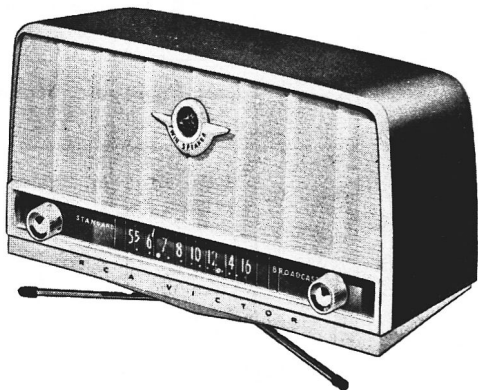




RCA VICTOR



Model X-310

AC-DC Radio Receiver

MODEL X-310

SERVICE DATA

— 1958 No. 2 —

ISSUED BY

SERVICE DIVISION

RCA VICTOR COMPANY, LTD.

MONTREAL, CANADA

ELECTRICAL AND MECHANICAL SPECIFICATIONS

TUNING RANGE540-1,600 kc

INTERMEDIATE FREQUENCY455 kc

TUBE COMPLEMENT

- (1) RCA 12BE6Converter
- (2) RCA 12BA6I.F. Amplifier
- (3) RCA 12AV6Det.-AVC-A.F. Amp.
- (4) RCA 50C5Output
- (5) RCA 35W4Rectifier

(A type #1847 dial lamp is used.)

POWER SUPPLY RATING

115 volts d. c. or 50 to 60 cycles a. c.30 watts

LOUD SPEAKERS (2)

Size and type4 in. P.M.
Voice coil impedance3.2 ohms each at 400 cycles

POWER OUTPUT

Undistorted1.0 watts
Maximum1.3 watts

TUNING DRIVE RATIO9½:1 (4¾ turns of knob)

WEIGHTApprox. 4½ lbs. net

CABINET DIMENSIONS

Height.....7½" Width.....12¾" Depth.....6"

GENERAL DESCRIPTION

The Model X-310 is a five-tube (including rectifier) table model radio receiver designed for operation on 115 volts AC or DC power supply. The cabinet completely encloses the radio chassis and speakers, using a molded hood instead of a conventional back cover. The chassis and speakers are mounted in a plastic "cradle" which comprises the cabinet bottom and front. The plastic slide-rule dial is heat-sealed to the cradle. A decorative metal swivel base is attached to the bottom of the cabinet.

The chassis is of the "printed wiring" type in which all electrical components except loop antenna and speakers are mounted on an insulation plate. A conventional superheterodyne circuit is employed using 150-milliamper series-string miniature tubes. All wiring, except for external leads, is "printed" on the underside of the insulation plate. The "printed wiring" chassis is attached to an outrigger dial

assembly by a nut on the volume control shaft and a screw into the frame of the tuning condenser. The switching type phono input jack is accessible at the left side of the cabinet.

SUPPLEMENTARY INFORMATION

Issue	Subject
List related Service Letters above.	

ALIGNMENT PROCEDURE

Dial Pointer Setting—With tuning condenser plates fully meshed, set left edge of dial pointer to the score mark on the dial backplate.

Test-Oscillator—For all alignment operations, connect the low side of the test-oscillator through an isolating capacitor to the "common negative wiring." Keep the oscillator output as low as possible to avoid a-v-c action.

An isolation transformer (115 v./115 v.) may be necessary for the receiver if the test-oscillator is also a.c. operated.

REMOVAL OF CABINET HOOD

Remove two screws at bottom rear of hood and one screw (long) at top rear of hood. Pull bottom of hood away from chassis cradle to disengage power interlock. Lift hood up and to the rear.

ASSEMBLING CABINET HOOD TO CHASSIS CRADLE

Place loop antenna in retaining slots at rear of cradle, pull top of antenna to the rear. Place hood over antenna so that top edge of antenna will first contact back of hood. Lower hood so that top edge of antenna will be engaged by positioning boss inside of hood. Push hood forward. Refer to illustration below. Position the power cord plug, which is attached to the hood, to the power input contacts on the chassis. Push plug firmly on to the contacts.

Make certain that edges of hood are properly seated on chassis cradle before tightening hood retaining screws. The long screw at the top rear of the hood should be tightened with care; excessive tightening may break chassis cradle.

REMOVAL OF CHASSIS FROM CRADLE

Remove volume and tuning control knobs.

Disconnect three speaker leads.

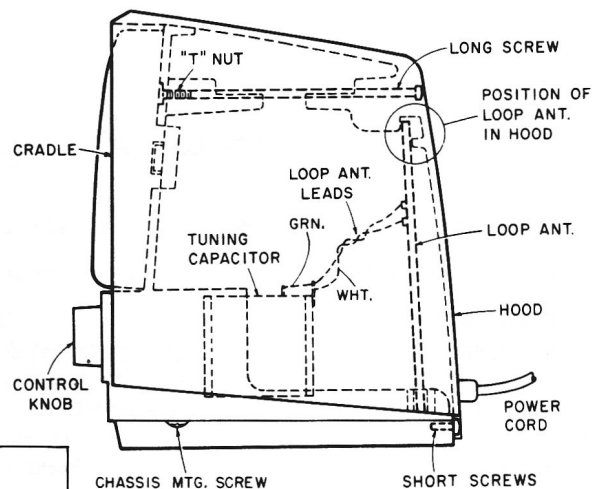
Remove bottom screw.

Remove one screw at outside of cradle (close to speaker).

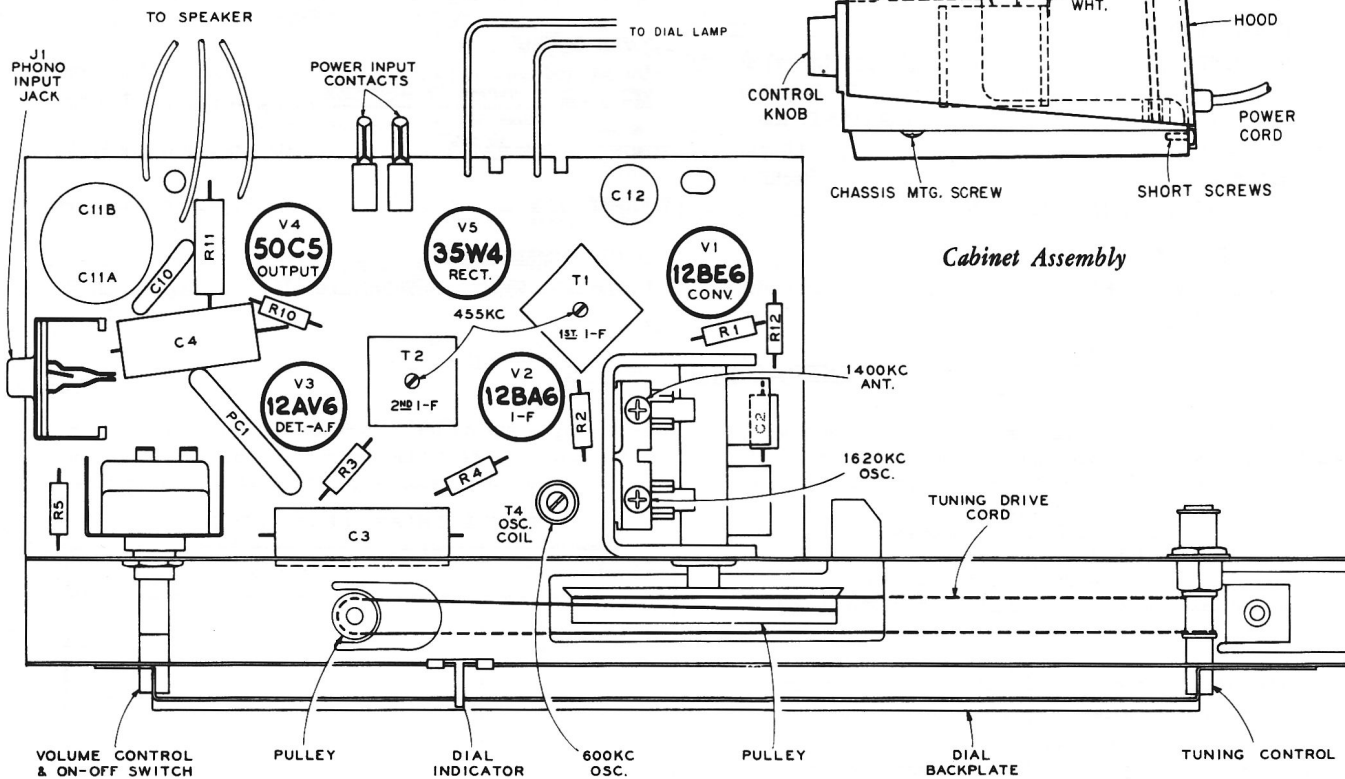
Swing right end of chassis (as viewed from rear) to the rear of the cradle.

Disengage chassis from cradle by moving endways.

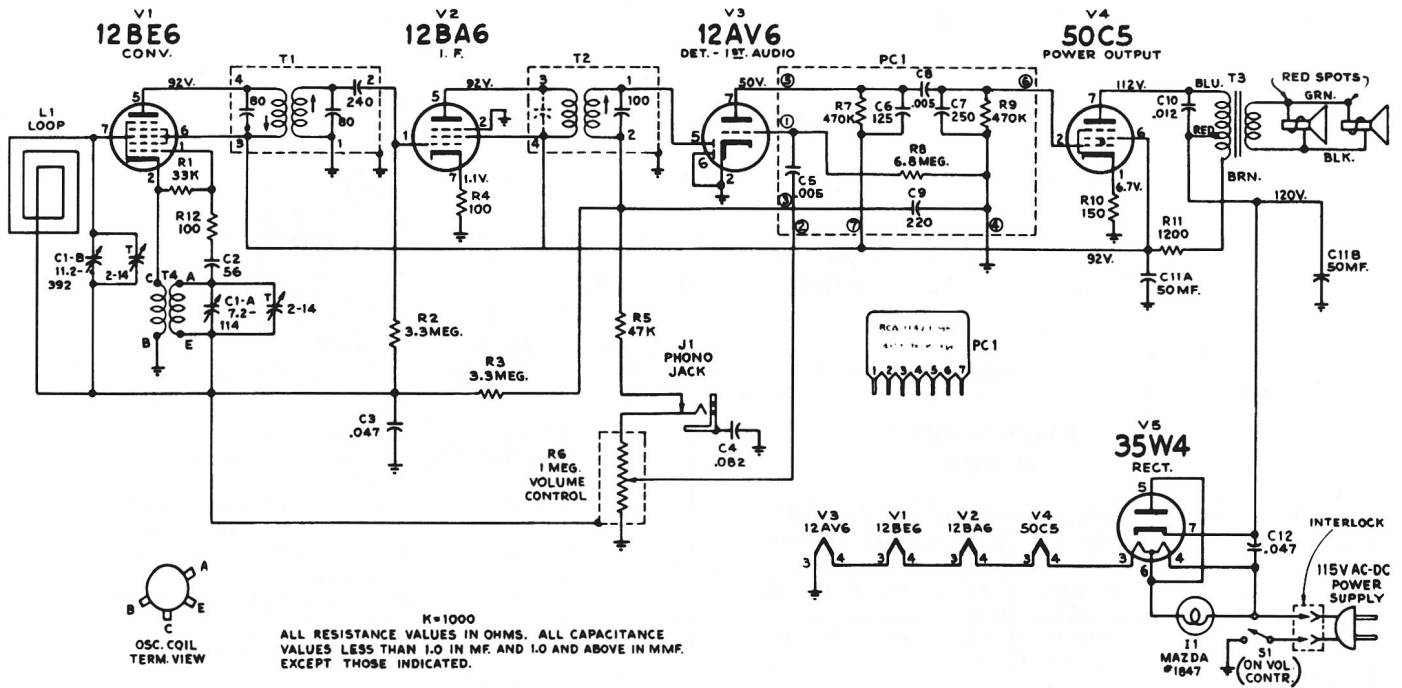
Step	Connect the high side of test-oscillator to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. output
1	12BA6 I-F grid through .01 mfd. capacitor	455 kc	Quiet-point 1,600 kc end of dial	T2 (top) 2nd I-F trans.
2	Stator of C1-B through .01 mfd.			T1 (top and bottom) 1st I-F trans.
3	Short wire placed near loop to radiate signal	1,620 kc	Gang fully open	osc. trimmer C1-A
4		1,400 kc	1,400 kc signal	ant. trimmer C1-B
5		600 kc	600 kc signal	osc. coil T-4 (rock gang)
6		Repeat steps 3, 4, and 5		



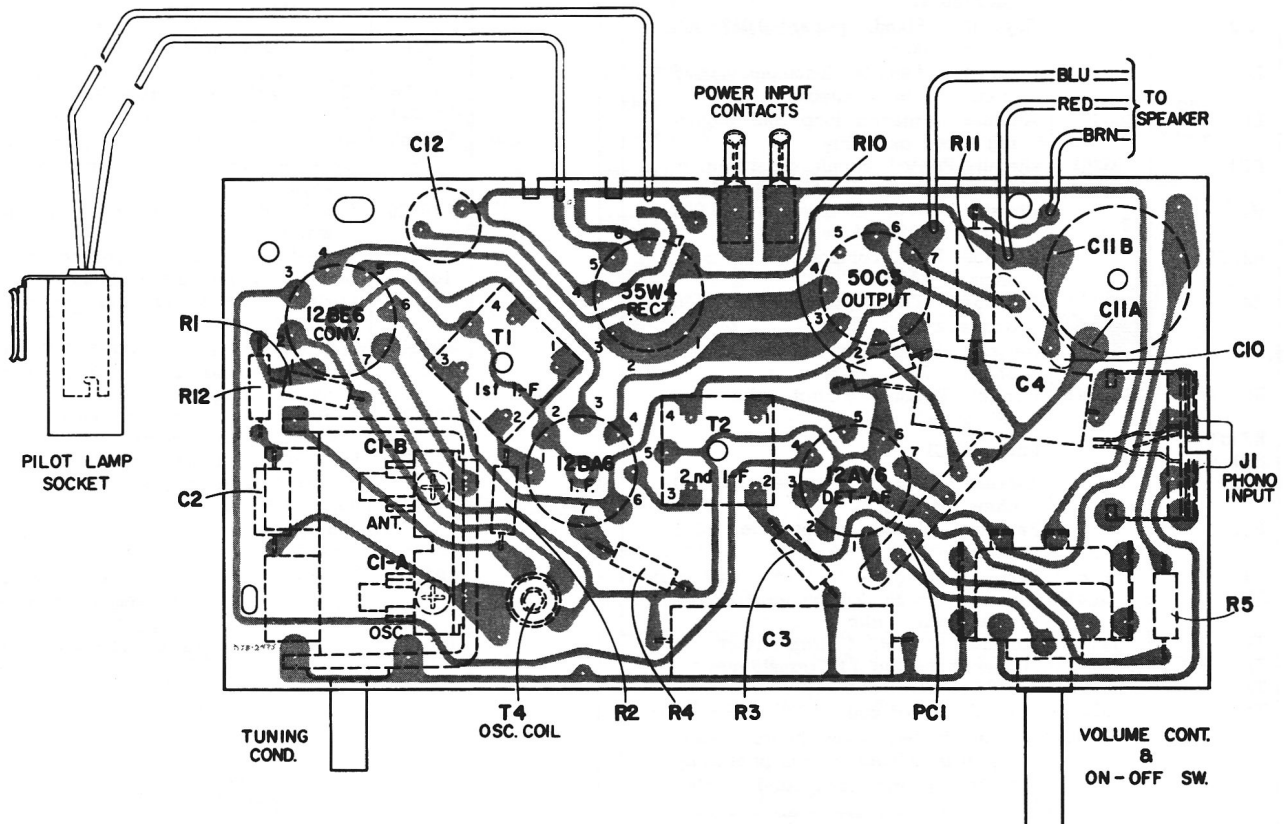
Cabinet Assembly



Tube and Trimmer Locations



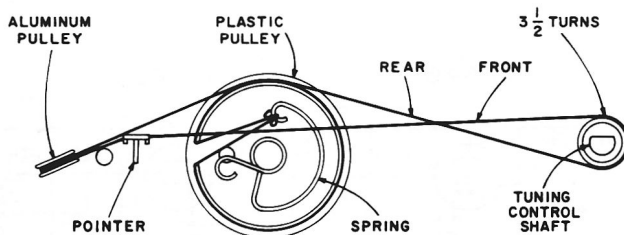
Schematic Diagram



The assembly represented above is viewed from the wiring side of the board.
The printed wiring, on the near side of the board, is presented in "phantom" view superimposed on the component layout of the reverse side.

Chassis Wiring and Components
View from Wiring Side

*Tuning Drive
Cord Assembly*



ASSEMBLY SHOWN WITH TUNING CONDENSER PLATES FULLY MESHD.

REPLACEMENT PARTS

SYMBOL NO.	STOCK NO.	DESCRIPTION	SYMBOL NO.	STOCK NO.	DESCRIPTION
		CHASSIS ASSEMBLY RC-1166A			
C1A, B	103209	Capacitor—Variable tuning capacitor		103213	Pointer—Dial pointer
C2		Capacitor—Fixed, ceramic, 56 mmf, $\pm 10\%$, 500 v.		103198	Pulley—2.69" O.D. plastic dial cord pulley
C3		Capacitor—Fixed, paper, 0.047 mf, $\pm 20\%$, 400 v.		103212	Shaft—Brass tuning control shaft
C4		Capacitor—Fixed, paper, 0.082 mf, $\pm 10\%$, 400 v.		*S-22240	Socket—Pilot lamp socket with leads
C5 to 9 } incl. }		Part of PC1		103200	Socket—Tube socket, 7 pin miniature for V4 & V5
C10	103195	Capacitor—Fixed, paper, 0.012 mf, $\pm 10\%$, 400 v.		103201	Socket—Tube socket, 7 pin miniature for V1, V2 & V3
C11A, B	103197	Capacitor—Electrolytic, 50/50 mf, 150/150 v.			SPEAKER ASSEMBLY
C12		Capacitor—Fixed, paper, 0.047 mf, $\pm 20\%$, 400 v.		100661	Transformer—Output transformer
J1	103199	Connector—Female, 2-contact closed circuit phono connector		*S-22239	Speaker—4" PM speaker complete with cone (less output transformer)
L1	103993	Antenna—Antenna loop and mounting board assembly		S-22237	Speaker Mounting Speed Nut
PC1	103205	Circuit—Printed circuit consisting of R7, R8, R9, C5, C6, C7, C8, & C9			MISCELLANEOUS
R1		Resistor—Fixed, composition, 33,000 ohms, $\pm 20\%$, $\frac{1}{2}$ w		Z3663	Base—Case stand with feet, less support & fastener
R2, R3		Resistor—Fixed, composition, 3.3 meg-ohms, $\pm 20\%$, $\frac{1}{2}$ w		103586	Cable—AC power cable with plug
R4		Resistor—Fixed, composition, 100 ohms, $\pm 20\%$, $\frac{1}{2}$ w		*Y3903	Case—Plastic case back, Pink,
R5		Resistor—Fixed, composition, 47,000 ohms, $\pm 20\%$, $\frac{1}{2}$ w		*Y3905	Case—Plastic case back, Gray, for
R6	*S-22241	Control—Volume control with "on-off" switch (S1)		*Y3904	Case—Plastic case back, Maple sugar,
R7 to 9 } incl. }		Part of PC1		*Y3906	Case—Plastic case front, antique white,
R10		Resistor—Fixed, composition, 150 ohms, $\pm 10\%$, $\frac{1}{2}$ w		103227	Dial—Plastic dial with calibrations
R11		Resistor—Fixed, composition, 1200 ohms, $\pm 10\%$, 1 w		100162	Emblem—Trademark emblem
R12		Same as R4		74839	Fastener—Push fastener for base #Z3663
S1	*S-22241	Switch—"On-Off" switch (part of volume control—R6)		105040	Foot—Rubber foot for base #Z3663
T1	103206	Transformer—1st I.F. transformer		103228	Knob—Tuning control knob with spring, antique white
T2	S-21914	Transformer—2nd I.F. transformer		103229	Knob—Volume control knob with spring, antique white
T3	100661	See "Speaker Assembly"		103908	Nut—Special brass tee nut for case front & back mounting screw
T4	103204	Coil—Oscillator coil		*S-21888	Plate—R.H. & L.H. aluminum satin finish cover plate, adhesive backed for case front
	*S-22238	Circuit—Printed circuit board assembly, less volume control, pilot lamp socket, phono jack and tuning capacitor		103219	Screw—#8-32 x 3.94" lg., special screw, case front and case back mounting
	103236	Connector—Single contact, female connector for power cable (2 required)		103233	Support—Metal support for base #Z3663
	S-4313	Cord—Dial drive cord (approx. 34 inches req'd.)			
	103211	Lamp—Miniature bayonet type #1847			
	103216	Plate—Dial back plate			

APPLY TO YOUR RCA DISTRIBUTOR FOR PRICES OF REPLACEMENT PARTS