





AC-DC RADIO RECEIVER

MODEL X-510

SERVICE DATA

HOME INSTRUMENT SERVICE DIVISION RCA VICTOR COMPANY, LTD.

MONTREAL, CANADA

ELECTRICAL AND MECHANICAL SPECIFICATIONS

FREQUENCY RANGES	POWER SUPPLY RATINGS
Standard Broadcast ("A" Band) 540-1,600 kc.	105-125 volts30 watts
INTERMEDIATE FREQUENCY455 kc.	Power Output Rating
	Undistorted1.0 watt
TUBE COMPLEMENT	Maximum1.5 watts
(1) RCA-12BE61st Detector-Oscillator	Loudspeaker
(2) RCA-12BA6IF Amplifier	Type4-inch Permanent-Magnet Dynamic
(3) RCA-12AV6 2nd Detector, A.V.C. and A-F Amplifier	Voice Coil Impedance3.2 ohms at 400 cycles
(4) RCA-50C5Output	Tuning Drive RatioDirect Drive
(5) RCA-35W4Rectifier	

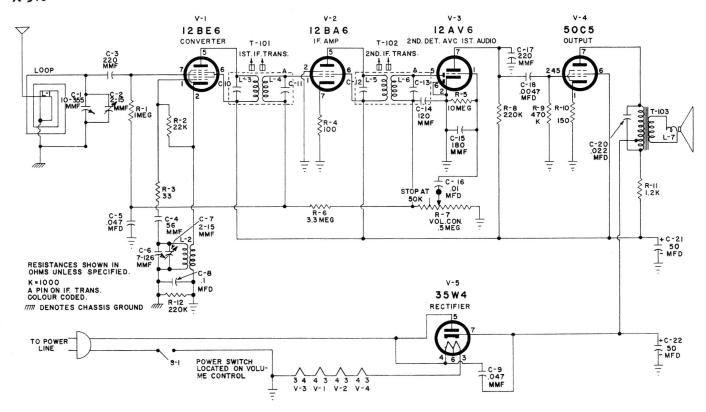
POWER SUPPLY POLARITY—For operation on d-c, the power plug must be inserted in the outlet for correct polarity.

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

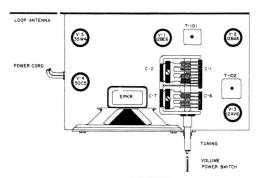
REPLACEMENT PARTS LIST FOR MODEL X-510

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 C-2	*S-20194	Capacitor - Variable Tuning	R-10 R-11		Resistor - 150 ohms, 10%, 1/2 w 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	Т-101	S-5682	Transformer-1st I. F. Transformer
C-5		Capacitor047 mfd. 20%, 200 V.	T-102	S-5683	" -2nd I. F. Transformer
C-6		ⁿ 7-126 mmf.	T-103	S-5686	" -Audio Output Transformer
C-7		" 2- 15 mmf.			• 1000 \$10000000000000000000000000000000
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
C-12		in 2nd I. F.			voice coil
C-13		in 2nd I.F.			
C-14		" 120 mmf. in 2nd I. F.			
C-15		" 180 mmf. 20%, 350 V.			MISCELLANEOUS ASSEMBLY
C-16		. or mid. 20%, 200 .			
C-17		220 mm: 20% 000v:		S-20100	Cabinet - Blue
C-18		" .0047 mfd. 20%, 400V.		S-20101	" Red
C-19 C-20		" .022 mfd. 10%, 600V.		S-20102	" Yellow
C-20 C-21	*S-20192	" Electrolytic, 60 mfd.		S-20103	
C-21 C-22	75-20192	" " 40 mfd.		S-20104	_ 0 ,
C-22	-	40 mid.		S-20105	" Ivory
T -1 \				S-20106	" Brown
$\begin{bmatrix} L-1 \\ L-2 \end{bmatrix}$	S-20113	Coil - Oscillator coil		0.00105	Garage Bush assess & Jane
				S-20195	Cover - Back cover & loop
R-1		Resistor - 1 megohm, 20%, 1/2 w.		S-20193	Front - Cabinet front
R-2		" - 22,000 ohms, 20%, 1/2 w.		5-20193	Front - Cabinet front
R-3		Capristor-33 ohms, 56 mmf.		*S-20196	Knob - Tuning
R-4		Resistor - 100 ohms, 20%, 1/2 watt		*S-20196	Knob - Vol. control
R-5		To thiogorithis, mo N, T, E water		5-20100	MINOS - VOI. CONCLOS
R-6	*0.00107	ore megerine, ack at a mass		S-5661	Monogram - RCA Victor
R-7	~S-20197	Resistor - Volume Control & Power Switch		5-0001	Monogram - NOA VICWI
R-8		Resistor - 220 000 ohms, 20%, 1/2 w.			*Indicates New Stock Items
R-9		" - 470,000 ohms, 20%, 1/2 w.			*Indicates New Stock Items



SCHEMATIC DIAGRAM



CHASSIS LAYOUT

LEAD DRESS

- 1. Dress all capacitors down against chassis.
- 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.
- Connect outside foil of all condensers as indicated in schematic diagram.
- 4. Dress Filament, B+ and B- leads down against chassis.
- 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 ocilloscope. 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-ocillator 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					RECE I VER					
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. ALIGN- MENT	1	128A6 Pin #1	Gnd.	.l Mfd	455 KC		"HI" End	2nd 1.F. Trans.	Top & Bottom cores	Max.Out.
	2	128E6 Pin #7	Same	Same	Same	Same	Same	ist i.F. Trans.	Top & Bottom cores	Same
	3	Radiate signal			1600 KC		1600 KC	0sc.	C-7	Same
S.B. ALIGN MENT	4	Same			1500 KC		1500 KC	Osc.	C-2	Same
	5	Repeat Steps 3	& 4.							