C	118458	electrolytic—60/40/40 μf , 200 v	R27		200 ohm, $\pm 10\%$, 2 w, wirewound
C26		ceramic—0.01 μf , 150 vac	R28		30 ohm, $\pm 10\%$, 1 w
C27		ceramic—0.005 μf , $\pm 20\%$, 500 v	R29		2.2 megohm, $\pm 20\%$
C28		paper—0.047 μf , $\pm 20\%$, 450 vac	R30		22,000 ohm, $\pm 20\%$
C31A/B/C	*63-8823	variable—tuning (FM)	R33		220,000 ohm, $\pm 20\%$
C32		trimmer—1—5 μf	R34		100 ohm, $\pm 20\%$
C33A/B	118461	variable—tuning (AM)	R35		1500 ohm, $\pm 20\%$
C34		ceramic—100 μf , $\pm 10\%$, 500 v	S1	118467	Switch—function
C35		ceramic—6.2 μf , $\pm 0.5 \mu f$, 50 v	T2	118443	Transformer—2nd FM IF
C36A/B		trimmer—AM	T3	118444	Transformer—FM ratio detector
C37		paper—0.01 μf , 500 v	T4	118445	Transformer—1st AM IF
C38		ceramic—0.002 μf , $\pm 20\%$, 500 v	T5	118445	Transformer—2nd AM IF
C39		polyethylene—3900 μf		118471	Antenna—FM "Wav/A/Tron"
C40		ceramic—0.005 μf , $\pm 100-0\%$, 500 v		118473	Board—mounting PC1, PC2
CP1 (B)		feed-thru—3 μf , $\pm 0.5 \mu f$, 500 v		118472	Board—terminal (2 required)
CP2 (A)		feed-thru—3 μf , $\pm 0.5 \mu f$, 500 v		118468	Cable—AC power
CP3 (C)		feed-thru—1000 μf , $\pm 100-0\%$, 500 v	*63-8829		Case—back
CP4 (D)		feed-thru—1000 μf , $\pm 100-0\%$, 500 v	Y477		Case—front, walnut
CP5 (K)		feed-thru—1000 μf , $\pm 100-0\%$, 500 v	118476		Chassis—metal
CP6 (J)		feed-thru—1000 μf , $\pm 100-0\%$, 500 v	118479		Connector—2 contact, male, interlock
CP7 (H)		feed-thru—1000 μf , $\pm 100-0\%$, 500 v	118493		Cushion—FM tuner mounting (3 required)
CP8 (E)		feed-thru—3 μf , $\pm 0.5 \mu f$, 500 v	118482		Drum—dial
CP9 (F)		feed-thru—3 μf , $\pm 0.5 \mu f$, 500 v	118483		Drum—AM & idler
CP10 (TP)		feed-thru—1000 μf , $\pm 100-0\%$, 500 v	118495		Drum—FM drive
CR1	63-22724	Diode—FM detector, 1N60 (Part of T3)	118489		Insulator—heat, cabinet top
CR2	63-22724	Diode—FM detector, 1N60 (Part of T3)	118490		Insulator—heat, cabinet side
CR3	*63-8824	Diode—rectifier, 1N3756, 400 prv, 0.125A	118491		Insulator—control panel mounting
CR4	*63-8825	Diode—AFC, 1S55	*63-8830		Knob
L1	*63-8826	Coil—FM antenna	118480		Retainer—tube, 50C5
L2	*63-8827	Coil—FM RF	118485		Shaft—tuning
L3	*63-8828	Coil—FM oscillator	118486		Shaft—dial and idler
L4	118440	Coil—AM antenna	118477		Socket—tube—for V2, V3, V4, V5
L5	118441	Coil—AM oscillator	118478		Socket—tube—for V6
L6	118442	Coil—filter, filament	118466		Speaker—8 ohm, 2 w, 4" P.M. (Including output transformer)
PC1		Circuit—printed component (Includes C29-R31)	118487		Spring—dial cord tension, gang drive
PC2		Circuit—printed component (Includes C30-R32)	118488		Spring—dial cord tension, tuning drive
R1		RESISTORS: fixed, composition, $\frac{1}{2}$ watt, unless noted otherwise	118481		Support—control mounting plate
R2		33,000 ohm, $\pm 10\%$, $\frac{1}{4}$ w	118484		Support—antenna (on IF can)
R3		33,000 ohm, $\pm 10\%$, $\frac{1}{4}$ w	118494		Support—antenna (on tuning cap)
		180,000 ohm, $\pm 10\%$, $\frac{1}{4}$ w	118470		Terminal—antenna
			118475		Tuner—FM complete
			118492		Washer—insulating—for control mounting plate
				*88-2685	Book—Customer Instruction

* Indicates New Stock Items.

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

All parts subject to change or withdrawal without notice.