

Model BP65
(Without metal escutcheon)

Model BP66
(With metal escutcheon)



AC-DC-Battery Portable Receiver

Models BP65, BP66

SERVICE DATA

— 1955 No. 7 —

ISSUED BY

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

Specifications

Tuning Range 540-1,600 kc
Intermediate Frequency 455 kc
Loudspeaker
Size and Type 4 in. P.M.
Voice Coil Impedance 3.2 ohms at 400 cycles
Power Output (Power line operation)
Undistorted 0.135 watt
Maximum 0.17 watt
Power output on battery operation is approx. 50% less.

Tube Complement

- (1) RCA 1R5 Converter
- (2) RCA 1U4 I.F.—Amplifier
- (3) RCA 1U5 Det. — AVC — 1st A.F.
- (4) RCA 3V4 Output

A selenium rectifier is used.

Power Supply Rating

Power Line Operation
115 volts, d. c. or 50 to 60 cycles a. c. 18 watts
or

Battery Operation	Current Consumption	Approx. Life (Intermittent Service)
Batteries Required:		
"A"—3 volts	0.155 amp.	30 hrs.
RCA VS 036 (2 req'd)		
"B"—67.5 volts	8.5 ma.	100 hrs.
RCA VS 216		

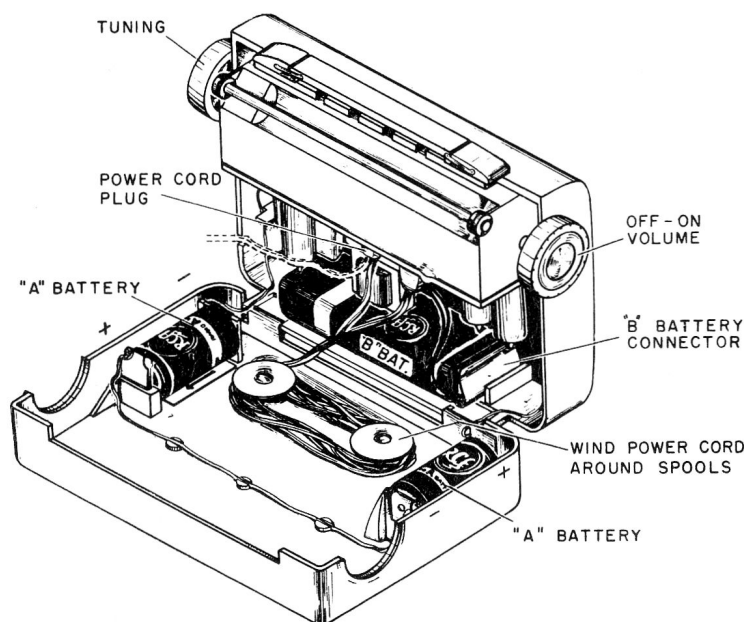
Tuning Drive Ratio 1:1 (direct drive)

Weight (Approx.)

Without battery 4 lbs. With battery 5 lbs.

Dimensions (Overall)

Height ... 7 in. Width ... 10¼ in. Depth ... 3-3/16 in.



Back View

Battery Replacement

The instrument is provided with two 1½ Volt "A" batteries connected in series. Each battery is electrically connected and held in place by clips. The one battery is mounted in one end of the back cover and the other battery is mounted in the other end of the back cover. To remove batteries, simply lift out of clips.

The "B" battery connector is a pair of snap-action fasteners. To disconnect, pry the fastener away from the battery.

Power Line Operation

A power cord is stored inside the cabinet. To open the cabinet, pull backwards on the top of the cabinet back. It is secured by means of two spring clips and catches on the inside of the cabinet. Remove the plug of the power cord from its socket on the chassis and insert the plug into a convenient electrical power outlet. A notch in the right side of the cabinet allows the back to be closed with the cord passing through.

Notes: If reception is not obtained on DC, reverse plug in power outlet. On AC operation, reversal of the plug may reduce hum.

If instrument is operated without batteries in place, the "B" battery connector should be prevented from contacting the chassis.

Battery Operation

Place the power cord plug in the socket provided on the top of the chassis. Wind the power cord around the two small spools attached to the cabinet back.

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.

Battery operation of the receiver is preferable during alignment which permits the bottom cover to remain in place. On AC operation, an isolation transformer (117v./117v.) may be necessary for the receiver if the test oscillator is also AC operated.

Step	Connect High Side of Sig. Gen. to —	Sig. Gen. Output	Dial Pointer Setting	Adjust for Max. Output
1	Remove chassis from case Remove chassis cover			
2	Connection lug of C1-A (front section of gang) in series with .01 mfd.	455 kc	Quiet point near 1600 kc	T2 2nd I. F. Trans.
3				T1 1st I. F. Trans.
4	Replace chassis cover and install chassis in case. Fasten antenna leads under tab on chassis apron.			
5	Short wire placed near antenna for radiated signal	1620 kc	gang fully open	C1-B (osc.)
6		1400 kc	1400 kc signal	C1-A (ant.)
7		600 kc	600 kc signal	T4 (osc.) rock gang
8	Repeat steps 5, 6 and 7.			

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.

Circuit Description

Model BP65 is a low cost three-way "personal" type portable while the BP66 Series are deluxe styled three-way personal portable radio receivers using four miniature tubes and a selenium rectifier.

The receiver circuit is a conventional superhetrodyne including pentagrid converter, i.f. amplifier stage, combined detector—a.v.c.—first audio stage and a power amplifier.

One of the features of this receiver is the new switching circuit which changes the filament circuit from series on power line operation to series parallel on battery operation. This permits use of standard flashlight cells for "A" battery resulting in lower replacement cost.

Critical Lead Dress

1. Blue Electrolytic lead to be dressed under ground end lead of .033 (C5) condenser to keep it from touching ballast resistor R8.

2. Yellow Electrolytic condenser lead to be dressed under the ground leads of C5 and C9 (.033 and .22 mf.).

3. Line cord lead to on-off switch to be dressed under C5 and C9 (.033 and .22 mf.) ground leads.

4. R14, 27 ohm resistor to be centered over 1U4 socket (V2) center pin.

5. Green and Black Electrolytic condenser leads to be dressed away from R8, 1200 ohm resistor.

6. Red Electrolytic lead to be dressed under W1 shielded lead to volume control.

7. Check wiring to see that no leads or parts are dressed so that they block the line plug insertion slots.

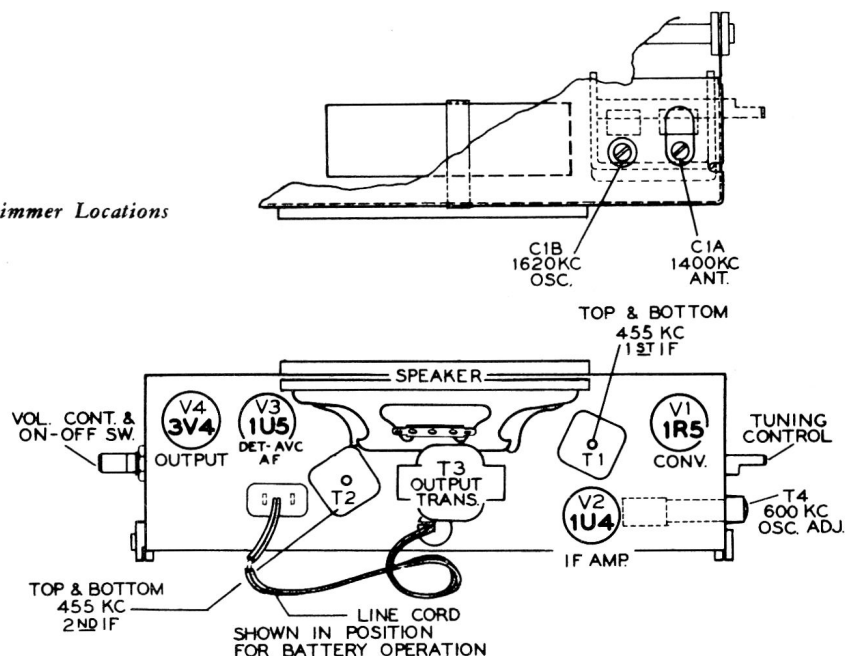
8. Second I.F. transformer plate lead to be reasonably direct and dressed for minimum coupling to output grid wire.

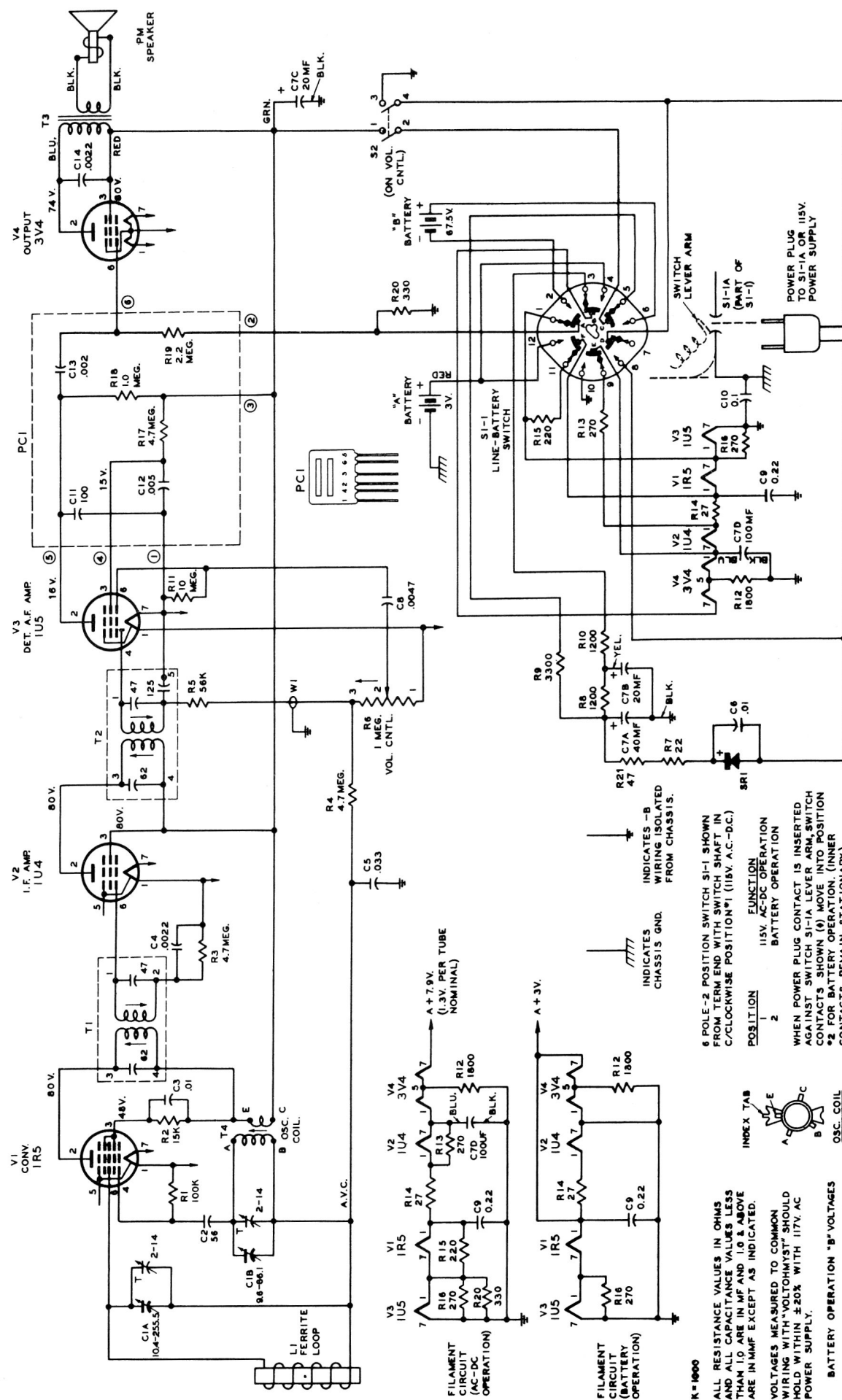
9. "B—" common wiring connections should not be altered.

10. Sleeving on long loop lead to be dressed under the two lances provided for this purpose on the chassis protective aluminum cover.

11. Blue plate lead from 3V4 plate to output transformer must be dressed down on the chassis away from 1U5 1st audio tube.

Tube and Trimmer Locations





Schematic Circuit Diagram

REPLACEMENT PARTS LIST FOR MODELS BP65, BP66

Insist on Genuine Factory Tested Parts, which are readily identified and may be purchased from Authorized Dealers.

SYMBOL NO.	STOCK NO.	DESCRIPTION	STOCK NO.	SYMBOL NO.	DESCRIPTION
		CHASSIS ASSEMBLIES	TI	*S-20540	Transformer - First, I. F., transformer - adjustable core
CIA & B	*S-20547	Capacitor - Variable capacitor, 31 mmf to 68.7 mmf.	T2	*S-20541	Transformer - Second, I. F. transformer - adjustable core.
C2		Capacitor - Fixed, ceramic, 56 mmf. 10%, 500 V	T3	*S-20532	Transformer - Output Transformer Primary - 10,000 ohms Secondary - 3.2 ohms
C3	73960	Capacitor - Fixed, ceramic, 0.01 mfd, 100 - 6%, 500 V D.C.	T4	*S-20542	Transformer - Oscillator coil complete with adjustable core.
C4	77942	Capacitor - Fixed, paper, 0.0022 mfd., 20%, 220V		73935	Clip, Mounting clip for I. F. transformers
C5	73552	Capacitor - Paper, tubular, -.033 mf., 20%, 400 V DC		*S-20531	Cord, Power cord.
C6	79918	Capacitor - Fixed, ceramic, 0.01 mfd., 20%, 600 V DC		75780	Socket, Tube socket, 7 pin, black phenolic body for VI
C7A to D Incl.	*S-20545	Capacitor - Fixed, electrolytic, 40/20/20/100 mf., - 10+ 100/100/100/250%, 150/150/150/25 V DC		73116	Socket - Tube socket, 7 pin, black phenolic body for V2, V3
C8		Capacitor - Fixed, paper, 0.0047 mf., 20%, 200 V		71494	Socket - Tube socket, 6 pin, black, phenolic body for V4
C9	79740	Capacitor - Fixed, paper 0.22 mfd., 20%, 200 V DC			SPEAKER ASSEMBLY
C10	77423	Capacitor - Fixed paper, 0.10 mfd., 20%, 400 v DC		*S-20546	Speaker - 4" P.M. speaker complete with cone and voice coil (3.2 ohms)
C11 to C13 Inc. C14		Part of PCI			MISCELLANEOUS ASSEMBLIES
LI	*S-20543	Capacitor - Fixed, paper 0.0022 mfd., 20%, 400 v DC		*S-20562	Case - Back case - red polystyrene - for Model BP65
PCI	*S-20544	Antenna - Ferrite antenna assembly		*S-20564	Case - Back case - gray - "Impac" - for Model BP66
RI		Circuit - Printed circuit.		*S-20566	Case - Back case - green - "Impac" - for Model BP66
R2		Resistor - fixed, composition, 100,000 ohms, 20%, 1/2w		*S-20561	Case - Front case - red polystyrene - for Model BP65
R3, R4		Resistor - Fixed, composition, 15,000 ohms, 20%, 1/2w		*S-20563	Case - Front case - gray - "Impac" - for Model BP66
R5		Resistor - Fixed, composition, 4.7 megohms, 20%, 1/2w		*S-20565	Case - Front case - green - "Impac" - for Model BP66
R6	*S-20539	Resistor - Fixed, composition, 56,000 ohms, 10%, 1/2w		*S-20528	Catch - Case front and back catch;
R7		Control - Volume Control		*S-20534	Clip - Battery retaining clip.
R8		Resistor - Fixed, composition 22 ohms, 10%, 1/2w		70425	Clip - Spring clip for control knobs
R9		Resistor - Fixed, wire wound, 1200 ohms, 20%, 4w		*S-20530	Contact - Battery contact
R10		Resistor - Fixed, composition, 3300 ohms, 10%, 1/2w		*S-20538	Escutcheon - Case front escutcheon for Series BP66
R11		Same as R8		*S-20554	Emblem - RCA Monogram
R12		Resistor - Fixed, composition, 10 meg., 20%, 1/2w		*S-20556	Lead - Battery Lead Ass'y.
R13		Resistor - Fixed, composition, 1800 ohms, 10%, 1/2w		*S-20535	Handle - Case handle - red polystyrene for Model BP65
R14		Resistor - Fixed, composition, 270 ohms 10%, 1/2 w.		*S-20536	Handle - Case handle - gray "Impac"- for Model BP66
R15		Resistor - Fixed, composition, 27 ohms, 10%, 1/2w		*S-20537	Handle - Case handle - green "Impac" for Model BP66
R16		Resistor - Fixed, composition, 220 ohms 10%, 1/2 w.		*S-20548	Knob - "On-Off" volume control knob - red polystyrene - form Model BP65
R17 to R19 Inc. R20		Same as R13		*S-20550	Knob - "On-Off" volume control knob - gray "Impac" - for Model BP66
R21		Part of PC1		*S-20552	Knob - "On-Off" Volume control knob - green "Impac" - for Model BP66
S1	*S-20533	Resistor - Fixed, composition, 330 ohms 10%, 1/2 w.		*S-20548	Knob - Station selector knob - red polystyrene - for Model BP65
SR1	*S-20529	Resistor - Fixed, composition, 47 ohms, 10%, 1 w		*S-20551	Knob - Station selector knob - gray "Impac" - for Model BP66
		Switch - Line battery switch		*S-20553	Knob - Station selector knob - green "Impac" - for Model BP66
		Rectifier - Selenium rectifier - 65 MA		*S-20527	Link - Case carrying handle link

* Indicates new stock items

Only items listed under stock numbers are available as Replacement Parts.

All parts subject to change or withdrawal without notice.

To Remove Cabinet Back

With the back fully open, grip the cabinet with thumb pressing forward against case front and fingers pressing backward against case back. Insert a screwdriver under one hinge and pry the center of the hinge out of the opening in the cabinet while maintaining pressure on the back

with the fingers and on the cabinet with the thumb. Repeat this procedure with the other hinge. Pull the back straight to the rear using both hands.

To Remove Hinges

Remove back from cabinet as described above. Spread the hinge apart to remove it from the cabinet back.