



RCA VICTOR



MODEL X-510

AC-DC RADIO RECEIVER

MODEL X-510

SERVICE DATA

—1953 No. 19—

HOME INSTRUMENT SERVICE DIVISION

RCA VICTOR COMPANY LTD.

MONTREAL, CANADA

ELECTRICAL AND MECHANICAL SPECIFICATIONS

FREQUENCY RANGES

Standard Broadcast ("A" Band) ----- 540-1,600 kc.

INTERMEDIATE FREQUENCY -----455 kc.

TUBE COMPLEMENT

- | | | |
|---------------|------------------------------|---------------------|
| (1) RCA-12BE6 | -----1st | Detector-Oscillator |
| (2) RCA-12BA6 | ----- | IF Amplifier |
| (3) RCA-12AV6 | 2nd Detector, A.V.C. and A-F | Amplifier |
| (4) RCA-50C5 | ----- | Output |
| (5) RCA-35W4 | ----- | Rectifier |

POWER SUPPLY RATINGS

105-125 volts ----- 30 watts

POWER OUTPUT RATING

Undistorted ----- 1.0 watt

Maximum ----- 1.5 watts

LOUDSPEAKER

Type -----4-inch Permanent-Magnet Dynamic

Voice Coil Impedance -----3.2 ohms at 400 cycles

Tuning Drive Ratio.....Direct Drive

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.

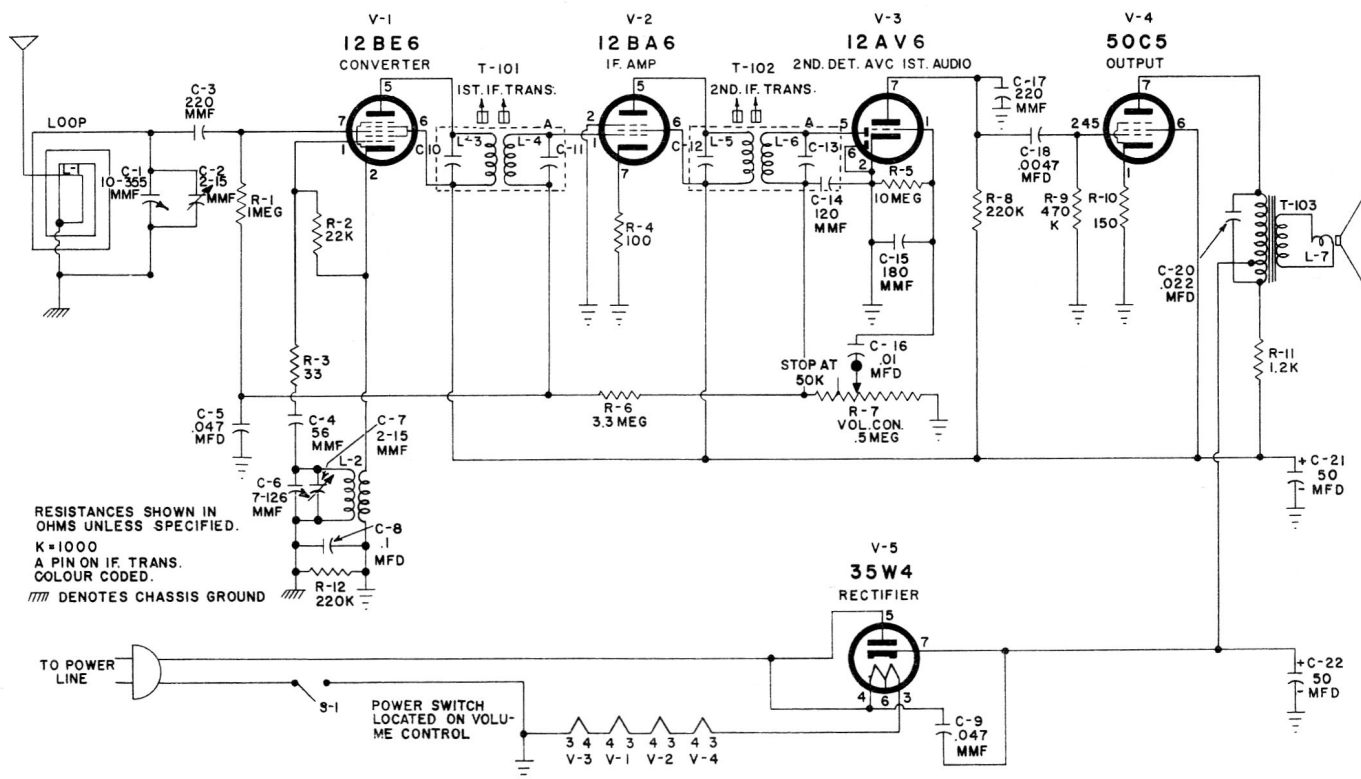
REPLACEMENT PARTS LIST FOR MODEL X-510

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

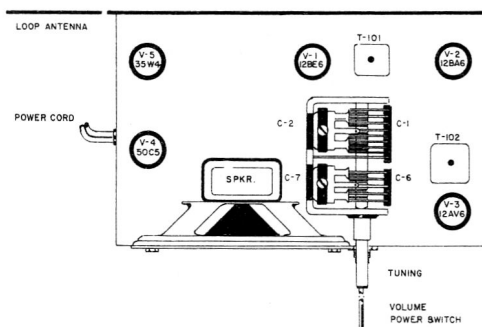
SYMBOL NO.	STOCK NO.	DESCRIPTION	SYMBOL NO.	STOCK NO.	DESCRIPTION
C-1	*S-20194	Capacitor - Variable Tuning	R-10		Resistor - 150 ohms, 10%, 1/2 w.
C-2			R-11		" - 1200 ohms, 10%, 1 watt
C-3		Capacitor - 220 mmf. 20% 350 V.	R-12		" - 220,000 ohms, 20%, 1/2 w.
C-4		Capristor - 56 mmf. 33 ohms	T-101	S-5682	Transformer-1st I. F. Transformer
C-5		Capacitor - .047 mfd. 20%, 200 V.	T-102	S-5683	" -2nd I. F. Transformer
C-6		" 7-126 mmf.	T-103	S-5686	" -Audio Output Transformer
C-7		" 2- 15 mmf.			
C-8		Capacitor - 0.1 mfd. 10%, 400 V.			
C-9		" -.047 " 20%, 400 V.			SPEAKER ASSEMBLY
C-10		" in 1st I. F.			
C-11		" in 1st I. F.	S-20099		Speaker - 4" P.M. complete with cone and voice coil
C-12		" in 2nd I. F.			
C-13		" in 2nd I. F.			MISCELLANEOUS ASSEMBLY
C-14		" 120 mmf. in 2nd I. F.			
C-15		" 180 mmf. 20%, 350 V.			
C-16		" .01 mfd. 20%, 200V.			
C-17		" 220 mmf. 20% 350V.	S-20100		Cabinet - Blue
C-18		" .0047 mfd. 20%, 400V.	S-20101		" Red
C-19			S-20102		" Yellow
C-20		" .022 mfd. 10%, 600V.	S-20103		" Green
C-21	*S-20192	" Electrolytic, 60 mfd.	S-20104		" Burgundy
C-22	"	" 40 mfd.	S-20105		" Ivory
			S-20106		" Brown
L-1 } L-2 }	S-20113	Coil - Oscillator coil			
R-1		Resistor - 1 megohm. 20%, 1/2 w.	S-20195		Cover - Back cover & loop
R-2		" - 22,000 ohms, 20%, 1/2 w.			
R-3		Capristor-33 ohms, 56 mmf.	S-20193		Front - Cabinet front
R-4		Resistor - 100 ohms, 20%, 1/2 watt	*S-20196		Knob - Tuning
R-5		" - 10 megohms, 20%, 1/2 watt	*S-20198		Knob - Vol. control
R-6		" - 3.3 megohms. 20% 1/2 watt			
R-7	*S-20197	Resistor - Volume Control & Power Switch	S-5661		Monogram - RCA Victor
R-8		Resistor - 220 000 ohms, 20%, 1/2 w.			
R-9		" - 470,000 ohms, 20%, 1/2 w.			*Indicates New Stock Items

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

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



SCHEMATIC DIAGRAM



CHASSIS LAYOUT

LEAD DRESS

1. Dress all capacitors down against chassis.
2. C-15 must be located so that connection to Pin #1 of 12AV6 is short as possible and condenser butts against rim of volume control.
3. Connect outside foil of all condensers as indicated in schematic diagram.
4. Dress Filament, B+ and B- leads down against chassis.
5. Dress R-4, 12BA6 cathode resistor, down against tube center post with leads to Pin 2 and Pin 7 as short as possible.

Alignment Procedure

Before aligning the receiver, set the gang condenser for maximum capacity and then set the dial knob opposite 55 on 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 ac/dc operated, it may be necessary to use an isolation transformer (117 v./117 v. for the receiver during alignment.)

Alignment Chart

TEST OSCILLATOR					RECEIVER				
Order of Alignment	Connect "HI" Side To	Connect "LO" Side To	Dummy Antenna	Frequency Setting	Range Selector	Receiver Dial-Setting	Circuit To Adjust	Adjust Adjustment Symbols	Notes
I.F. ALIGNMENT	1 12BA6 Pin #1	Gnd.	.1 Mfd	455 KC		"HI" End	2nd I.F. Trans.	Top & Bottom cores	Max.Out.
	2 12BE6 Pin #7	Same	Same	Same	Same	Same	1st I.F. Trans.	Top & Bottom cores	Same
S.B. ALIGNMENT	3 Radiate signal			1600 KC		1600 KC	Osc.	C-7	Same
	4 Same			1500 KC		1500 KC	Osc.	C-2	Same
	5 Repeat Steps 3 & 4.								