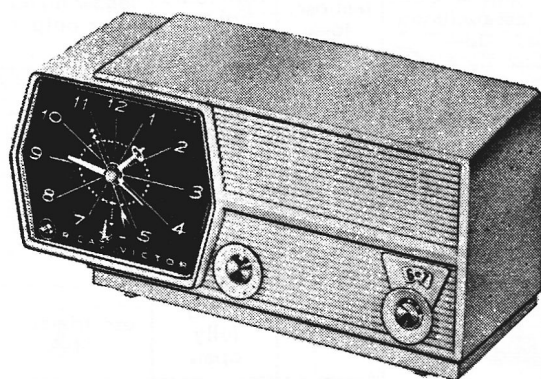




# RCA VICTOR



Model C-220

A-C Operated Clock-Radio

MODEL C-220, C-220B

## SERVICE DATA

— 1957 No. 5 —

ISSUED BY

GENERAL SERVICE DEPARTMENT  
RCA VICTOR COMPANY, LTD.  
MONTREAL, CANADA

### GENERAL DESCRIPTION

The Model C-220 is a five-tube (including rectifier) table model clock-radio designed for operation on a 115 volt 60 cycle power supply. The cabinet is a one-piece polystyrene molding with a speaker grille located at the center. A conventional superheterodyne circuit is employed using 150-milliamper series-string miniature tubes.

The chassis is of the "printed wiring" type in which all components, except loop antenna and speaker, are mounted on an insulation plate. All wiring, except for short jumpers, is "printed" on the underside of the insulation plate.

The clock operates continuously when connected to a source of 105 to 125 volts, 60 cycle

electric power. A moving sweep-second hand indicates that the clock is in operation.

A feature of this model is a calibrated volume control knob which will permit accurate presetting of volume level when the instrument is used to provide "wake-up" music.

The power supply attachment cord is fastened to the cabinet back cover and becomes disconnected from the chassis when the back cover is removed. The chassis fits into two grooves molded into the cabinet and is held in position by two screws

### ELECTRICAL and MECHANICAL SPECIFICATIONS

TUNING RANGE .....540-1,600 kc

INTERMEDIATE FREQUENCY .....455 kc

#### TUBE COMPLEMENT

- (1) RCA 12BE6 .....Converter
- (2) RCA 12BA6 .....I.F. Amplifier
- (3) RCA 12AV6 .....Det.-AVC-A.F. Amp.
- (4) RCA 50C5 .....Output
- (5) RCA 35W4 .....Rectifier

#### POWER SUPPLY RATING:

115 volts, 60 cycles a.c. ....35 watts  
Caution: Do not connect to a d.c. power supply.

#### LOUDSPEAKER,

Size and type .....4 in P.M.  
Voice coil impedance .....3.2 ohms at 400 cycles

#### POWER OUTPUT:

Undistorted .....1.0 watts  
Maximum .....1.3 watts

TUNING DRIVE RATIO .....1:1 (direct drive)

WEIGHT .....4¼ lbs. net

#### CABINET DIMENSIONS:

Height .....5½"  
Width .....13"  
Depth .....5¼"

## OPERATING INSTRUCTIONS

**To Set Clock Time**—Pull out and turn TIME SET knob (at back of cabinet).

**To Set Wake up Time**—Push in and turn TIME SET knob (at back of cabinet).

**To Play the Radio**—Turn SERVICE lever to "ON". Turn TUNING knob to select desired station and adjust VOLUME as desired. Turn SERVICE lever to "OFF" when through listening.

**For "Radio Wake-up" Operation**—With SERVICE lever turned to "ON", tune in the desired station and adjust volume level. Turn SERVICE lever to "AUTO". The radio will turn on automatically at the time for which the time has been set.

**IMPORTANT—KEEP SERVICE LEVER AT "OFF" POSITION WHEN INSTRUMENT IS NOT IN USE.**

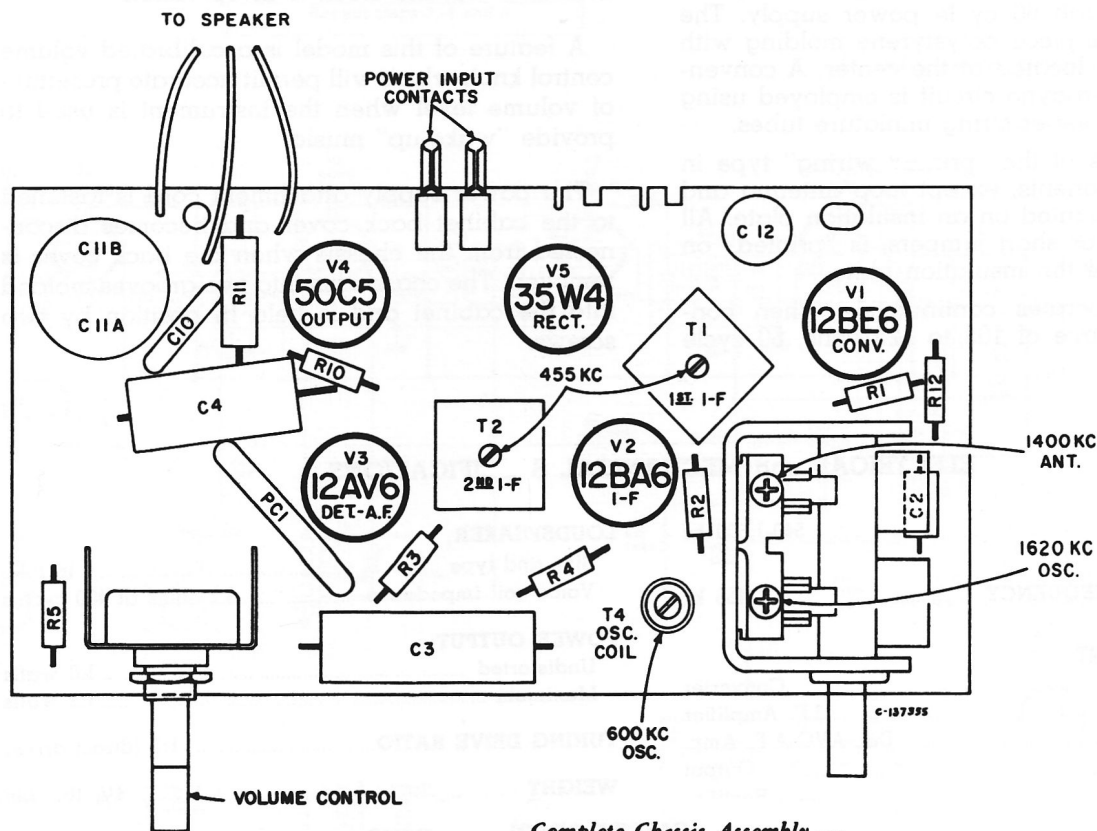
### Alignment Procedure

**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.

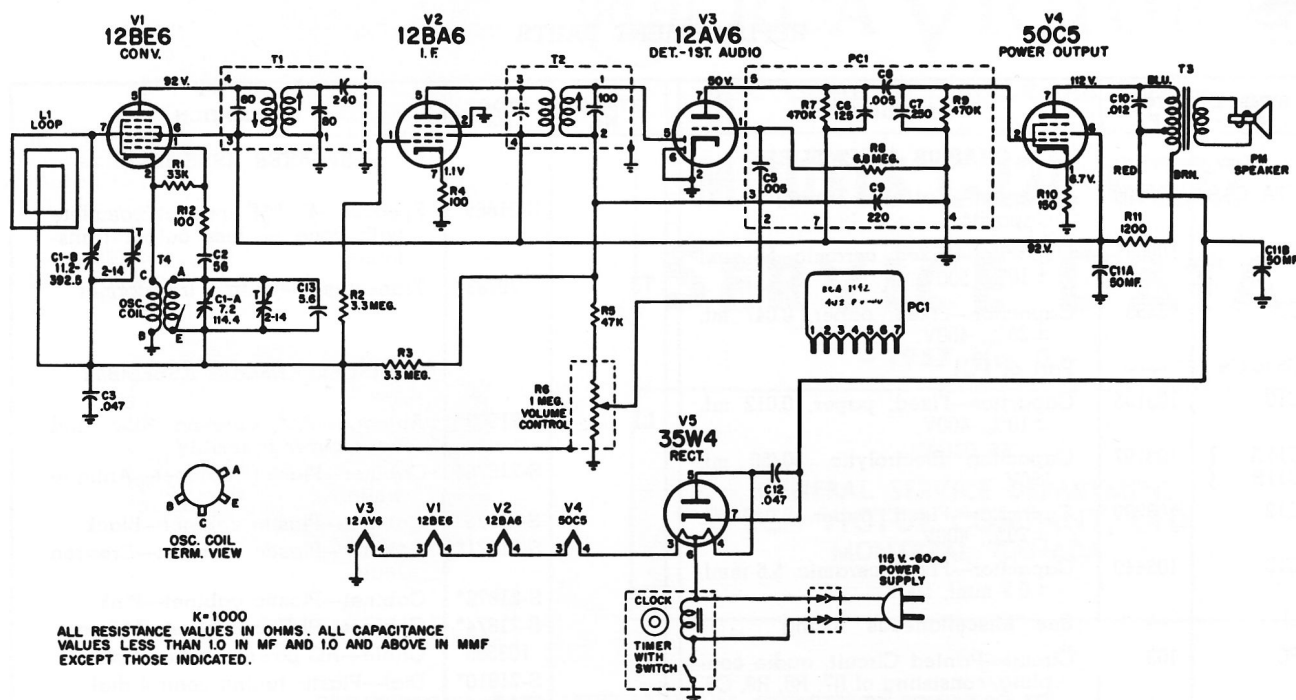
An isolation transformer (115v./115v.), may be necessary for the receiver if the test-oscillator is also a.c. operated.

**IMPORTANT—KEEP SERVICE LEVER AT "OFF" POSITION WHEN INSTRUMENT IS NOT IN USE.**

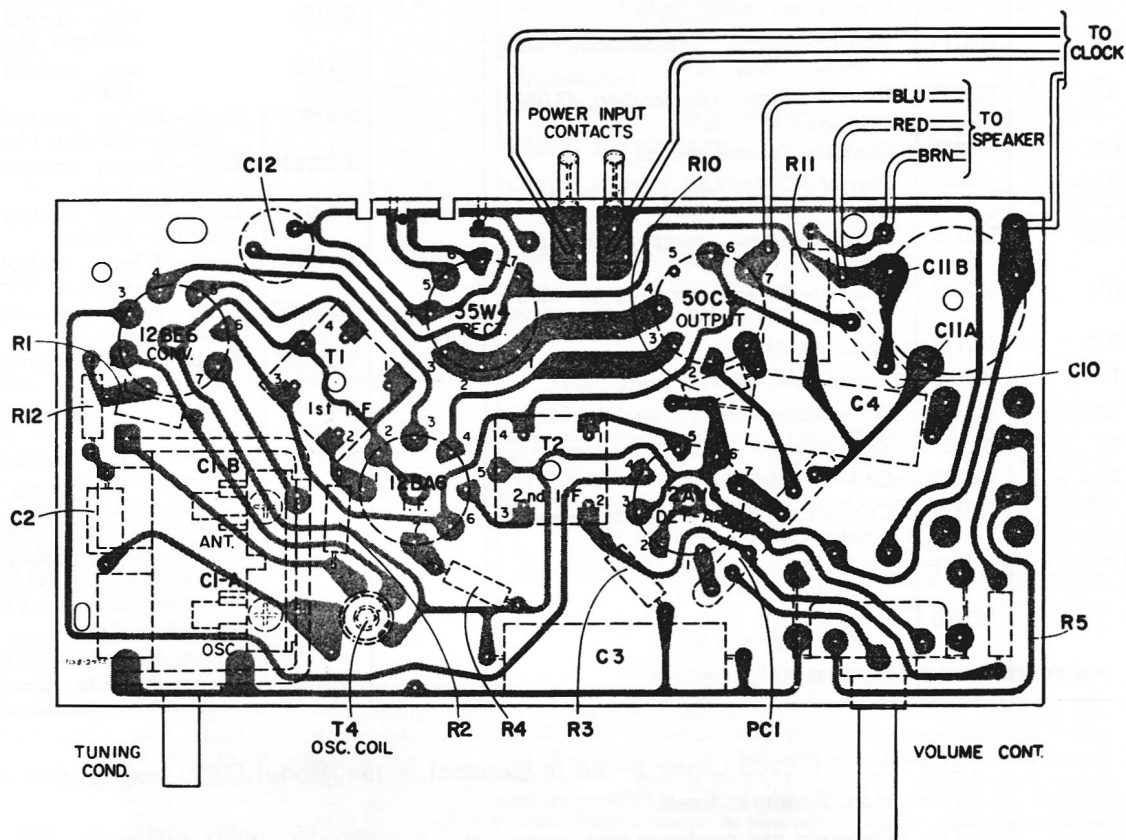
Step	Connect the high side of test-oscillator to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. output
1	12BA6 I-F grid through .01 mfd. capacitor	455 kc	Quiet-point 1,600 kc end of dial	T2 (top) 2nd I-F trans.
2	Stator of C1-B through .01 mfd.			T1 (Top and bottom) 1st I-F trans.
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		



Complete Chassis Assembly —  
View from Component Side



Schematic Diagram



Chassis Wiring and Components — View from Wiring Side

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.

# REPLACEMENT PARTS

SYMBOL No.	STOCK No.	DESCRIPTION	SYMBOL No.	STOCK No.	DESCRIPTION
CHASSIS ASSEMBLIES			SPEAKER ASSEMBLY		
C1A, C1B	103209	Capacitor—Variable Tuning Capacitor	T3	S-21869*	Speaker—4" PM speaker complete with cone — less output transformer.
C2	100085	Capacitor—Fixed, ceramic, 56 mmf $\pm 10\%$ , 500V.		79283	Transformer—Output transformer
C3	73553	Capacitor—Fixed, paper, 0.047 mf, $\pm 20\%$ , 400V.			
C5 to C9	—	Part of PC1	L1	MISCELLANEOUS ASSEMBLY	
C10	103195	Capacitor—Fixed, paper, 0.012 mf, $\pm 10\%$ , 400V.		S-21908*	Antenna—AM antenna loop and back cover assembly.
C11A } C11B }	103197	Capacitor, Electrolytic, 50/50 mf, 150V.		S-21870*	Cabinet—Plastic cabinet—Antique white.
C12	103239	Capacitor—Fixed, paper, 0.047 mf, $\pm 20\%$ , 400V.		S-21873*	Cabinet—Plastic cabinet—Black.
C13	103440	Capacitor—Fixed, ceramic, 5.6 mmf, $\pm 0.5$ mmf, 500V.		S-21871*	Cabinet—Plastic cabinet—Dresden blue.
L1	—	See "Miscellaneous" listing		S-21872*	Cabinet—Plastic cabinet—Pink.
PC1	103205	Circuit—Printed Circuit, audio coupling, consisting of R7, R8, R9, C6, C7, C8 and C9, C5		S-21874*	Cabinet—Plastic cabinet—Maroon.
R1	502333	Resistor—Fixed, composition, 33,000 ohms $\pm 20\%$ , $\frac{1}{2}$ W		103586	Cable—AC power cord and plug.
R2, R3	502533	Resistor—Fixed, composition, 3.3 megohms $\pm 20\%$ , $\frac{1}{2}$ W		S-21910*	Dial—Plastic tuning control dial.
R4	502110	Resistor—Fixed, composition, 100 ohms, $\pm 20\%$ , $\frac{1}{2}$ W		103589	Knob—Clock time set control knob, and shaft ass'y
R5	502347	Resistor—Fixed, composition, 47,000 ohms, $\pm 20\%$ , $\frac{1}{2}$ W		103221	Knob "Service" timer control lever knob.
R6	103214	Control—Volume control		S-21898*	Knob—Tuning control knob with spring—Antique White.
R7 to } R9 incl. }	—	Part of PC1		S-21904*	Knob—Tuning control knob with spring—Black.
R10	502115	Resistor—Fixed, composition, 150 ohms, $\pm 10\%$ , $\frac{1}{2}$ W		S-21901*	Knob—Tuning control knob with spring—Dresden blue.
R11	512212	Resistor—Fixed, composition, 1200 ohms, $\pm 10\%$ , 1W		S-21903*	Knob—Tuning control knob with spring—Pink.
R12	502110	Same as R4		S-21916*	Knob—Tuning control knob with spring—Maroon.
T1	103206	Transformer—1st I.F. transformer		S-21897*	Knob—Volume control knob with spring—Antique White.
T2	103207	Transformer—2nd I.F. transformer		S-21905*	Knob—Volume control knob with spring—Black.
T3	79283	Transformer—Output transformer		S-21900*	Knob—Volume control knob with spring—Dresden blue.
T4	103204	Coil—Oscillator coil		S-21902*	Knob—Volume control knob with spring—Pink.
	103236	Connector—Single contact female connector for line cord		S-21917*	Knob—Volume control knob with spring—Maroon.
	103201	Socket—Tube socket, 7 pin miniature for V1, V2 and V3.		101370	Retainer—Clock timer window retainer (2 req'd).
	103200	Socket—Tube socket, 7 pin miniature for V4 and V5		101069	Spring—Retaining spring for volume and tuning control knobs.
*INDICATES NEW STOCK ITEMS.				S-21909*	Window—Radio clock timer window.
				S-21881*	Instruction Book.
				S-21899*	Timer—60 cycle—White face.
			S-21907*	Timer—60 cycle—Black face.	

The Model C-220B Clock Radio is identical to the Model C-220, except that a Telechron Timer is used.

The following are replacement parts not common to the Model C-220.

\*S-22867—Cover, Back

\*S-22866—Crystal, Clock

\*S-22865—Knob, Timer

\*Indicates new stock

\*S-22863—Timer, 60 cycle (white, blue, black and maroon sets)

\*S-22864—Timer, 60 cycle (pink sets)