

# RCA VICTOR



## BATTERY PERSONAL RECEIVER MODEL BP-401 SERVICE DATA

1949 No. 3

GENERAL SERVICE DIVISION  
RCA VICTOR COMPANY LIMITED  
MONTREAL, QUE.

### Electrical and Mechanical Specifications

Tuning Range ..... 540-1600 kc  
Intermediate Frequency ..... 455 kc

#### Tube Complement

1. RCA 1R5 ..... Converter
2. RCA 1U4 ..... I.F. Amplifier
3. RCA 1U5 ..... 2nd Det.-A.F. Amp.-A.V.C.
4. RCA 3S4 ..... Output

#### Loudspeaker

Size and type ..... 2" x 3" P.M.  
Voice coil impedance ..... 11½ ohms at 1000 cycles

#### Batteries Required:

Type of Battery	Current Consumption	Approx. Life (Intermittent Service)
"A"—1.5 volts	0.25 amp. 8.5 ma.	7 to 10 hrs. 40 to 60 hrs.
Eveready 950		
"B"—67.5 volts		
Eveready 467		

#### Power Output:

Undistorted ..... 0.05 watt  
Maximum ..... 0.10 watt  
Dimensions (overall) ..... 6¼" x 4¾" x 3¾"  
Weight (with batteries) ..... 3½ lbs.

## REPLACEMENT PARTS FOR MODEL BP-401

Insist on genuine factory tested parts, which are readily identified and may be purchased from authorized dealers.

Stock No.	Description	List Price	Stock No.	Description	List Price
<b>CHASSIS ASSEMBLY</b>			<b>MISCELLANEOUS ASSEMBLIES</b>		
70445	Board - terminal board (1 contact)		73967	Bottom - case bottom (red)	
70444	" - " " (5 contact)		73966	" - " " (brown)	
73153	Capacitor - ceramic 4 MMF. (C8)		73937	Baffle - speaker baffle & grille cloth	
73962	" - " 33 " (C11)		70457	Catch - spring catch assembly	
73901	" - " 51 " (C2)		74016	Center - case center complete	
73963	" - " 75 " (C14)		70425	Clip - spring clip for tuning knob	
39634	" - " 180 " (C16)		70452	Connector - loop connectors & eyelets (1 set)	
74093	" - " 1500 " (C20)		73958	Fastener - push fastener to hold loop (Brown)	
73960	" - " .01 Mfd. (C5)		73959	Fastener - push fastener to hold loop (Red)(Pkg. 2)	
72315	" - " .002 Mfd. (C15)		73950	Hinge - lid hinge L.H. (less mtg. studs)	
73961	" - " .003 " (C9)		73951	Hinge - lid hinge R.H. (less mtg. studs.)	
70606	" - " .005 " (C18)		73969	Handle - carrying handle (Red)	
71928	" - " .02 " (C17)		74022	Handle - " " (Brown)	
70615	" - " .05 " (C10)		72229	Holder - "A" battery holder assy.	
73964	" - Electrolytic (10 Mfd.) (C19)		73936	Knob - tuning knob	
73947	Condenser - Variable (C1-C3-C4)		73946	" - volume control knob	
70443	Coil - Oscillator coil (L1-L2)		73970	Link - Handle link (Pkg. 2)	
73955	Loop - Antenna loop complete with connectors (Less lid)(brown)		70708	Lead - "B" battery lead complete	
73956	Loop - Antenna loop complete with connectors (less lid)(red)		73925	Lid - case top lid complete with lid support & hinges (less loop)(brown)	
14076	Resistor 820 ohms ¼ watt (R11)		73926	Lid - case top lid complete with lid support & hinges (less loop)(red)	
36714	" 15,000 " " (R2)		73949	Nameplate - "RCA" for lid	
14138	" 68,000 " " (R5)		73938	Panel - chrome & mahogany panel	
3252	" 100,000 " " (R1)		73944	Screw - #2-56 x 3/16" to hold lid hinges to face panel (Pkg. 2)	
30652	" 1 Megohm " " (R9)		73943	Screw - #4-40 x 3/16" to fasten face panel to chassis (Pkg. 3)	
12928	" 3.3 " " (R4-R10)		70446	Screw - #6 x ¼ self tapping, to mount battery holder (Pkg. 3)	
30931	" 4.7 " " (R3-R7)		73942	Stud - Lid support stud (face panel end)(Pkg. 2)	
30992	" 10 " " (R8)		73952	Stud - L.H. lid hinge mounting stud (Pkg. 10)	
70436	Socket - tube socket (shielded)		73953	Stud - R.H. lid hinge mounting stud (Pkg. 10)	
73945	Switch - power switch (S1)		70451	Support - lid support complete	
70442	Transformer - 1st I.F. (T1-C6-C7)				
70437	" - 2nd I.F. (T2-C12-C13)				
73948	Volume control (R6)				
<b>SPEAKER ASSEMBLY (2 x 3)</b>					
S-5016	Speaker				
S-3562	Output transformer (T3)				

All parts subject to change or withdrawal without notice.

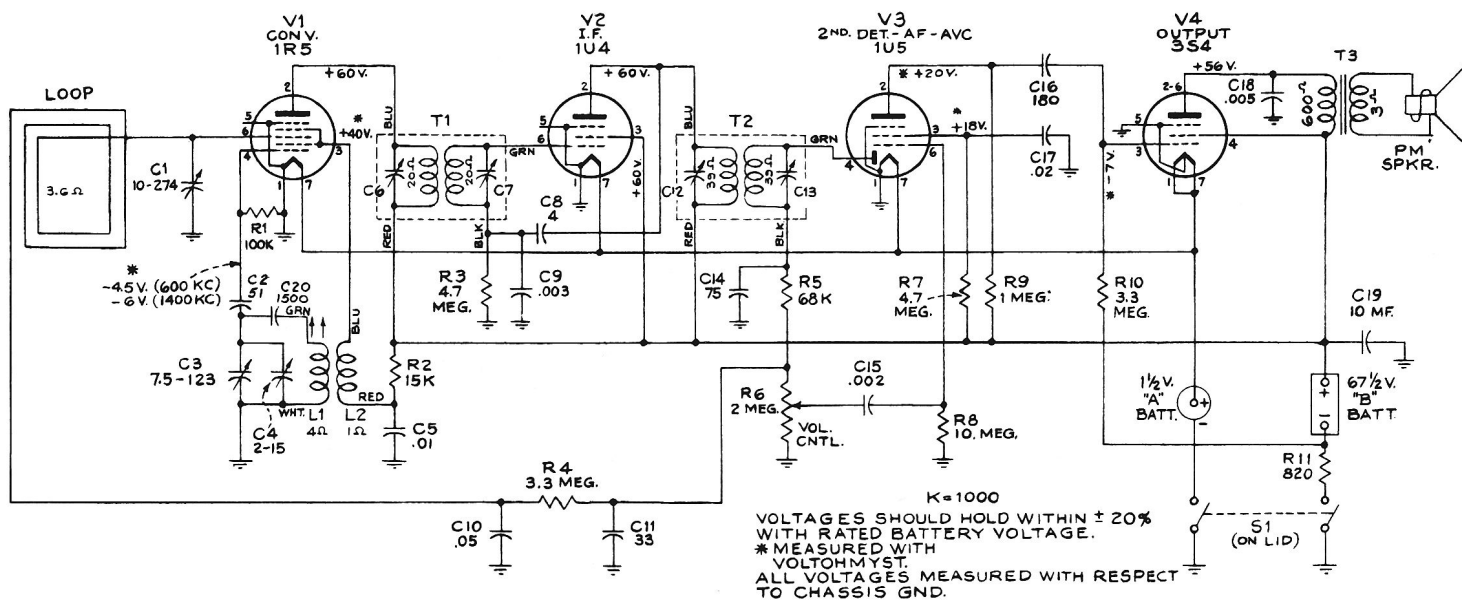


Fig. 1—Schematic Diagram

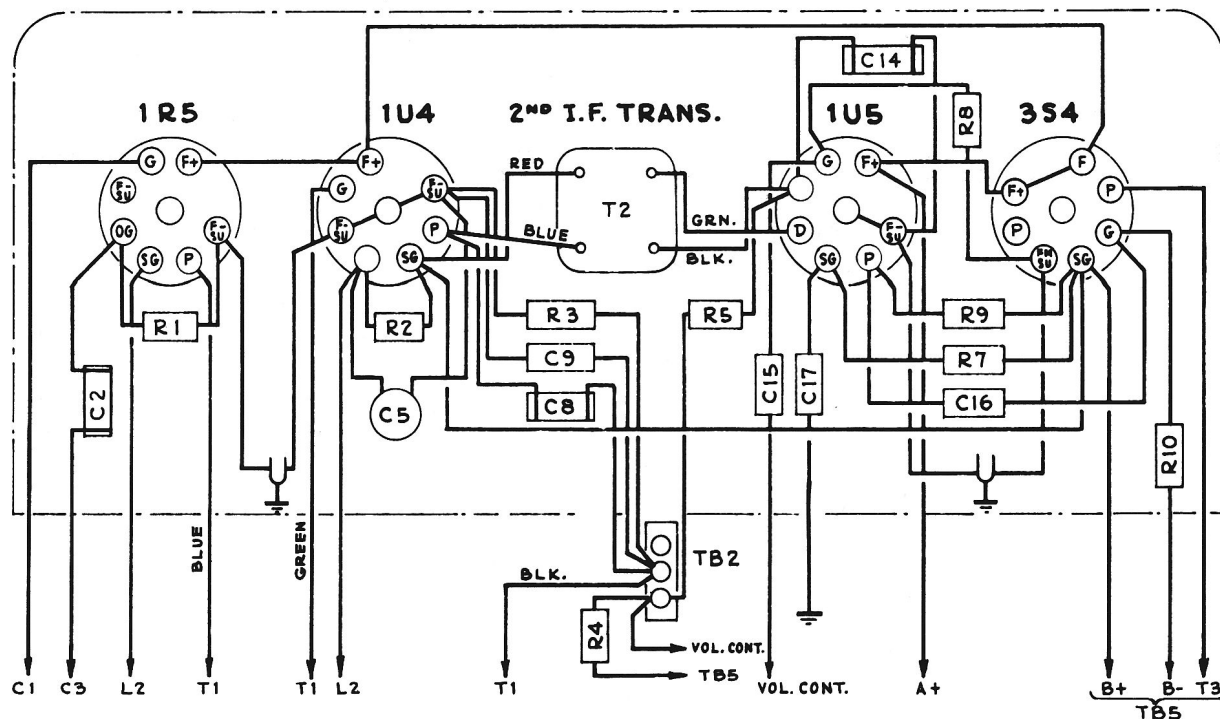


Fig. 2—Tube Shelf Wiring Diagram



## Replacement of Component Parts

- I. To remove bottom cover:
  - a. Depress locking spring clip through hole in top of case.
  - b. With spring clip depressed, pull cover carefully out and up off the retaining lugs in the bottom of the case center strip.
- II. To replace batteries:
  - a. Remove bottom cover.
  - b. Remove, either or both, the "A" and "B" battery as may be necessary. The "B" battery snap fasteners can best be removed by inserting a screwdriver under the snap fastener strip and prying upward.
- III. To remove the case center strip:
  - a. Remove bottom cover.
  - b. Remove one screw (A) on the inside at the handle end.
  - c. Tilt case center strip and lift.
- IV. To replace tubes:
  - a. Remove bottom cover.
  - b. Remove "B" battery.
  - c. Remove case center strip.
  - d. Remove and replace tubes as required.
- V. To remove face panel from chassis plate:
  - a. Remove dial knob (pull off).
  - b. Remove bottom cover (I), batteries (II) and case center strip (III).
  - c. Unsolder leads to loop connectors.
  - d. Remove the four Phillips head screws (B) located at three corners and end close to 2nd I.F. transformer, which hold the chassis to face panel.
  - e. The face panel may now be folded back into the case top lid.
- VI. To remove speaker:
  - a. Remove face panel (see item V).
  - b. Unsolder voice coil leads.
  - c. Remove two Phillips head screws (C) on chassis plate holding speaker.
- VII. To remove output transformer:
  - a. Remove speaker (see item VI).
  - b. Unsolder transformer leads.
  - c. Remove rivet (use bolt for replacement).
  - d. Unsolder mounting lug.
- VIII. To remove chassis subassemblies from chassis plate:
  - a. Remove tubes (see item IV).
  - b. Unsolder grounding strap (E) which connects tube shelf to chassis plate.
  - c. Unsolder two wires which connect to speaker.
  - d. Unsolder two wires attached to switch.
  - e. Unsolder leads to loop connectors.
  - f. Remove dial knob (pull off).
  - g. Remove two screws (F) holding tube shelf to chassis plate.
  - h. Remove nut (G) between I.F. transformers.
  - i. Remove screw (G) beneath the negative terminal of "A" battery holder, and also screw (G) adjacent to volume control below "A" battery holder.
- IX. To remove volume control:
  - a. Remove chassis subassembly from chassis plate (see item VIII).
  - b. Unsolder the two leads to the "A" battery holder.
  - c. Lift up the "A" battery holder by removing the one screw (C) in its base. This holder has a hinge action and must be lifted up and back to remove.
  - d. Unsolder volume control leads.
  - e. Remove volume control knob (attached to shaft with set screw)
  - f. Remove volume control assembly by bending back four lugs.
- X. To remove oscillator coil:
  - a. Same procedure and steps as covered in item VIII for removal of chassis subassembly plus the following.
  - b. Unsolder oscillator coil leads.
  - c. Remove coil by unsnapping spring mounting clips from angle bracket.
- XI. To remove tuning condenser:
  - a. Remove case center strip (III).
  - b. Unsolder two leads and two ceramic capacitors (C2, C20) from tuning condenser.
  - c. Remove tuning knob (pull off).
  - d. Remove the two screws (H) (accessible through dial knob opening) which hold the tuning condenser to the chassis subassembly.
- XII. To remove 1st I-F transformer:
  - a. Remove chassis subassemblies (see item VIII).
  - b. Unsolder four leads from 1st I-F transformer.
    1. Blue to screen of 1R5 tube.
    2. Green to grid of 1U4 tube.
    3. Red to B+ terminal of 5 lug terminal board TB5.
    4. Black to terminal board TB2.
  - c. Unsolder and bend mounting lugs straight on the I-F transformer can.
- XIII. To remove 2nd I-F transformer:
  - a. Remove chassis subassemblies (see item VIII).
  - b. Unsolder four leads from 2nd I-F transformer.
  - c. Unsolder and bend mounting lugs straight on the I-F transformer can.
- XIV. To remove loop assembly:
  - a. Remove case center strip (see item III).
  - b. Unsolder leads to loop connectors.
  - c. Remove snap fasteners holding loop in cover.
  - d. Carefully pry out on edge next to catch (opposite hinges).
  - e. When reassembling press loop assembly into top lid on the side next to the connectors to cause the plastic projections on the loop assembly to engage in the detents in the top lid.
- XV. To remove switch:
  - a. Remove case center strip (III).
  - b. Remove screw (I) which holds switch to chassis plate.
  - c. Unsolder the two wires which connect to the switch.
  - d. Unsolder switch from chassis plate.
- XVI. To adjust latching of top lid:
  - a. The hinges are attached to the face panel with Phillips head screws (one to each hinge). The mounting holes of the hinges are sufficiently large to permit adjustment of the hinges when the mounting screws are loosened. Tighten screws after adjustment.

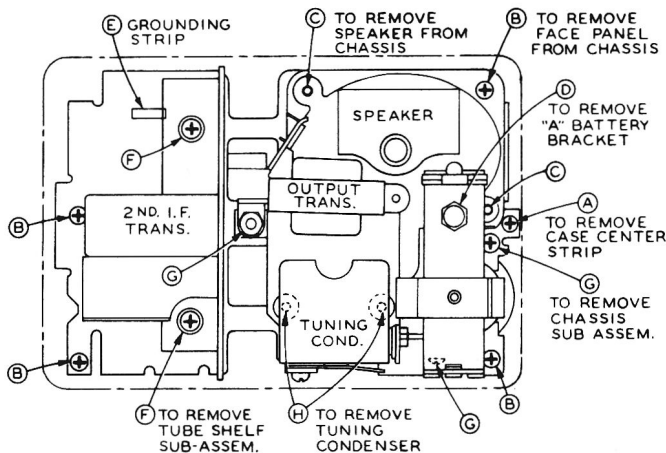


Fig. 6—Chassis Disassembly

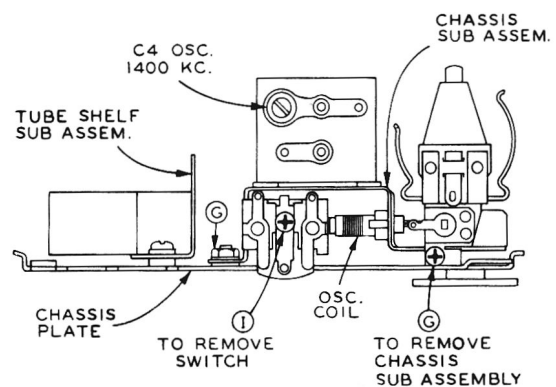


Fig. 7—Chassis Disassembly