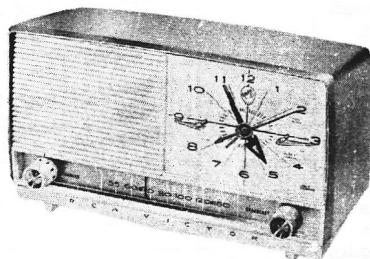


C-222



C-221



RCA VICTOR



A-C Operated Clock Radio Receiver

MODELS C-221, C-222

SERVICE DATA

- 1957 No. 3 -

ISSUED BY

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

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

LOUD SPEAKER:

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 9½:1 (4¾ turns of knob)

POWER SUPPLY RATING:

115 volts, 60 cycles a. c. 35 watts

CAUTION:—DO NOT OPERATE ON D.C.

OPERATING INSTRUCTIONS

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

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

RADIO OPERATION

To Play the Radio—With phono input cable removed from PHONO INPUT socket, 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.

Always remove phono input cable from PHONO INPUT socket when radio operation is desired.

To Set Radio for "SLEEP" Operation—Turn SLEEP lever for desired playing time (up to 60 minutes). Turn TUNING knob to select desired station and adjust VOLUME as desired. "SLEEP" operation can be used individually, in conjunction with "Radio Wake-up" operation or with "Radio Alarm" operation.

For "Radio Wake-up" or "Radio Alarm" Operation—With SERVICE lever turned to "ON," tune in the desired station and adjust volume level. Turn SERVICE lever to "WAKE-UP RADIO" for "wake-up" operation only or to "RADIO ALARM" for "Wake-Up" operation in conjunction with alarm buzzer. The alarm buzzer will start a few minutes after radio starts to play. To turn alarm buzzer off, turn SERVICE lever to any position other than "RADIO-ALARM."

APPLIANCE OPERATION

To Turn Appliance on Automatically—Turn TIME-SET knob to desired starting time. Turn SERVICE lever to "WAKE-UP RADIO" or "RADIO-ALARM." Plug appliance into APPLIANCE outlet. With this setting, the appliance will operate continuously after starting time unless disconnected or SERVICE lever is turned to "OFF."

To Time Appliance Operation—With SERVICE lever turned to "OFF," plug appliance to be timed into APPLIANCE outlet. Turn SLEEP lever for desired operating time (up to 60 minutes).

PHONOGRAPH OPERATION

To Play Records—With phono input cable inserted into PHONO INPUT socket and SERVICE turned to "ON," turn VOLUME knob clockwise about one-half turn and adjust later as desired. Connect phonograph attachment power cord into APPLIANCE outlet and output cord to PHONO socket. Play records according to phonograph attachment instructions.

To Wake-Up to Record Music—Turn TIME-SET knob to desired starting time. Before retiring, operate record player as described above to adjust volume level. Select and load records desired and start record player into automatic operation. Turn SERVICE lever to "WAKE-UP RADIO" or "RADIO-ALARM" just as needle lands on first record.

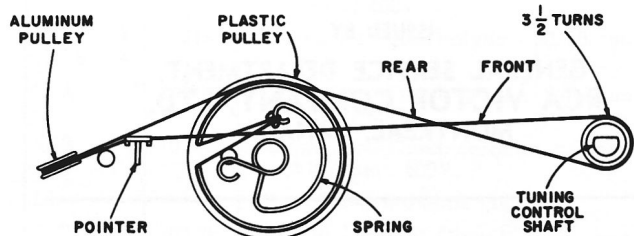
IMPORTANT — Keep SERVICE lever at "OFF" position when instrument is not in use.

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

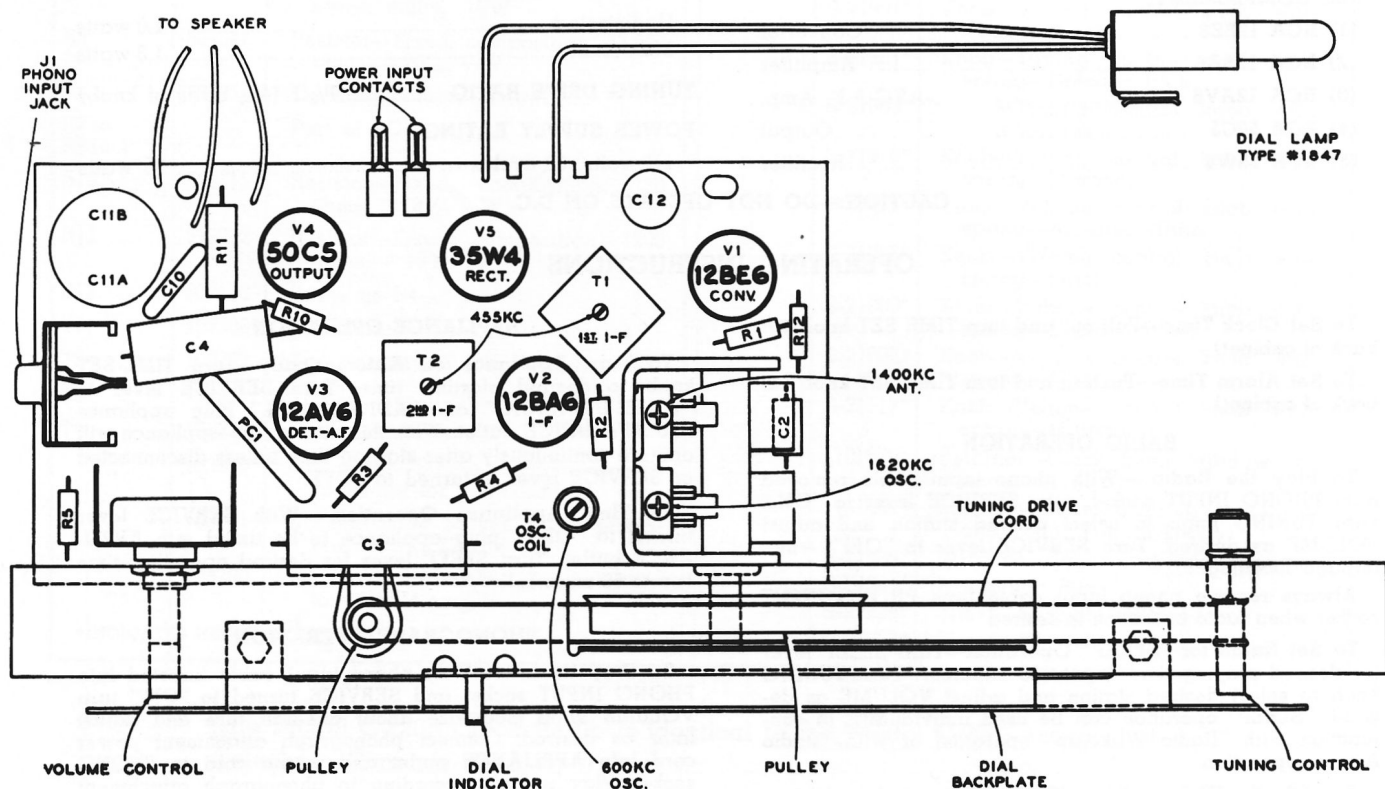
Dial Indicator—With tuning condenser plates fully meshed, set left hand edge of dial indicator to the calibration mark on the dial backplate.



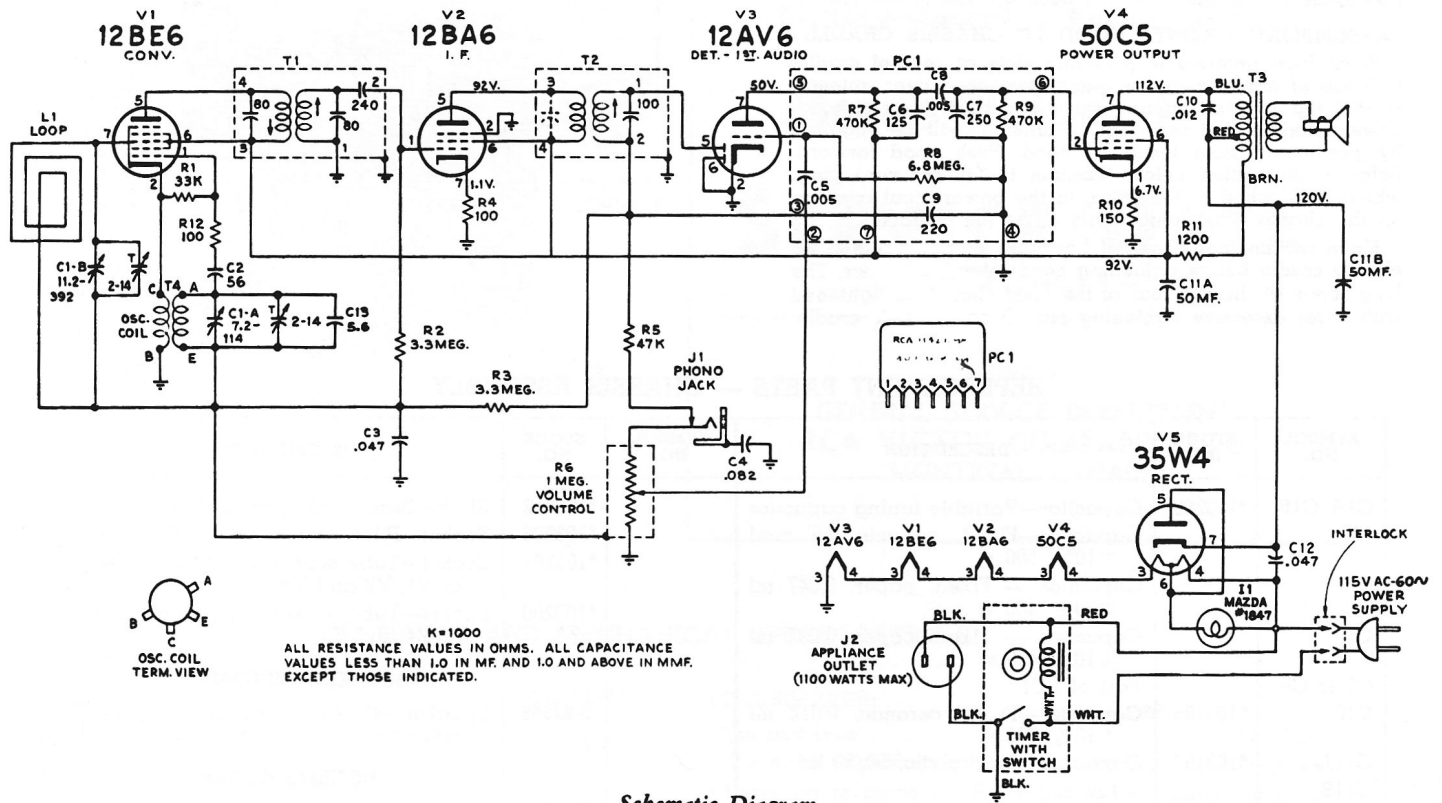
ASSEMBLY SHOWN WITH TUNING CONDENSER PLATES FULLY MESHED.

Tuning Drive Cord Assembly

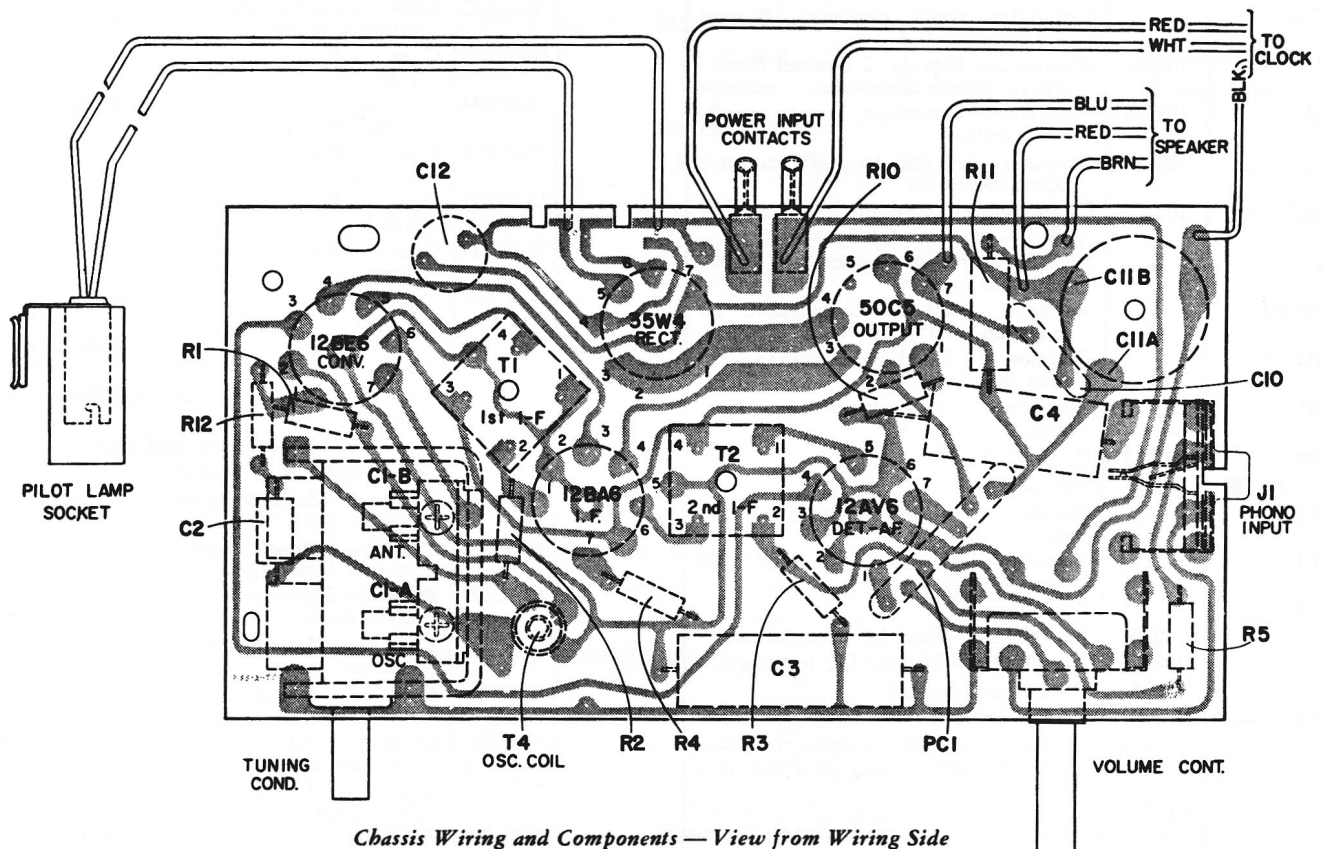
Step	Connect the high side of test-oscillator to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. output
1	12BA6 I-F grid through .01 mfd. capacitor	455 kc	Quiet-point 1,600 kc end of dial	T2 (top) 2nd I-F trans.
2	Stator of C1-B through .01 mfd.			T1 (top and bottom) 1st I-F trans.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

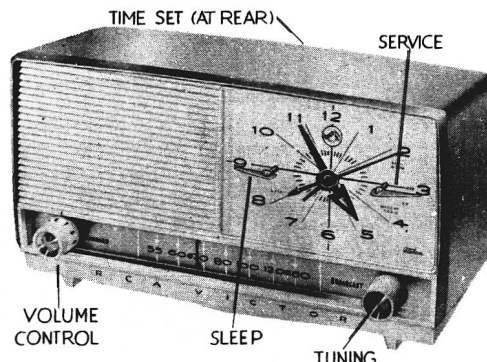
REMOVAL OF CABINET HOOD

Remove two screws at bottom rear of hood and one screw (long) at top rear of hood. The time-set knob is not removable. 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.



REPLACEMENT PARTS — CHASSIS ASSEMBLY

SYMBOL NO.	STOCK NO.	DESCRIPTION	SYMBOL NO.	STOCK NO.	DESCRIPTION
C1A, C1B	*103209	Capacitor—Variable tuning capacitor		*103212	Shaft—Brass tuning control shaft
C2		Capacitor—Fixed, ceramic, 56 mmf $\pm 10\%$, 500 v.		*103203	Socket—Pilot lamp socket with leads
C3		Capacitor — Fixed, paper, 0.047 mf $\pm 20\%$, 400 v.		*103201	Socket—Tube socket, 7 pin miniature for V1, V2 and V3
C4		Capacitor — Fixed, paper, 0.082 mf $\pm 10\%$, 400 v.		*103200	Socket—Tube socket, 7 pin miniature for V4 and V5
C5 to C9		Part of PC1			SPEAKER ASSEMBLY
C10	*103195	Capacitor—Fixed, ceramic, 0.012 mf $\pm 10\%$, 600 v.	S-21865		Speaker—4" PM speaker complete with cone
C11A	*103197	Capacitor—Electrolytic, 50/50 mf. 150 v.			MISCELLANEOUS
C11B			Z3663		Base — Case base assembly with vinyl feet—less metal support
C12		Capacitor — Fixed, paper, 0.047 mf $\pm 20\%$, 400 v.	*S-21832		Case — Plastic case back (hood)—antique white
C13		Capacitor—Fixed, ceramic, 5.6 mmf ± 0.5 mmf, 500 v.	*S-21833		Case — Plastic case back (hood)—pink
J1	*103199	Connector—Female, 2 contact closed circuit phono connector.	*S-21834		Case — Plastic case back (hood)—turquoise
J2	103376	Connector—2 contact female appliance outlet	*S-21835		Case — Plastic case front (cradle)—antique white
L1	103223	Antenna—Antenna loop & mounting board assembly	*S-21836		Case — Plastic case back (hood)—black
PC1	103205	Circuit—Printed circuit consisting of R7, R8, R9, C5, C7, C8 & C9	*S-21838		Case — Plastic case back (hood)—dark gray
R1		Resistor — Fixed, composition, 33,000 ohm $\pm 20\%$, $\frac{1}{2}$ w.	*S-21837		Case — Plastic case back (hood)—maple
R2, R3		Resistor — Fixed, composition, 3.3 megohm $\pm 20\%$, $\frac{1}{2}$ w.	*S-21839		Case — Plastic case front (cradle)—antique white
R4		Resistor — Fixed, composition, 100 ohm $\pm 20\%$, $\frac{1}{2}$ w.	*S-21840		Case — Plastic case front (cradle)—light gray
R5		Resistor — Fixed, composition, 47,000 ohm $\pm 20\%$, $\frac{1}{2}$ w.	*103186		Cord—AC power cord and plug
R6	*103214	Control—Volume control	*103227		Dial—Plastic dial with calibrations
R7, R8, R9		Part of PC1	*103235		Fastener—Metal fastener for cabinet base
R10		Resistor — Fixed composition, 150 ohm $\pm 10\%$, $\frac{1}{2}$ w.	*103221		Knob — "On-off" and alarm timer control lever knob
R11	*512212	Resistor — Fixed, composition, 1200 ohm $\pm 10\%$, 1 w.	*103222		Knob — Sleep switch timer control lever knob
R12		Same as R4.	*103228		Knob — Tuning control knob — antique white — with spring
T1	*103206	Transformer—First I.F. transformer	*103230		Knob — Tuning control knob — light gray
T2	*103206	Transformer—Second I.F. transformer	*103229		Knob — Volume control knob — antique white — with spring
T3	*79283	Output transformer	*103231		Knob — Volume control knob — light gray
T4	*103204	Coil—Oscillator Coil	*101370		Retainer — Clock timer window retainer
	*103196	Connector—Female, 1 contact solderless connector for pilot lamp and speaker leads	*103233		Support — Metal support for case base assembly
	*103236	Contact—Single, contact, female for power cord	*103226		Window—Plastic dial window
	S-4313	Cord—Dial drive cord (approx. 34 inches req'd)	*S-21841		Timer—60 cycle—white face
	*103211	Lamp — Miniature bayonet type #1847	*S-21842		Timer—60 cycle—black face
	*103216	Plate—Dial back plate			
	*103213	Pointer—Dial pointer			

*INDICATES NEW STOCK ITEMS.