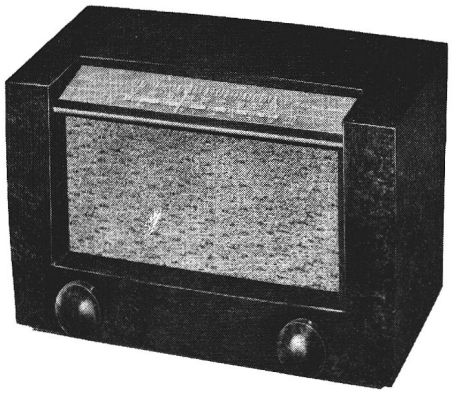

RCA VICTOR

"HIS MASTER'S VOICE"

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 FREQUENCY ----------455 kc.

TUBE COMPLEMENT

(1) RCA-12SA7 ----------1st Detector-Oscillator
(2) RCA-12SK7 ----------IF Amplifier
(3) RCA-12SQ7--2nd Detector, A.V.C. and A-F Amplifier
(4) RCA-35L6GT ----------Output
(5) RCA-35Z5GT ----------Rectifier

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 volts ----------30 watts

POWER OUTPUT RATING

Undistorted ----------1.0 watt
Maximum ----------1.5 watts

LOUDSPEAKER

Type ----------5-inch Permanent-Magnet Dynamic
Voice Coil Impedance ----------3.2 ohms at 400 cycles
Tuning Drive Ratio----------18 to 1 (9 turns of knob)

CABINET DIMENSIONS

Width 11⅜"—Height 6$\frac{13}{16}$"—Depth 6¼"

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
	Chassis Assemblies	
S-5258	Capacitor - Mica trimmer, 1.6 - 18 MMF. (C-10)	
71924	" - Ceramic, 56 MMF. (C-6)	
39636	" - Mica, 220 MMF. (C-2,C-22)	
39643	" - Mica, 430 MMF. (C-9)	
	" - Tubular, molded paper .0047 Mfd. (C-1, C-19, C-21)	
	" - Tubular, molded paper .027 Mfd. (C-24)	
	" - Tubular, molded paper .033 Mfd. 400 V. (C-13, C-25)	
	" - Tubular, molded paper, .047 Mfd. 400 V. (C-11, C-14)	
	" - Tubular, molded paper .1 Mfd. 400 V. (C-5)	
70371	" - Electrolytic, 3 sections 50 Mfd. 150 V. (C-23A) 30 Mfd. 150 V. (C-23B) 20 Mfd. 20 V. (C-23C)	
S-5251	" - Gang condenser (C-3, C-4, C-7, C-8)	
S-5254	Coil - antenna coil (L-1, L-2, L-3, L-4, L-5)	
S-5253	" - oscillator coil (L-6, L-7)	
73268	" - peaking coil (L-8, R-14)	
S-5255	Control - volume control & power switch (R6,S2)	
70365	Core - adjustable core & stud for oscillator coil	
	Resistor - 33 ohms + - 10%, 1 watt (R-10)	
73263	" - 68 " w.w. 2 watts (R-9)	
	" - 120 " + - 10% ½ watt (R-12)	
	" - 1200 ohms + - 10% 1 watt (R-13)	
	" - 33,000 ohms + - 10% ½ watt (R-3)	
	" - 47,000 " + - 20% ½ " (R-5)	
	" - 330,000 " + - 20% ½ " (R-1)	
	" - 470,000 " + - 20% ½ " (R-8,R-11)	
	" - 2.2 Megohms + - 20% ½ watt (R-2)	
	" - 3.3 " + - 20% ½ " (R-4)	
	" - 4.7 " + - 10% ½ " (R-7)	
S-5256	Switch, range switch (S-1)	
S-4487	Transformer - First I.F. transformer (T-1)	
S-4488	" - Second I.F. transformer (T-2)	
S-5252	" - Output transformer (T-3)	
	Speaker Assemblies	
S-5260	Cone & voice coil assembly	
	Miscellaneous Assemblies	
73272	Back - cabinet back	
S-5259	Button - plug button (Pkg. 2)	
S-5249	Cabinet - brown plastic cabinet	
S-4313	Cord - drive cord (Standard)	
S-5250	Dial - Glass, dial scale	
S-4500	Emblem - RCA Victor	
37831	Fastener - push fasteners for cabinet back (1 set)	
35121	Knob - range switch knob	
S-4507	Knob - volume control or tuning knob	
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.

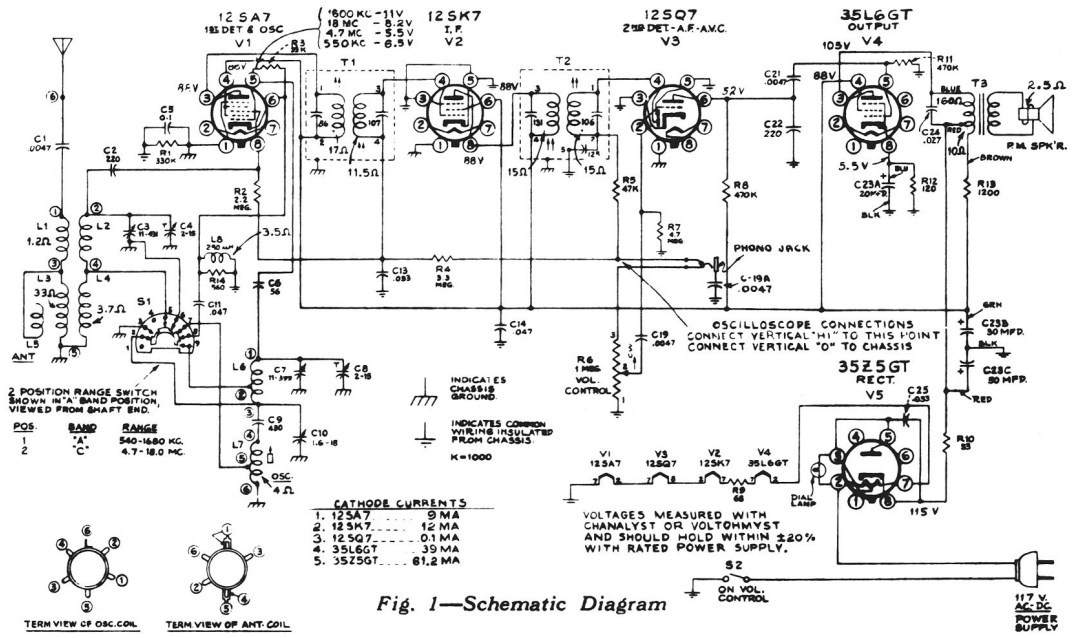

Fig. 1—Schematic Diagram

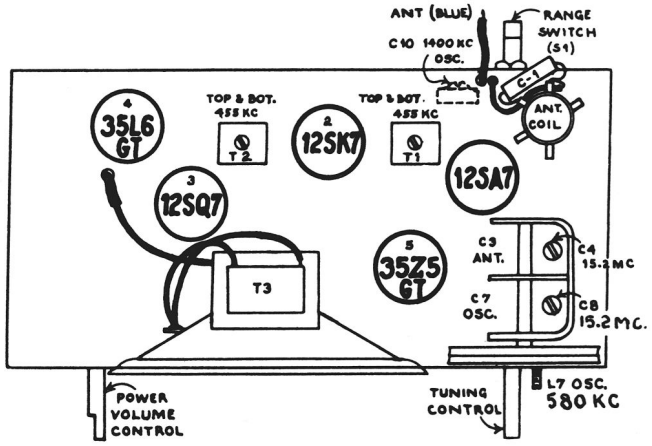

Fig. 2—Chassis Layout and Alignment Adjustment

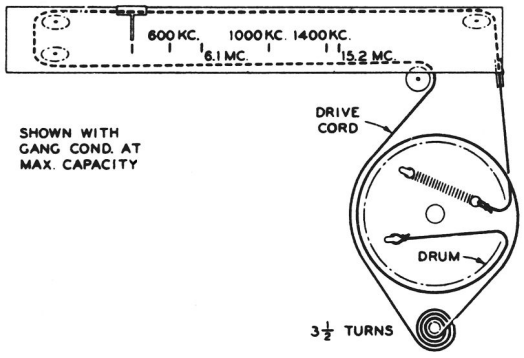

Fig. 3—Dial Cord Stringing

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: Connect "HI" Side To	TEST OSCILLATOR: Connect "LO" Side To	TEST OSCILLATOR: Dummy Antenna	TEST OSCILLATOR: Frequency Setting	RECEIVER: Range Selector	RECEIVER: Receiver Dial Setting	RECEIVER: Circuit To Adjust	RECEIVER: 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	Max. Out.
	2	12SA7 Conv. Pin #8	Same	Same	Same	Same	Same	1st I.F. Trans.	Top & Bottom cores	Same
S.W. ALIGNMENT	3	'Ant.' Lead	Same	300 ohms	15.2 Mc	S.W.	15.2 Mc	Osc. Ant.	C-8 C-4	Same
	4	Repeat Step 3.								
S.B. ALIGNMENT	5	Same	Same	47 Mmf	580 Kc	S.B.	580 Kc	Osc.	L-7 (Rock In)	Same
	6	Same	Same	1500 Kc	1500 Kc	S.B.	1500 Kc	Osc.	C-10 (Rock In)	Same
	7	Repeat Steps 5 & 6.								