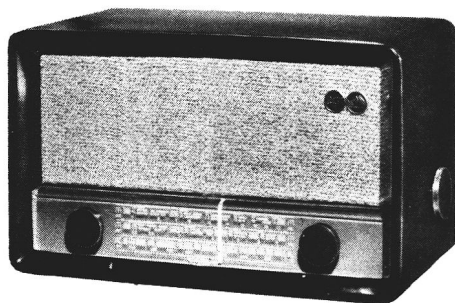




RCA VICTOR



MODELS 531D AND 531F

AC-DC RADIO RECEIVERS

MODELS 531D & 531F
SERVICE DATA

— 1949 NO. 20 —

GENERAL SERVICE DIVISION
RCA VICTOR COMPANY LIMITED
MONTREAL, QUE.

Electrical and Mechanical Specifications

Frequency Ranges (531D only.)

Standard Broadcast ("A" band)540-1600 KC.
 Medium Wave ("B" band)2.3-7. MC.
 Short Wave ("C" band)7-22 MC.

Frequency Ranges (531F only.)

Standard Broadcast ("A" band)535-1680 KC
 Medium Wave ("B" band)2.05-6.5 MC
 Short Wave ("C" band)7-22 MC
 Intermediate Frequency455 KC.

Tube Complement

- (1) RCA 12SA7Converter
 (2) RCA 12SK7I.F. amplifier
 (3) RCA 12SQ72nd Det., A.V.C. and audio
 (4) RCA 35L6GTOutput
 (5) RCA 35Z5GTRectifier

Dial Lamps (2)Mazda No. 1490, 3.4 volts .16 amps.

Power Supply Ratings

105-125 volts D.C. or 25-60 cycles A.C. .3 amps. 30 watts.

Power Output

Undistorted1.0 watt
 Maximum1.5 watts

Loudspeaker

Type4" x 6" P.M. dynamic
 Voice coil impedance3.2 ohms at 400 cycles.

Cabinet Dimension

Height7-15/16 ins.
 Width14-9/16 ins.
 Depth7 3/4 ins.

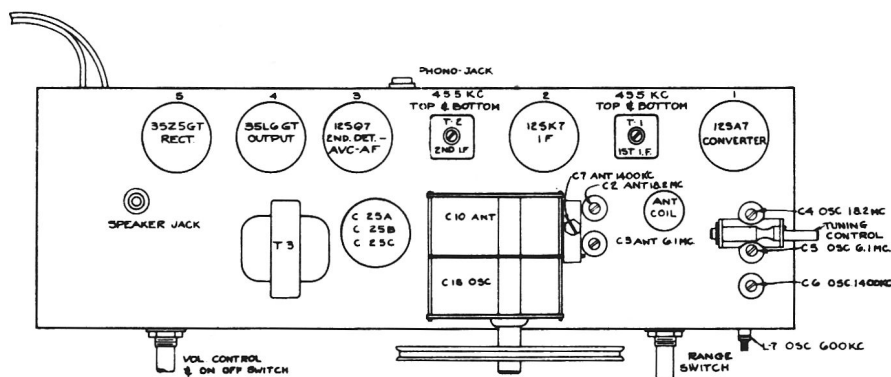


FIG. 1—CHASSIS LAYOUT AND ALIGNMENT ADJUSTMENTS

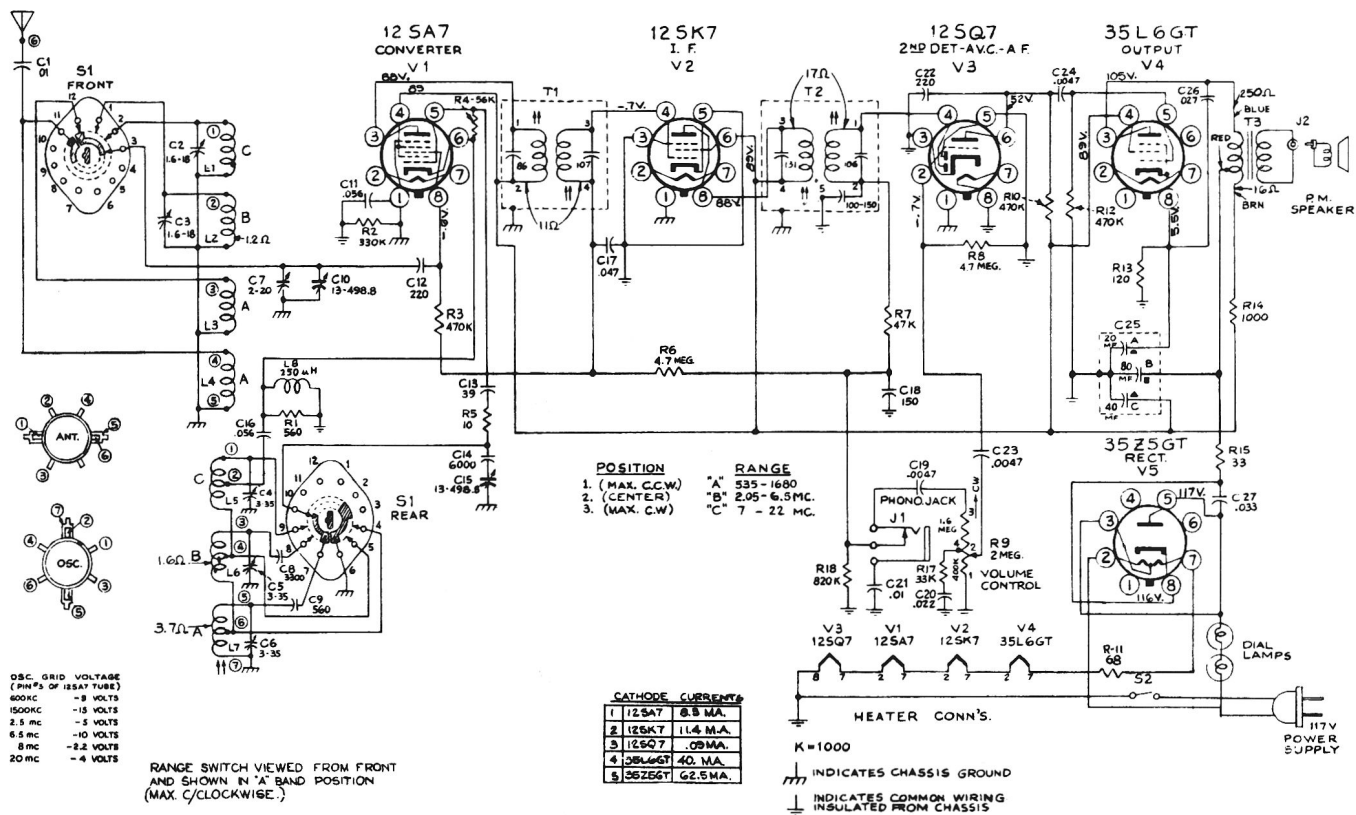
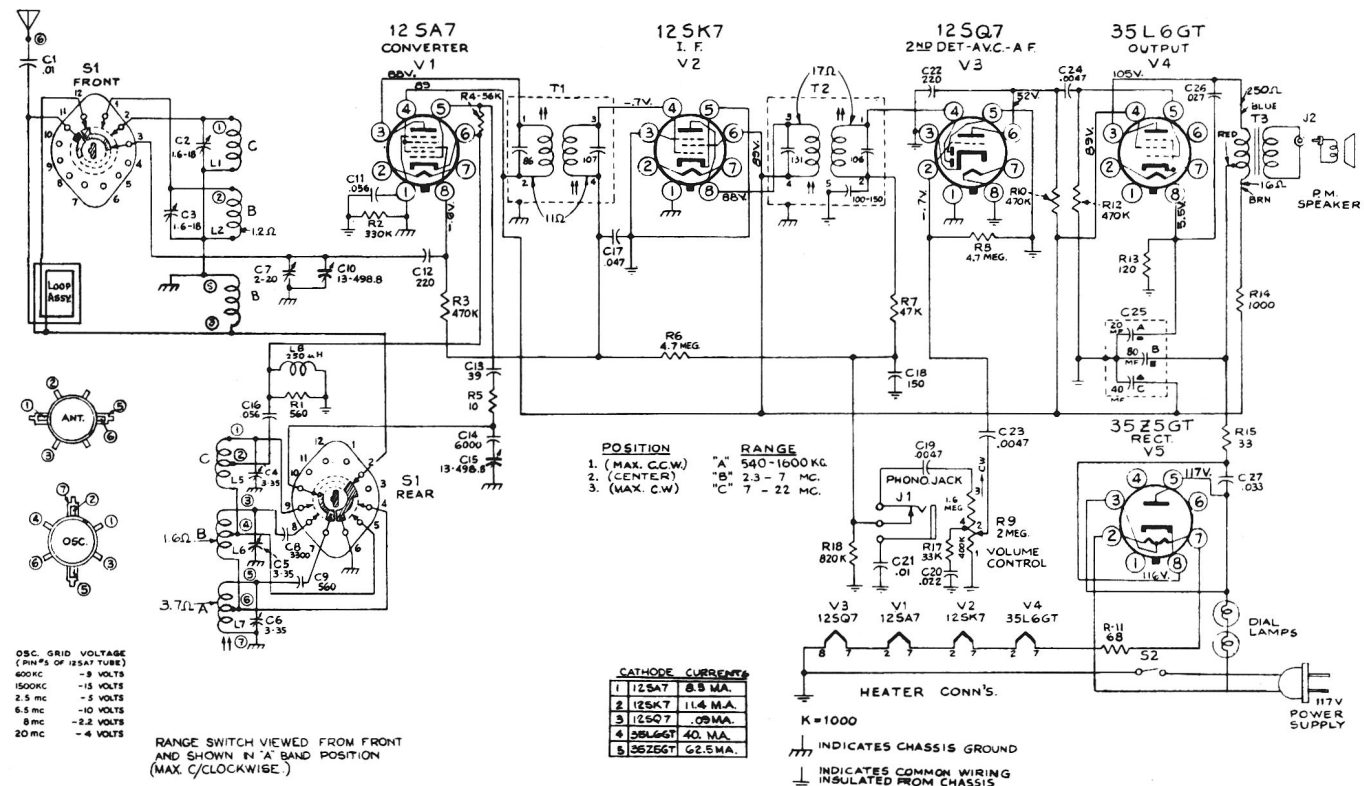
Phonograph Attachment

A jack is provided on the rear of the chassis for connecting a phonograph attachment. (Note: the socket on top of chassis is for speaker.) The output cable of the attachment should be terminated in a Stock No. 31048

plug. It must be removed for radio reception.

Power Supply Polarity—For operation on D.C. the power plug must be inserted in the outlet for correct polarity. If the set does not function, reverse the plug. On A.C. reversal of the plug may reduce hum.

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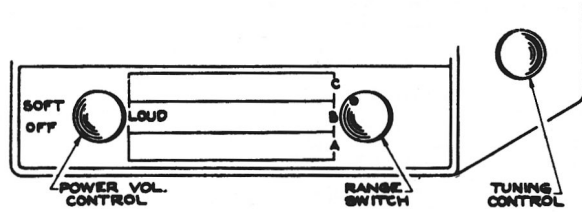


FIG. 4—LOCATION OF CONTROLS

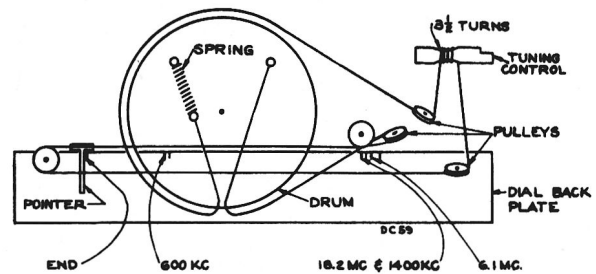


FIG. 5—DIAL CORD STRINGING

Critical Lead Dress

1. Dress blue lead of output transformer close to chassis.
2. Dress C1 away from antenna coil winding.
3. Keep body of C12 away from chassis base.
4. Keep green wire from phono jack to terminal board

5. Dress R11 against back apron of chassis.
6. Keep C23 away from blue lead of output transformer.
7. Dress C19 close to chassis base.

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. The dial scale may be readily removed from the cabinet and used as a reference during alignment.

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.

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 Grid Pin #8	GND	.01 MFD.	455 KC	'A' Band	'HI' End	2nd I.F. Trans.	T-2	Max. Out.
	2	22SA7 Grid Pin #8	Same	Same	Same	Same	Same	1st I.F. Trans.	T-1 *	Same
"A" Band Alignment	3	Ant. Lead	Same	200 MMF	1400 KC	Same	1400 KC	Osc.	C-6	Same
	4	Same	Same	Same	Same	Same	Same	Ant.	C-7	Same
	5	Same	Same	Same	600 KC	Same	600 KC	Osc.	L-7	Same
	6	Repeat Steps 3,4 & 5.								
"B" Band Alignment	7	Ant. Lead	GND	300 Ohms	6.1 MC	'B' Band	6.1 MC	Osc.	C-5 †	Same
	8	Same	GND	Same	Same	Same	Same	Ant.	C-3 ‡	Same
	9	Repeat Steps 7 & 8.								
"C" Band Alignment	10	Ant. Lead	GND	300 Ohms	18.2 MC	'C' Band	18.2 MC	Osc.	C-4 †	Same
	11	Same	Same	Same	Same	Same	Same	Ant.	C-2 ‡	Same
	12	Repeat Steps 10 & 11.								

* Do not Re-Adjust T-2

† Use minimum capacity peak if two peaks can be obtained.

‡ Rock Gang.

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REPLACEMENT PARTS FOR MODELS 531D & 531F

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 Assembly			Chassis Assembly (Cont'd)		
S-4450	" - trimmer dual 1.6-18 MMF. (C-2,C-3)		S-5242	Switch - range switch (5Q31D)(S-1)	
S-4451	" - " triple 3-35 MMF. (C-4,C-5,C-6)		S-4486	Switch - range switch (5Q31F)(S-1)	
S-4438	Capacitor - 150 MMF ceramic (C-18)		S-4487	Transformer - 1st I.F. (T-1)	
S-4439	" - 220 MMF. mica (C-12, C-22)		S-4488	" - 2nd I.F. (T-2)	
S-4440	" - 560 MMF. " (C-9)		S-4462	Volume Control - 2 Megohm (R-9)(S-2)	
S-4441	" - 3,300 " " (C-8)		Speaker Assembly		
S-4442	" - 6,000 " " (C-14)		S-5247	Cone - cone & voice coil assy	
--	" - .0047 Mfd. " (C-19,C-23,C-24)		S-4489	Output transformer (T-3)	
--	" - .01 " " (C-1, C-21)		S-4491	Plug - male plug for speaker cable (J-2)	
--	" - .022 " " (C-20)		Miscellaneous Assembly		
--	" - .027 " " (C-26)		S-5243	Back - back cover & loop assembly (5Q31D)	
--	" - .035 " " (C-27)		S-5244	Back - back cover for cabinet (5Q31F)	
--	" - .047 " " (C-17)		S-4494	Baffle board & grille cloth	
--	" - .056 " " (C-11, C-16)		S-4495	Cabinet - plastic cabinet	
S-4452	" - electrolytic 80-40-20 Mfd. (C-25A, C-25B, C-25C)		S-4496	Clip - dial scale clip (Pkg. 3)	
S-4453	" - Resistor assy. (39 MMF. -10 ohm) (C-13, R-5)		S-4497	Cloth - grille cloth (6" x 14")	
S-5239	Coil - antenna coil (5Q31F)(L-1,L-2,L-3,L-4)		S-4313	Cord - dial cord	
S-5210	" - " " (5Q31D)(L-1,L-2)		S-4460	" - power cord	
S-5240	" - oscillator coil (5Q31F)(L-5,L-6,L-7)		S-5245	Dial Scale (5Q31D)	
S-4457	" - peaking coil & resistor assy. (250 MH coil & 560 ohm resistor)(L-8,R-1)		S-5246	Dial Scale (5Q31F)	
S-4461	Condenser - variable (C-10, C-15, C-7)		S-4500	Emblem (RCA Victor)	
S-4504	Indicator - station selector pointer		S-4501	Fastener - push fastener for back cover (Pkg. 4)	
--	Resistor 33 ohms, 1 watt (R-15)		S-4465	Jack - phono input jack	
--	" 68 " 2 watt (R-11)		S-4505	Knob - range switch	
--	" 120 " 1/2 " (R-13)		S-4506	" - tuning	
--	" 1,000 " 1 " (R-14)		S-4507	" - vol. control	
--	" 33,000 " 1/2 " (R-17)		--	Lamp - dial lamp (Mazda # 1490)	
--	" 47,000 " 1/2 " (R-7)		S-4490	Washer "C" washer for tuning shaft (Pkg. 3)	
--	" 56,000 " 1/2 " (R-4)				
--	" 330,000 " 1/2 " (R-2)				
--	Resistor 470,000 ohms, 1/2 watt (R-3,R-10,R-12)				
--	" 820,000 " 1/2 " (R-18)				
--	" 4.7 Megohms 1/2 " (R-6, R-8)				

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

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