RCA VICTOR

C-501

A-C OPERATED CLOCK RADIO RECEIVER

Model C501
SERVICE DATA

— 1952 No. 12 —

HEAD OFFICE SERVICE DEPARTMENT
RCA VICTOR COMPANY, LTD
MONTREAL, QUE.

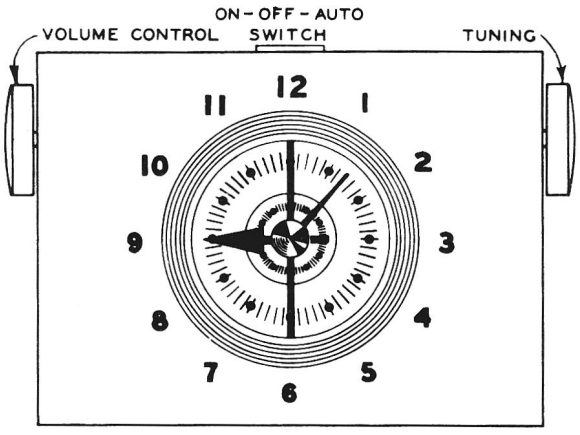
ELECTRICAL AND MECHANICAL SPECIFICATIONS

Tuning Range ..... 540-1600 kc
Intermediate Frequency ..... 455 kc
Tube Complement:
(1) RCA 12BE6 ..... Converter
(2) RCA 6BJ6 ..... I.F. Amplifier
(3) RCA 12AV6 ..... Det.-AVC-A.F. Amp.
(4) RCA 6AK6 ..... Output
RCA Stock No. S-6765 ..... Rectifier
Power Supply Rating:
115 volts a.c., 60 cycles ..... 20 watts
CAUTION: DO NOT OPERATE ON D.C.

Loudspeaker:
Size and type ..... 3 in. P.M.
Voice Coil impedance ..... 3.2 ohms at 400 cycles
Power Output:
Undistorted ..... 0.19 watts
Maximum ..... 0.35 watts
Tuning Drive Ratio ..... 1 to 1 (Direct Drive)
Weight ..... 4½ lbs.
Dimensions (overall):
Height....6" Width....8½" Depth....4½"

OPERATING INSTRUCTIONS

This instrument contains a timer-type electric clock mechanism which may be used to automatically actuate the self-contained a.c. radio. The radio may also be operated independently of the clock mechanism.



Clock Radio Controls

CLOCK—1. Plug instrument into 115 v. a.c. outlet. The clock will start to operate immediately. Set the correct time by turning clockwise, the "TIME" knob located at the center of the instrument back. To set the alarm, turn the "ALARM" knob clockwise until the desired time is indicated by the alarm pointer extension on the hour hand. Pull knob out for alarm buzzer operation. To turn off buzzer, push knob in.

RADIO—1. To obtain radio operation independently of the clock, push the slide switch lever at the top of the cabinet to the left "ON" position. Adjust volume and tuning control knobs as required after approximately 30 second warm-up. To increase volume turn knob clockwise as viewed from volume control side panel. Push slide switch lever to the center "OFF" position when finished listening.

2. To automatically actuate the radio by the clock mechanism, make initial volume and station settings as described in section 1 above. Set the "ALARM" knob to the time desired. Push slide switch lever to the right "AUTO" position. If the alarm buzzer knob is pulled out, the alarm will sound approximately ten minutes after the radio starts operating. Push alarm knob in to turn off alarm. The radio will turn itself off after a period of approximately one hour if the slide switch remains in the "AUTO" position after start of playing.

CAUTION—Keep slide switch "ON-OFF-AUTO" lever in "OFF" position when instrument is not in use. Locate instrument so that "TIME" and "ALARM" knobs have free movement.

ALIGNMENT PROCEDURE

Output Meter Alignment—If this method is used, connect the meter across the voice coil and turn the receiver volume control to maximum.

Test-Oscillator—For all alignment operations, connect the low side of the test-oscillator to the receiver chassis, and keep the oscillator output as low as possible to avoid AVC action.

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

ALIGNMENT TABULATION

Step	Connect the high side of test-oscillator to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. output
1	6BJ6 I-F grid through .01 mfd. capacitor	455 kc	Quiet-point 1600 kc end of dial	T2 (top and bottom) 2nd I-F trans.
2	Stator of C1-A through .01 mfd.			T1 (top and bottom) 1st I-F trans.
3	Short wire placed near loop to radiate signal	1620 kc	Min. cap.	osc. trimmer C1B-T
4		1400 kc	1400 kc signal	ant. trimmer C1A-T
5		600 kc	600 kc (rock)	(osc. coil) Slug L3
6		Repeat steps 3, 4, and 5		

RADIO CHASSIS AND CLOCK SERVICE

TOOL REQUIREMENTS—A small #1 size cross-head screwdriver is required for disassembly of the radio into its major cabinet and chassis components.

TUBE SERVICE—Disassembly—To make tubes accessible for testing, remove the volume and tuning control knobs by pulling off. Unscrew counterclockwise the alarm and time knobs from their shafts. Invert the cabinet and remove only the two cross-head screws along the back underside of the cabinet. Place the cabinet in its normal position. Using only firm hand pressure, press down alternately at front right and left sides of the cabinet top, midway between the "ON-OFF-AUTO" slide switch lever and the cabinet sides, forcing down and backward, to disengage the molded-in plastic catches. Then lift off the cabinet rear cover.

Assembly—To reassemble, proceed in the reverse order, sliding the cabinet rear cover into its track on the cabinet base. Lift the front corners up slightly to clear the two molded-in pads at each front corner of the cabinet base. Then press down and snap-in the upper front edge of the cabinet rear cover under the top rim of the cabinet base. Make sure the slide switch and switch lever are in corresponding center "OFF" positions. Reassemble clock and radio knobs, and the two screws securing the cabinet rear cover.

RADIO CHASSIS SERVICE—Disassembly—To service chassis, open case as described above. In addition, remove the single cross-head screw remaining at the front underside of the cabinet and also the two cross-head screws located on the chassis near the tuning gang and the volume control. Lift out the chassis and remove the four self-tapping cross-head screws holding the bottom cover to the chassis. Lift off the bottom cover.

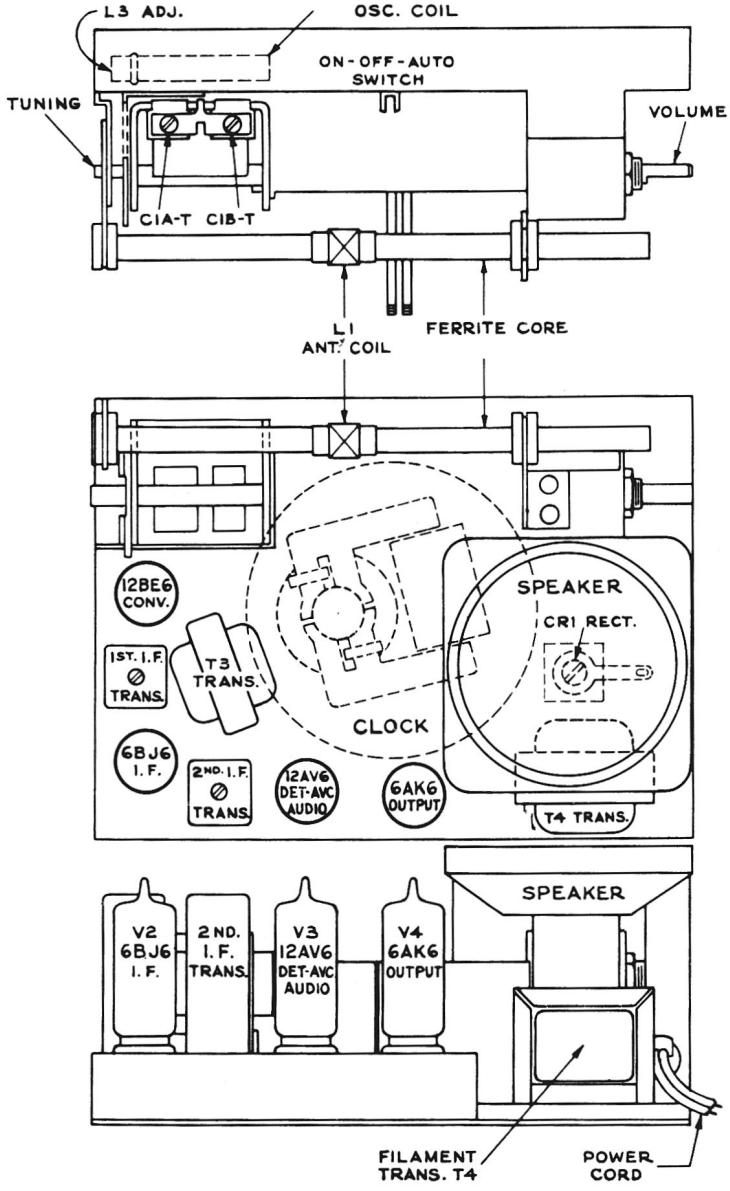
Assembly—Reassemble in the reverse order. Secure the bottom cover to the chassis with the four self-tapping screws. Next, insert the single self-tapping screw holding the chassis to the bottom of the cabinet base. Center the chassis mounting holes so that they line up with the holes in the cabinet and replace the two cross-head machine screws. Tighten just sufficiently to hold the chassis firmly. Do not turn the screws to the possible limit of travel unless this is necessary to hold the chassis firmly. The average receiver may have a $\frac{1}{32}$" clearance between the chassis metal panel and molded plastic boss. If any of the four foam rubber cushions on the bottom cover register in the clock face after assembly, push the excess length under the "Z" tabs of the bottom cover.

CLOCK SERVICE—Disassembly—To service clock, remove chassis and bottom cover as described above. In addition, remove the three screws holding the speaker to the speaker mounting bracket. Remove the two hex nuts holding the clock to the chassis pan recess. Lift the clock out. Unsolder the clock leads at the clock terminals.

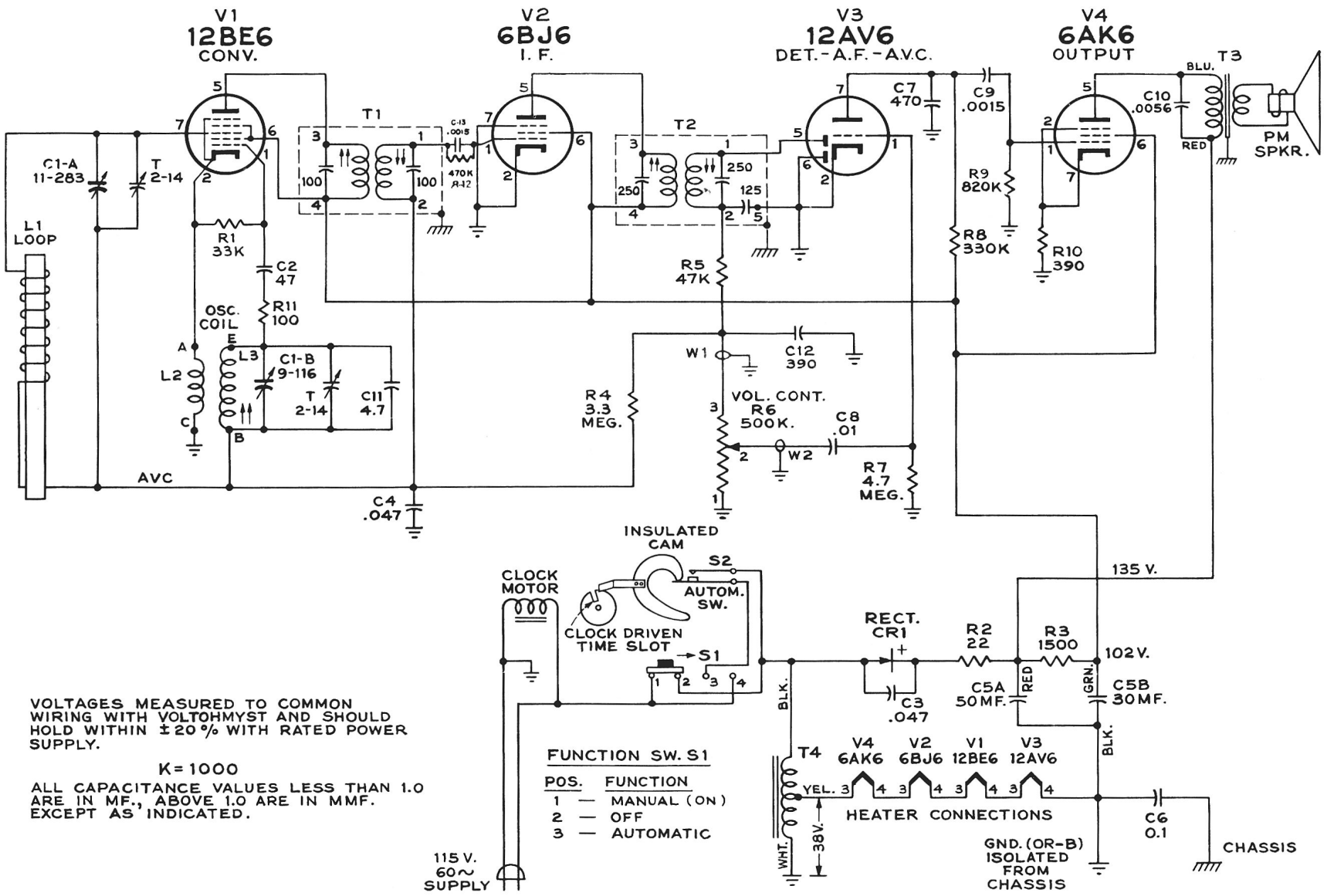
Assembly—Proceed in the reverse order. Solder clock leads, and secure clock to chassis pan with two hex head nuts. Reassemble speaker to speaker mounting bracket.

CRITICAL LEAD DRESS

1. Filament leads should be dressed away from secondary output lead, terminal #1, of 2nd I.F. Transformer and secondary output lead, terminal #1, of 1st I.F. transformer.
2. Connect the outside foil of capacitors as shown on schematic.
3. Dress electrolytic capacitor leads and filament transformer leads away from selenium rectifier.
4. Plate and grid leads of 12BE6 and 6BJ6 tubes should be kept as short and direct as possible.



Tube and Trimmer Locations



VOLTAGES MEASURED TO COMMON WIRING WITH VOLTOHMYST AND SHOULD HOLD WITHIN ±20% WITH RATED POWER SUPPLY.

K = 1000

ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN MF., ABOVE 1.0 ARE IN MMF. EXCEPT AS INDICATED.

Schematic Circuit Diagram

REPLACEMENT PARTS

STOCK NO.	DESCRIPTION
	CHASSIS ASSEMBLIES
*S-6767	Antenna-Ferrite rod antenna complete with windings L1
*S-6771	Capacitor-Variable tuning capacitor..C1A, C1B
	Capacitor-Ceramic, 4.7 mmf. C11
	Capacitor-Ceramic, 47 mmf..... C2
	Capacitor-Ceramic, 390 mmf..... C12
	Capacitor-Ceramic, 470 mmf..... C7
*S-6760	Capacitor-Electrolytic comprising 1 section of 50 mfd., 150 volts and 1 section of 30 mfd., 150 volts .....,C5A, C5B
	Capacitor-Tubular, paper, .0015 mfd., 200 volts C9
	Capacitor-Tubular, paper, .0056 mfd., 400 volts C10
	Capacitor- Tubular, paper, .01 mfd., 200 volts C8
	Capacitor-Tubular, paper, .047 mfd., 400 volts C4
	Capacitor-Tubular, moulded, .047 mfd., 400 volts C3
	Capacitor-Tubular, paper, 0.1 mfd., 400 volts C6
	Capacitor-Tubular, paper, .0015 mfd., 400 volts C13
*S-6761	Coil-Oscillator coil complete with adjustable core L2, L3
*S-6768	Control-Volume control R6
*S-6370	Cord-Power cord and plug
*S-6765	Rectifier-Selenium rectifier CR1
	Resistor-Fixed, composition:-
	22 ohms, ±10%, 1/2 watt R2
	100 ohms, ± 10%, 1/2 watt R11
	390 ohms, ± 10%, 1/2 watt R10
	1500 ohms, ± 10%, 2 watts R3
	33,000 ohms, ± 10%, 1/2 watt R1
	47,000 ohms, ± 10%, 1/2 watt R5
	330,000 ohms, ± 10%, 1/2 watt R8
	820,000 ohms, ± 10%, 1/2 watt R9
	3.3 megohm, ± 10%, 1/2 watt R4
	4.7 megohm, ± 10%, 1/2 watt R7
	470,000 ohms, ± 10%, ... R12
*S-6783	Switch-Function switch S1
*S-6762	Transformer-Filament transformer 117 volts A.C. input T4
*S-6763	Transformer-Output transformer T3
*S-6769	Transformer-1st. I.F. transformer complete with adjustable cores T1
*S-6770	Transformer-2nd. I.F. transformer complete with adjustable cores T2
	SPEAKER ASSEMBLIES
*S-6776	Speaker-3" P.M. speaker complete with cone and voice coil (3.2 ohms)
	MISCELLANEOUS
*S-6812	Back-Polystyrene cabinet back-ivory
*S-6813	Back-Polystyrene cabinet back-red
*S-6811	Back-Polystyrene cabinet back - gray
*S-6766	Button-Slide button for function switch less clip
*S-6809	Case-Polystyrene case front-ivory-complete with window less back
*S-6810	Case-Polystyrene case front-red-complete with window less back
*S-6808	Case-Polystyrene case front-black-complete with window less back
77434	Clip-Spring clip for function swith slide button
*S-6779	Dial-Dial knob-ivory
*S-6781	Dial-Dial knob-red
*S-6777	Dial-Dial knob-gray
*S-6780	Knob-Volume control knob-ivory
*S-6782	Knob-Volume control knob-red
*S-6778	Knob-Volume control knob-gray
*S-6772	Knob-Timer knob
*S-6773	Clock Mechanism - Grey
*S-6774	" " - Ivory
*S-6775	Clock Mechanism - Red
	CLOCK ASSEMBLY
	For clock parts please refer to C83G1, 2 & 3 Service Notes

*Indicates New Stock Items

Only items listed under stock numbers are available as Replacement Parts.
All parts subject to change or withdrawal without notice.