RCA VICTOR

"HIS MASTER'S VOICE"

MODEL BP5C

PORTABLE 5 TUBE SINGLE BAND AC-DC SUPERHETERODYNE

TECHNICAL INFORMATION AND SERVICE DATA

1949 No. 2

GENERAL SERVICE DIVISION • RCA VICTOR COMPANY LTD.

Electrical and Mechanical Specifications

Frequency Range .....540-1,600 kc
Intermediate Frequency .....455 kc
Power Supply Rating
110 to 125 volts, AC 50 or 60 cycles, or DC..18 watts
Batteries required ....1 Eveready Battery Pack W167

Tube Complement
(1) RCA—1R5 .....Converter
(2) RCA—1T4 .....I. F.-Amplifier
(3) RCA—1U4 .....2nd Det. AVC. & A.F.-Amplifier
(4) RCA—3V4 .....Power Output
(5) RCA—117Z3 .....Rectifier

Current Consumption
Battery Operation....."A" 60 ma., "B" 10 ma.
(Average life of Eveready W167 Battery 100 hrs. intermittent service.)
Total Rect. Current (117 volt, 60 cycle).....60 ma.

Power Output (AC Operation)
Undistorted ..... .15 watt
Maximum ..... .25 watt
(Output is slightly lower on battery operation)

Loudspeaker .....4 in. P.M. 3.4 ohms at 400 cycles

To Remove Carrying Handle

1. Pull off the volume control knob.
2. Insert a small knife blade between one side of a spring clip and the cabinet as shown below, push upward on the slip shield to disengage the locking of the slip shield to the spring clip. Repeat this procedure on the other side of the spring clip. The slip shield may then be removed by pushing it upward thus disengaging it from the spring clip.
3. Repeat step 2 for each slip shield.
4. Remove the four screws (2 on each side) which hold the carrying handle to the case.

Caution: When re-assembling make certain that the slip shield and the spring clip is assembled with their locks in the correct relation to each other.

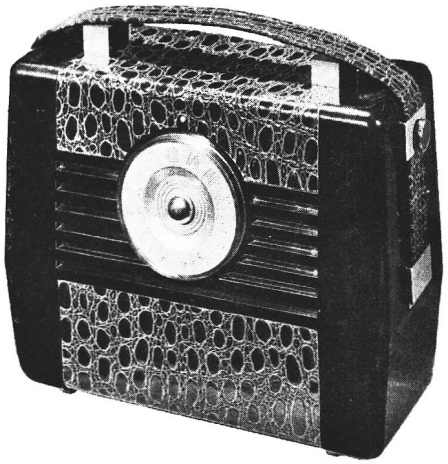
To Remove Chassis

1. Pull off the volume control knob.
2. Close tuning condenser (dial at 55) to prevent possible damage to tuning condenser.
3. Remove dial knob by grasping both sides with the tips of the fingers of both hands and pull to the front —or—close the tuning condenser, open the back, reach in and push outward on the hub of the dial knob.

NOTE: When re-assembling press inward on the back of the tuning condenser and on the front of the knob to properly seat the hub on the shaft.

4. Remove the two slip shields on the R.H. side of the cabinet (opposite the volume control) and unfasten the end of the carrying handle using the procedure described under, "To Remove Carrying Handle."
5. Unsolder the loop leads.
6. Remove the two screws holding the bottom edge of the speaker to the cabinet.
7. Remove the plug from the battery.
8. Remove the two screws at the top of the cabinet while supporting the chassis with one hand.

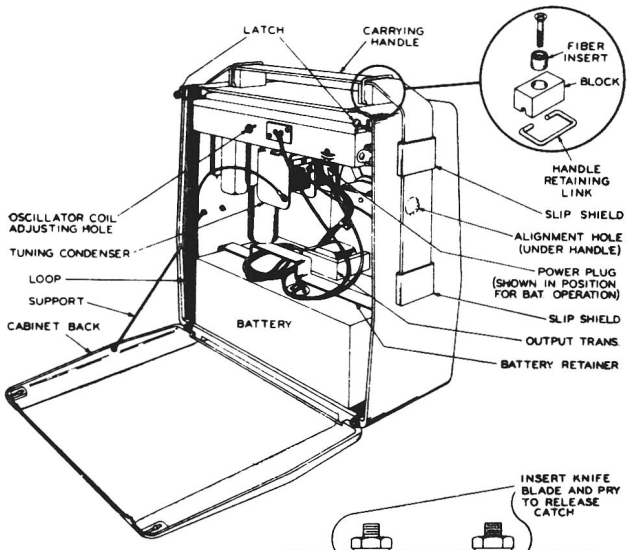
NOTE: When re-installing replace speaker holding screws first but do not securely tighten until the two screws at the top of the cabinet have been tightened.

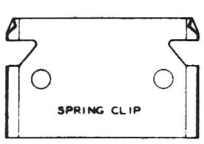


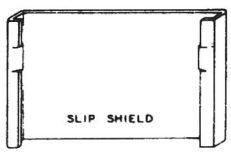
Note: Handle Retaining Links not shown on photo

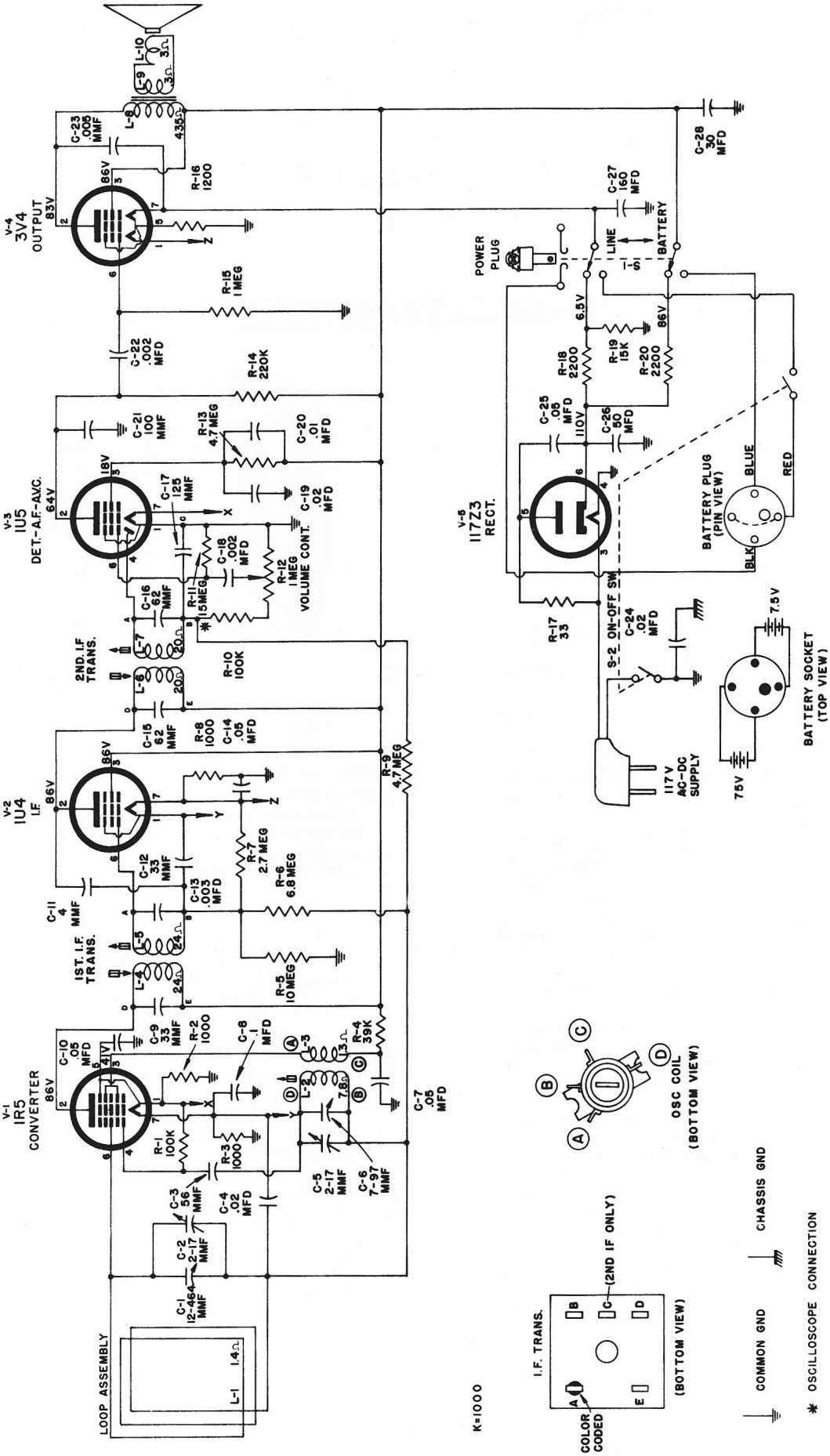
Cabinet Dimensions
Height.....9½ in. Width.....11 in. Depth.....5 in.

CAUTION.—
Do not remove any tubes from the chassis with the set operating and the plug connected to the power line. Damage to tubes may result.









SCHEMATIC DIAGRAM

SERVICE DATA

AC-DC Operation

This receiver will operate on 105 to 125 volts, AC 25 or 60 cycles, or DC.

A power cord is stored inside the cabinet. To open the cabinet, push upward on the two metal ball catches at the top rear of the cabinet. Remove the plug of the power cord from its socket on the chassis and insert the plug into a convenient electrical outlet. A slot in the bottom of the back cover allows the back to be closed with the cord passing through.

NOTE: If reception is not obtained on DC, reverse plug in outlet receptacle. This may also reduce hum on AC operation.

When returning to battery operation replace the plug in the socket provided on the chassis, roll up the cord and place under the raised portion of the battery holder bracket.

NOTE: Make certain that the plug is fully inserted to assure proper operation of the Batt-Line switch.

Insulating Washers:

The tuning condenser is insulated from the chassis with rubber washers. In servicing make certain that these are in place and properly positioned.

Cabinet Hinges

The cabinet hinges may be readily removed, they are secured to the cabinet and back by force fit. To remove back from cabinet—pull straight outward on both hinges at the same time.

Critical Lead Dress

1. Dress output plate bypass C-23 capacitor against chassis.
2. Dress output plate lead to output transformer against chassis.
3. Dress audio coupling capacitor C-18 (Volume control to grid of 1U5) away from chassis, away from audio limiting resistor R-10 and to permit adjustment of second I.F. Transformer.
4. Dress all exposed leads away from each other, and away from chassis to prevent short circuits.
5. Dress all filament and ground leads against chassis.
6. Dress filament bypass capacitor C-14 and accompanying compensating resistor R-8 (volume control to 1U4 socket) against volume control.
7. Dress power line cord away from line-battery switch mechanism.
8. Dress all capacitors and wiring away from oscillator coil.
9. Dress 4 mmf. neutralizing capacitor C-11 against A.V.C. bypass capacitor C-12. (1U4 filament to first I.F. trans.).

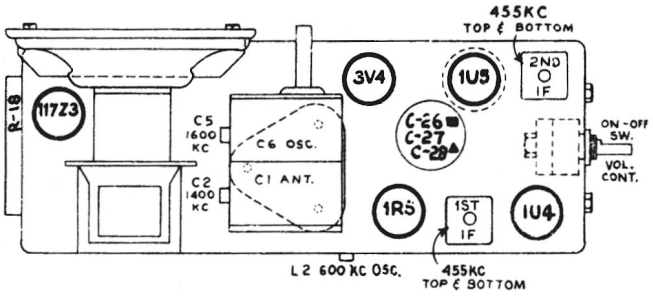
Alignment Procedure

Cathode Ray Alignment is the prererable method. Connections for the oscilloscope are shown on the schematic diagram.

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 Common Ground and keep the oscillator output as low as possible to avoid AVC action.

Battery operation of the receiver is preferable during alignment; on AC operation an isolation transformer (117v./117v.) may be necessary for the receiver if the test oscillator is also AC operated.



Tube and Trimmer Locations

Order of Alignment		TEST OSCILLATOR: Connect "HI" Side To	Connect "LO" Side To	Dummy Antenna	Frequency Setting	Range Selector	Receiver Dial Setting	Circuit to Adjust	Adjustment Symbols	Notes
I.F. ALIGNMENT	1	Disconnect loop - remove chassis - remove bottom plate, connect a 10,000 ohm resistor from Cl stator terminal to tuning condenser frame.								
	2	1U4 I.F. Grid	Gnd	.01 mfd	455 Kc		550 Kc	2nd I.F. Trans.	Top & Bottom Cores	Max. output
	3	1R5 Conv. Grid	Gnd	.01 mfd	455 Kc		550 Kc	1st I.F. Trans.	Top & Bottom Cores	Same
	4	Remove the 10,000 ohm resistor. Replace bottom cover and install chassis in cabinet. Re-connect loop.								
S.B. ALIGNMENT	5	SHORT WIRE PLACED NEAR RECEIVER (FOR RADIATED SIGNAL)	Gnd		1600 Kc		1600 Kc	Osc.	C-5	Same
	6		Gnd		1400 Kc		1400 Kc	Ant.	†C-2	Same
	7		Gnd		600 Kc		600 Kc	Osc.	L-2 (Rocking Gang)	Same
	8	Repeat steps No. 5, 6 & 7								

† Adjustable thru hole in side of case which is accessible after unfastening one end of the carrying handle.

REPLACEMENT PARTS FOR MODEL BP5C

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

STOCK NO.	DESCRIPTION		STOCK NO.	DESCRIPTION	
	RECEIVER ASSEMBLIES		73129	Transformer - 1st I.F. (L4-L5-C9-C12)	
73153	Capacitor 4.7 Mmf. (ceramic) (C11)		73130	Transformer - 2nd I.F. (L6-L7-C15-C16-C17)	
71924	Capacitor 56 Mmf. (ceramic) (C3)		73125	Volume Control (R12) 1 Megohm (S2)	
S-4674	Capacitor 100 Mmf. (ceramic) (C21)			**SPEAKER ASSEMBLY**	
S-3646	Capacitor .005 Mfd. (C23)				
S-4675	Capacitor .003 Mfd. (C13)		S-3556	Dust Cap (Pkg.3)	
S-4676	Capacitor .002 Mfd. (C18-C22)		S-4330	Cone - cone & voice coil assy (L10)	
S-3648	Capacitor .01 Mfd. (C20)		S-4332	Speaker	
S-3650	Capacitor .02 Mfd. (C4-C19-C24)		S-4333	Output transformer (L8-L9)	
70615	Capacitor .05 Mfd. (C10-C7-C14-C25)			**MISCELLANEOUS ASSEMBLY**	
S-3655	Capacitor .1 (C8)				
73127	Capacitor Electrolytic (50-30-160 Mfd.) (C26-C27-C28)		73134	Back - Cabinet back (less hinges)	
73126	Condenser - Variable (C1-C2-C5-C6)		73147	Ball - for back cover latch (Pkg. 2)	
S-4334	Coil - Oscillator coil with core & stud (L2 - L3)		73136	Button - centre button for dial knob	
			73142	Button - station selector indicator button (Pkg. 2)	
73141	Loop - Antenna Loop (L1)		S-4399	Cabinet - Front	
73237	Resistor - 33 ohms W.W. (R17)		S-4400	Cloth - Aligator cloth for cabinet	
34766	Resistor - 1000 ohms ½W. (R3-R2-R8)		S-5026	Clip - Spring clip for vol. control & power switch (Pkg. 2)	
30731	Resistor - 1200 ohms ½W. (R16)				
73132	Resistor - 2200 ohms 7 watt (voltage divider) (R20)		73148	Catch - spring catch for back cover (L.H.)	
			73146	Catch - spring catch for back cover (R.H.)	
34767	Resistor - 2200 ohms ¼ watt (R18)		73143	Handle - carrying handle	
36714	Resistor - 15,000 ohms ¼ watt (R19)		73144	Hinge - cabinet hinge	
30147	Resistor - 39,000 ohms ¼ watt (R4)		73135	Knob - dial knob complete	
3252	Resistor - 100,000 ohms ¼ watt (R1-R10)		73138	Knob - volume control & power switch	
14583	Resistor - 220,000 ohms ¼ watt (R14)		73459	Link - carrying handle link (Pkg. 2)	
30652	Resistor - 1 Megohm (R15)		73275	Plug - battery cable plug	
S-5074	Resistor - 2.7 Megohm (R7)		73139	Shield - slip shield for carrying strap (bottom R.H. & L.H. & upper L.H.)	
30931	Resistor - 4.7 Megohm (R9-R13)				
14661	Resistor - 6.8 Megohm (R6)		73140	Shield - slip shield for carrying strap (upper R.H.)	
30992	Resistor - 10. Megohm (R5)				
S-4677	Resistor - 15. Megohm (R11)		70425	Spring - retaining spring for dial knob (Pkg. 2)	
73117	Socket - tube socket (less shield)				
S-4860	Socket - tube socket (with shield)		73483	Support - flexible drop support for back cover	
73133	Switch - D.P.D.T. (S1)				

All prices and parts are subject to change or withdrawal without notice.