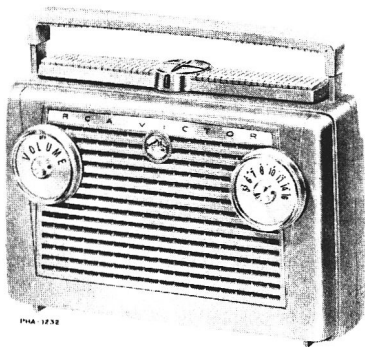




RCA VICTOR



Model P-131

AC-DC-Battery Portable Radio

MODEL P-131

SERVICE DATA

— 1956 No. 8 —

ISSUED BY

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

ELECTRICAL AND MECHANICAL SPECIFICATIONS

TUNING RANGE540-1,600 kc

INTERMEDIATE FREQUENCY455 kc

LOUDSPEAKER

Size and Type4 in. P.M.

Voice Coil Impedance3.2 ohms at 400 cycles

POWER OUTPUT (Battery operation)

Undistorted140 milliwatts

Maximum230 milliwatts

Power output on power line operation is approx. 10% less.

TUBE COMPLEMENT

(1) RCA 1R5Converter

(2) RCA 1U4I.F. Amplifier

(3) RCA 1U5Det.—AVC—1st A.F.

(4) RCA 3V4Output

A selenium rectifier is used.

POWER SUPPLY RATING

Power Line Operation

115 volts, d. c. or 50 to 60 cycles a. c.15 watts
or

Battery Operation

"A" Battery, RCA #VS 0657.5 volts, 53 ma.

"B" Battery, RCA #VS 21990 volts, 12 ma.

Battery lifeapprox. 35 hrs. intermittent service

TUNING DRIVE RATIO

P-1311:1 (direct drive)

WEIGHT (Approx.)

Without battery4½ lbs.

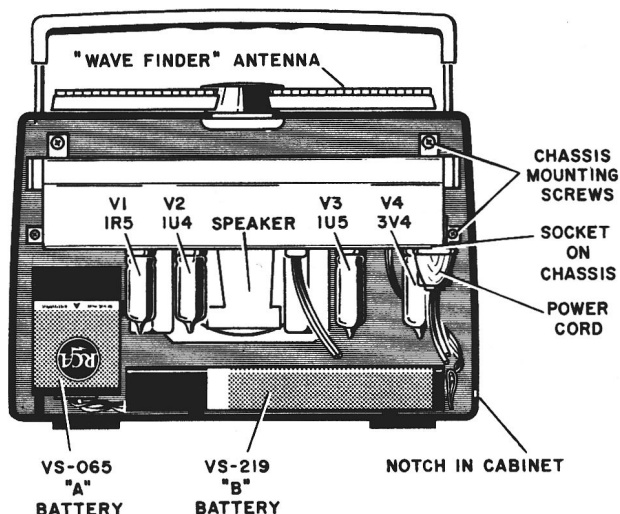
With battery5½ lbs.

DIMENSIONS (Overall)

Height ...8 in.

Width ...10¼ in.

Depth ...3¾ in.



Back View

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 left 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. 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	Pin #6 of 1U4 tube in series with .01 mfd.	455 kc	Quiet point near 1600 kc	T2 2nd I. F. Trans.
3	Connection lug of C1-A in series with .01 mfd.			T1 1st I. F. Trans.
4	Replace chassis cover and install chassis in case. Fasten antenna leads in slots provided in cabinet.			
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

This instrument is a three-way "personal" portable radio receiver using four miniature tubes and a selenium rectifier.

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

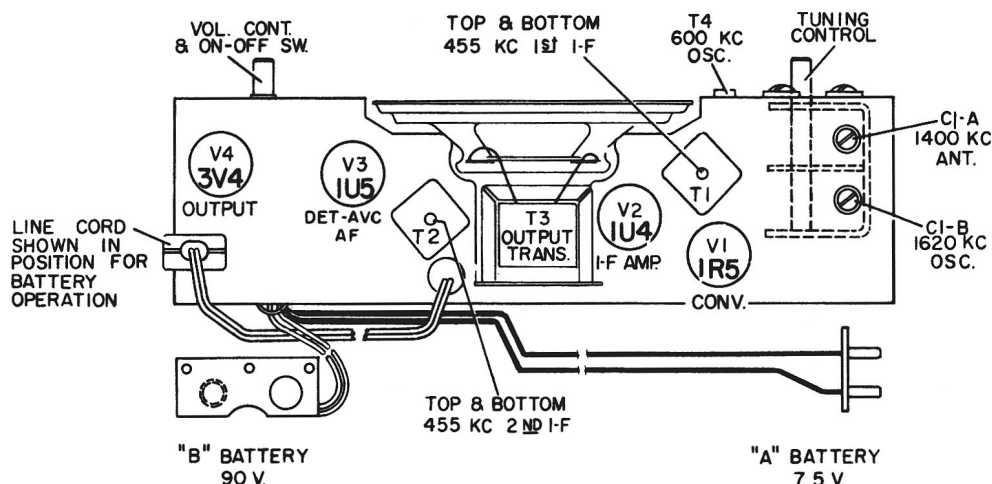
One of the features of this receiver is the rotatable antenna which permits maximum performance with the cabinet in any position. High output on battery operation is accomplished by the use of 90 volts "B" battery, iron core i-f transformers and neutralization of the i-f amplifier.

Critical Lead Dress

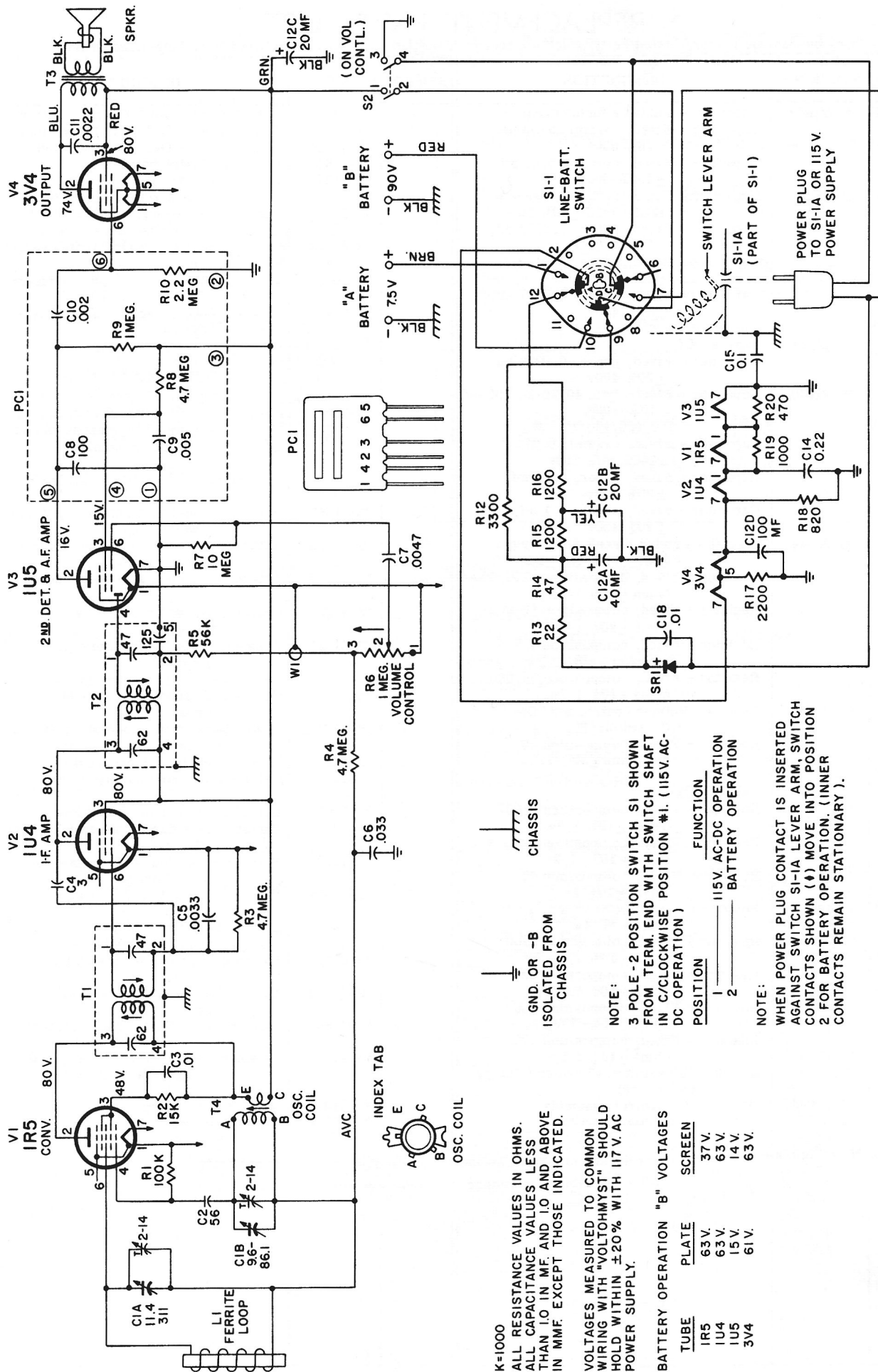
1. Dress leads so that they do not contact ballast resistors R12, R13 and R16.
2. Dress R16 so as to minimize possibility of short circuits to chassis cover.
3. Dress electrolytic capacitor leads towards front of chassis.
4. Keep 1U4 plate lead as short as practical and dress it through speaker magnet yoke.
5. Keep leads of C4 neutralizing capacitor as short as possible, especially the lead on the plate of the 1U4 tube.
6. Dress R14 away from C14.
7. Dress leads away from R14.
8. Dress C13 and leads at selenium rectifier such that they do not short to cover.
9. Dress leads from loop into slots provided in cabinet and allow sufficient slack in leads to permit proper rotation of loop.
10. Dress "A" battery leads into slots provided at bottom of cabinet.
11. Blue plate lead from 3V4 plate to output transformer must be dressed down on the chassis away from 1U5 audio tube.

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.



Tube and Trimmer Locations



Schematic Circuit Diagram

REPLACEMENT PARTS LIST

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

SYMBOL	STOCK NO.	DESCRIPTION	SYMBOL	STOCK NO.	DESCRIPTION
C1A, C1B	*S-21042	Capacitor - Variable tuning capacitor	T1	*S-20540	Transformer - 1st I. F. transformer
C2		Capacitor - Fixed, ceramic 56 mmf, ± 20% 500v	T2	*S-20541	Transformer - 2nd I. F. transformer
C3		Capacitor - Fixed, ceramic 0.01 mf ± 100% 500v	T3	*S-21044	Transformer - Output transformer
C4	101233	Capacitor - Fixed, ceramic, headed- lead 3 mmf ± 10% 500v	T4	*S-20542	Coil - Oscillator coil
C5		Capacitor - Fixed, paper, 0.0033 mf, ± 20% 400v		*S-21047	Cable - "B" battery cable assy with male and female connector
C6		Capacitor - Fixed, paper, 0.033 mf, ± 10% 400v	74324		Connector - 3-contact male connector for "A" battery leads
C7		Capacitor - Fixed, paper, 0.0047 mf, ± 20% 400v	*S-20531		Cord - Power line attachment cord and plug
C8 tp C10			73116		Socket - Tube socket, 7 pin miniature for V1, V2 and V3
Incl			S-9520		Socket - Tube socket, 7 pin miniature for V4
C11	*S-20544	Part of PC1 Capacitor - Fixed, paper -0.0022 mf, ± 20% 400v			
C12A to	*S-21050	Capacitor - Electrolytic 40/20/20/100 mf, -10%+100%			SPEAKER ASSEMBLY
C12D Incl		150/150/150/25 volt	*S-21046		Speaker - 4" P.M. speaker assembly complete with cone and voice coil (3.2 ohms)
C13		Capacitor - Fixed, ceramic 0.01 mf, +100% -0% 600v			
C14		Capacitor - Fixed, paper, 0.22 mf, ± 20% 200v			MISCELLANEOUS ASSEMBLY
C15		Capacitor - Fixed, paper, 0.1 mf, ± 20% 400v	L1	*S-21057	Antenna - Antenna assembly - antique white "Impac"
PC1	*S-20544	Circuit - Printed circuit consisting of C8, C9, C10, R10, R8, R9	L1	*S-21226	Antenna - Antenna assembly - medium gray "Impac"
R1		Resistor - Fixed, composition, 100,000 ohms ± 20% 1/2w	L1	*S-21063	Antenna - Antenna assembly - aqua "Impac"
R2		Resistor - Fixed, composition 15,000 ohms ± 20% 1/2w	*S-21236		Case - Case back - antique white "Impac"
R3, R4		Resistor - Fixed, composition 4.7 megohm ± 20% 1/2w	*S-21237		Case - Case back - medium gray "Impac"
R5		Resistor - Fixed, composition 56,000 ohms ± 10% 1/2w	*S-21238		Case - Case back - aqua "Impac"
R6	*S-21043	Control - Volume control and "On- Off" switch (S2)	*S-21239		Case - Case front antique white "Impac"
R7		Resistor - Fixed, composition 10 megohms ± 20% 1/2w	*S-21240		Case - Case front - medium gray "Impac"
R8 to R10			*S-21241		Case - Case front aqua "Impac"
Incl		Part of PC1	*101877		Catch - Case front and back catch (2 req'd)
R12		Resistor - Fixed, composition 3300 ohms ± 10% 1/2w	*S-20554		Emblem - Trademark emblem
R13		Resistor - Fixed, composition 22 ohms ± 10% 1/2w	*S-21058		Handle - Carrying handle antique white "Impac"
R14		Resistor - Fixed, composition 47 ohms ± 10% 1w	*S-21227		Handle - Carrying handle - medium gray "Impac"
R15, R16	100146	Resistor - Fixed, wire wound, 1200 ohms ± 5% 4w	*S-21064		Handle - Carrying handle - aqua "Impac"
R17		Resistor - Fixed, composition 2200 ohms ± 10% 1/2w	101888		Insert - Decorative plastic insert for antenna assembly
R18		Resistor - Fixed, composition 820 ohms ± 10% 1/2w	*S-21235		Knob - Tuning control knob with spring
R19		Resistor - Fixed, composition 1000 ohms ± 10% 1/2w	*S-21234		Knob - Volume control knob with spring
R20		Resistor - Fixed, composition 470 ohms ± 10% 1/2w	*101889		Nameplate - "RCA" Victor" nameplate aluminum gold finish
S1	*S21049	Switch - "Line-Battery" switch (Rotary wafer type)	79744		Retainer - Formed wire hinge, retainer for case front and case back
S2	*S-21043	Part of Vol. Control assembly	*S-21068		Stop - Antenna stop
SR1	*S-20529	Rectifier - Selenium rectifier	330720-87		Instruction Book

* Indicates New Stock Items. Only items listed under stock numbers are available as Replacement Parts.

All parts subject to change or withdrawal without notice.