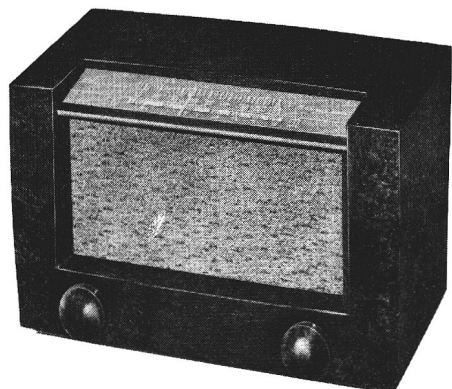




RCA VICTOR



AC-DC RADIO RECEIVER

MODEL 521D

SERVICE DATA

—1949 No. 21—

GENERAL SERVICE DIVISION
RCA VICTOR COMPANY LIMITED
MONTREAL, QUE.

Electrical and Mechanical Specifications

FREQUENCY RANGES

Standard Broadcast ("A" Band)540-1,680 kc.

Short Wave ("C" Band)4.7-18 mc.

INTERMEDIATE FREQUENCY455 kc.

TUBE COMPLEMENT

- (1) RCA-12SA71st Detector-Oscillator
(2) RCA-12SK7IF Amplifier
(3) RCA-12SQ7...2nd Detector, A.V.C. and A-F Amplifier
(4) RCA-35L6GTOutput
(5) RCA-35Z5GTRectifier

POWER SUPPLY POLARITY—For operation on d-c, the power plug must be inserted in the outlet for correct polarity.

POWER SUPPLY RATINGS (D-C or 25/60 cycles A-C)

105-125 volts30 watts

POWER OUTPUT RATING

Undistorted1.0 watt

Maximum1.5 watts

LOUDSPEAKER

Type5-inch Permanent-Magnet Dynamic

Voice Coil Impedance3.2 ohms at 400 cycles

Tuning Drive Ratio.....18 to 1 (9 turns of knob)

CABINET DIMENSIONS

Width 11 $\frac{3}{8}$ "—Height 6 $\frac{1}{8}$ "—Depth 6 $\frac{1}{4}$ "

If the set does not function, reverse the plug. On a-c, reversal of the plug may reduce hum.

REPLACEMENT PARTS FOR MODEL 521D

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

STOCK NO.	DESCRIPTION	LIST PRICE	STOCK NO.	DESCRIPTION	LIST PRICE
Chassis Assemblies			Chassis Assemblies (Cont'd)		
S-5258	Capacitor - Mica trimmer, 1.6 - 18 MMF. (C-10)		"	- 47,000 " + - 20% $\frac{1}{2}$ " (R-5)	
71924	" - Ceramic, 56 MMF. (C-6)		"	- 330,000 " + - 20% $\frac{1}{2}$ " (R-1)	
39636	" - Mica, 220 MMF. (C-2, C-22)		"	- 470,000 " + - 20% $\frac{1}{2}$ " (R-8, R-11)	
39643	" - Mica, 430 MMF. (C-9)		"	- 2.2 Megohms + - 20% $\frac{1}{2}$ watt (R-2)	
	" - Tubular, molded paper .0047 Mfd. (C-1, C-19, C-21)		"	- 3.3 " + - 20% $\frac{1}{2}$ " (R-4)	
	" - Tubular, molded paper .027 Mfd. (C-24)		"	- 4.7 " + - 10% $\frac{1}{2}$ " (R-7)	
	" - Tubular, molded paper .033 Mfd. 400 V. (C-13, C-25)		S-5256	Switch, range switch (S-1)	
	" - Tubular, molded paper, .047 Mfd. 400 V. (C-11, C-14)		S-4487	Transformer - First I.F. transformer (T-1)	
	" - Tubular, molded paper .1 Mfd. 400 V. (C-5)		S-4488	" - Second I.F. transformer (T-2)	
70371	" - Electrolytic, 3 sections 50 Mfd. 150 V. (C-23A)		S-5252	" - Output transformer (T-3)	
	" 30 Mfd. 150 V. (C-23B)		Speaker Assemblies		
	" 20 Mfd. 20 V. (C-23C)		S-5260	Cone & voice coil assembly	
S-5251	" - Gang condenser (C-3, C-4, C-7, C-8)		Miscellaneous Assemblies		
S-5254	Coil - antenna coil (L-1, L-2, L-3, L-4, L-5)		73272	Back - cabinet back	
S-5253	" - oscillator coil (L-6, L-7)		S-5259	Button - plug button (Pkg. 2)	
73268	" - peaking coil (L-8, R-14)		S-5249	Cabinet - brown plastic cabinet	
S-5255	Control - volume control & power switch (R6, S2)		S-4313	Cord - drive cord (Standard)	
70365	Core - adjustable core & stud for oscillator coil		S-5250	Dial - Glass, dial scale	
	Resistor - 33 ohms + - 10%, 1 watt (R-10)		S-4500	Emblem - RCA Victor	
73263	" - 68 " w.w. 2 watts (R-9)		37831	Fastener - push fasteners for cabinet back (1 set)	
	" - 120 " + - 10% $\frac{1}{2}$ watt (R-12)		35121	Knob - range switch knob	
	" - 1200 ohms + - 10% 1 watt (R-13)		S-4507	Knob - volume control or tuning knob	
	" - 33,000 ohms + - 10% $\frac{1}{2}$ watt (R-3)		73274	Moulding - dial moulding	
			S-5257	Pointer - station selector pointer	

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

All parts and prices subject to change or withdrawal without notice.

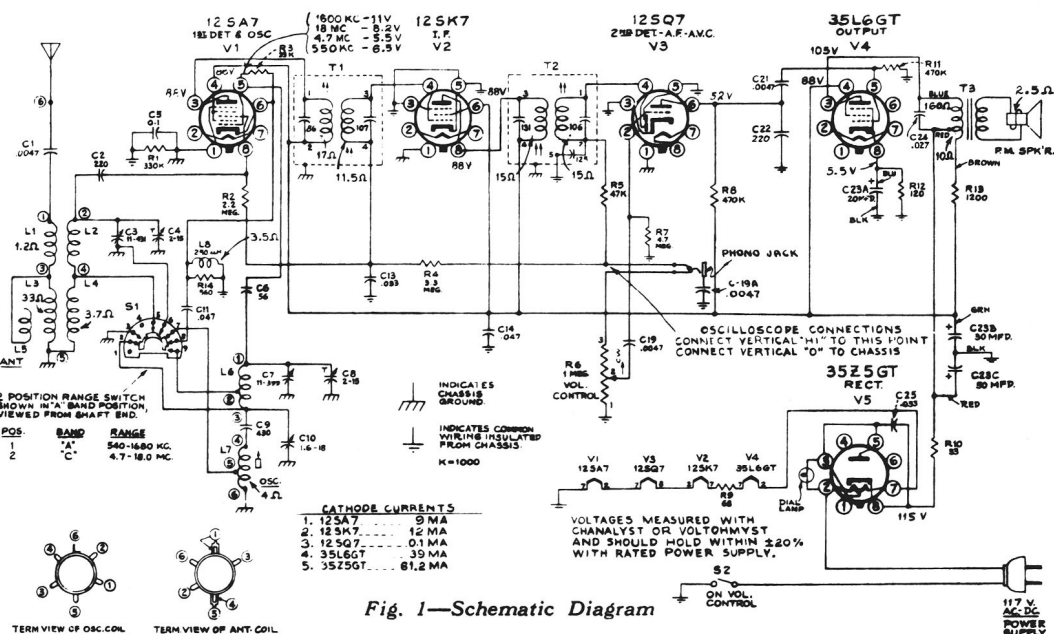


Fig. 1—Schematic Diagram

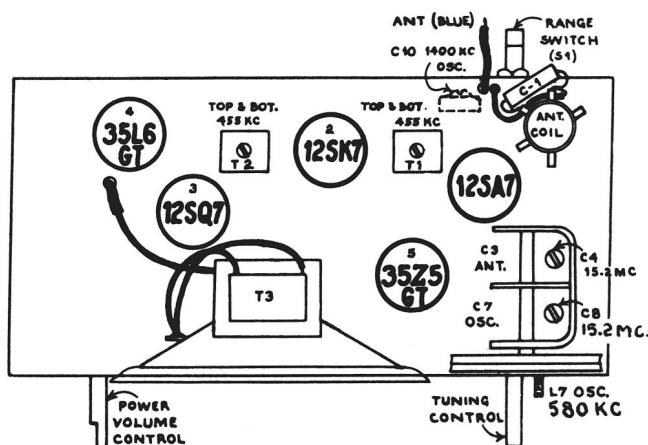


Fig. 2—Chassis Layout and Alignment Adjustment

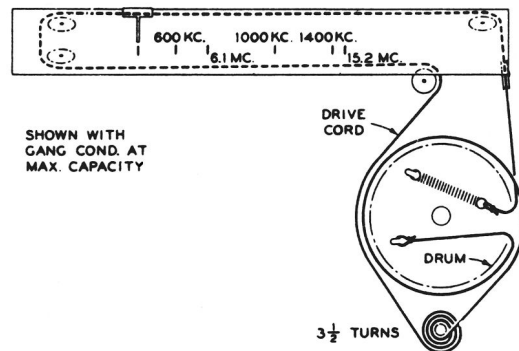


Fig. 3—Dial Cord Stringing

Critical Lead Dress

1. Dress output plate capacitor C-24 and output transformer leads down next to chassis.
2. Dress green lead from terminal board to volume control down to chassis and away from adjacent parts.
3. Keep grid end of R2 as short as possible.
4. Keep body of C2 away from chassis.
5. Dress R7 and C19 down next to chassis.
6. Twist power cord leads underneath chassis.
7. Dress R9 against back apron of chassis.
8. Dress dial lamp leads between speaker and dial back plate bracket.
9. Dress C1 away from antenna coil winding.
10. Dress output transformer secondary leads away from dial drive cord.

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.

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

Alignment Chart

Order of Alignment	TEST OSCILLATOR				RECEIVER				
	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	12SK7 I.F. Pin #4	Gnd.	.01 Mfd	455 KC	S.B.	"HI" End	2nd I.F. Trans.	Top & bottom cores
	2	12SA7 Conv. Pin #8	Same	Same	Same	Same	Same	1st I.F. Trans.	Top & Bottom cores
S.W. ALIGNMENT	3	'Ant.' Lead	Same	300 ohms	15.2 Mc	S.W.	15.2 Mc	Osc. Ant.	C-8 C-4
	4	Repeat Step 3.							
S.B. ALIGNMENT	5	Same	Same	47 Mmf	580 Kc	S.B.	580 Kc	Osc.	L-7 (Rock In)
	6	Same	Same	1500 Kc	1500 Kc	S.B.	1500 Kc	Osc.	C-10 (Rock In)
	7	Repeat Steps 5 & 6.							