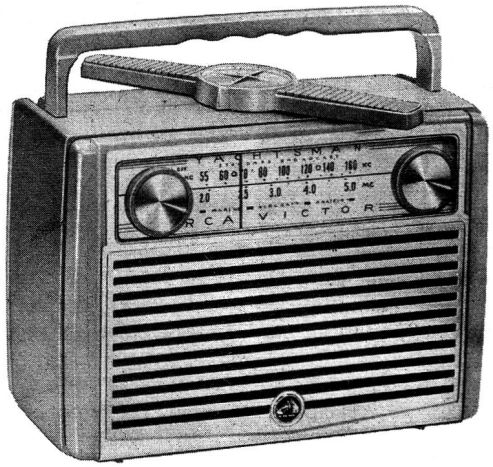
RCA VICTOR

"HIS MASTER'S VOICE"



The "New Yachtsman"
Model 7-BX-9H Surf Green

AC-DC-Battery Portable Receiver

MODEL 7-BX-9H

SERVICE DATA

— 1956 No. 31 —

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

SPECIFICATIONS

TUNING RANGE:
"A" Band .....540-1,600 kc
"B" Band .....2-5 mc

INTERMEDIATE FREQUENCY .....455 kc

POWER SUPPLY RATING:
Power Line Operation
115 volts, d. c. or 50 to 60 cycles a. c. .....15 watts
or
Battery Operated .....using RCA VS 057W Battery
(Average battery life — 100 hrs. intermittent service)
Battery current ......"A" 52 ma., "B" 14 ma.

TUBE COMPLEMENT:
(1) RCA 1T4 .....R.F. Amplifier
(2) RCA 1R5 .....Converter
(3) RCA 1T4 .....I.F.-Amplifier
(4) RCA 1U5 .....Det. — AVC — 1st A.F.
(5) RCA 3V4 .....Output
A selenium rectifier is used.

To Remove Hinges

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

WEIGHT (Approx.)
Without battery .....5 lb. With battery .....8 lb.

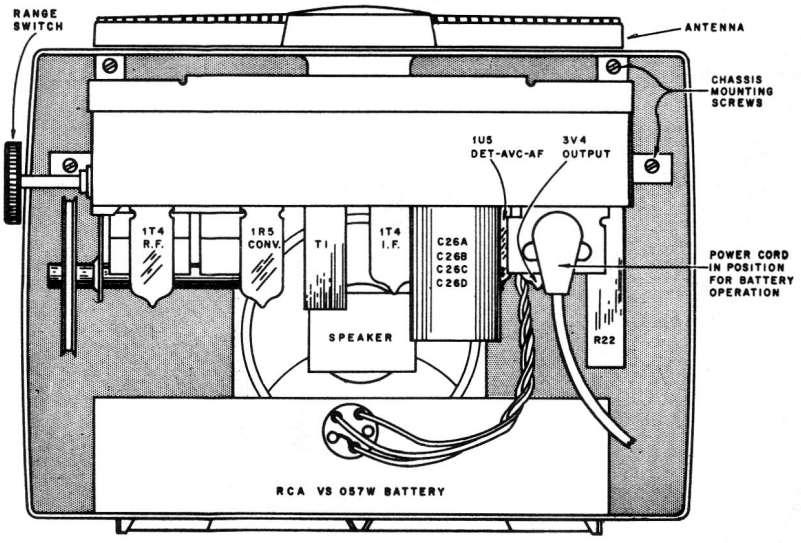
POWER OUTPUT:
Undistorted .....150 milliwatts
Maximum .....240 milliwatts

LOUDSPEAKER .....4 in. P.M.
Voice Coil impedance .....3.2 ohms at 400 cycles

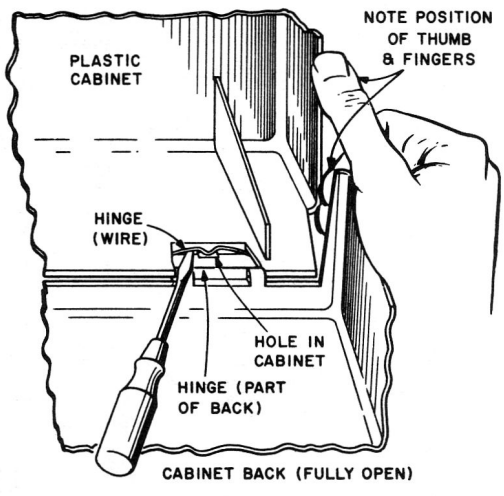
CABINET DIMENSIONS:
Height...8¾ in. Width...11⅜ in. Depth...5¼ in.

To Remove Cabinet Back

With the back fully open, grip the cabinet as illustrated. 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.



Rear View With Back Removed



Removal of Cabinet Back

Step	Connect High Side of Sig. Gen. to —	Sig. Gen. Output	Dial Pointer Setting	Adjust for Max. Output
1	Disconnect loop—remove chassis—remove bottom cover.			
2	Pin #6 of 1T4 I.F. Amplifier thru .005 mf.	455 kc	Quiet point near 1600 kc "A" Band	2nd I.F. Trans. T2 Top & Bottom
3	Pin #6 of 1R5 Converter thru .005 mf.			1st I.F. Trans. T1 Top & Bottom
4	Replace bottom cover and connect loop. Place loop in the same position in relation to chassis as when the receiver is fully assembled.			
5	Short wire placed near antenna for radiated signal	1620 kc	gang fully open "A" Band	Osc. trimmer C33
6		1400 kc	1400 kc signal "A" Band	Ant. and R.F. trimmers C30 and C32
7		600 kc	600 kc signal "A" Band	T5 R.F. core and T6 Osc. core alternately while rocking gang
8		Repeat Steps 5, 6 and 7		
9		5200 kc	gang fully open "B" Band	Osc. trimmer C34
10		4800 kc	4800 kc signal "B" Band	Ant. and R.F. trimmers C29 and C31
11		2000 kc	2000 kc signal "B" Band	T4 R.F. core and T7 Osc. core alternately while rocking gang
12		Repeat Steps 9, 10 and 11		
13	Reassemble chassis and antenna in cabinet. Check adjustment of C29 ("B" Ant.) at 4800 kc and C30 ("A" Ant.) at 1400 kc.			

Alignment Procedure

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.

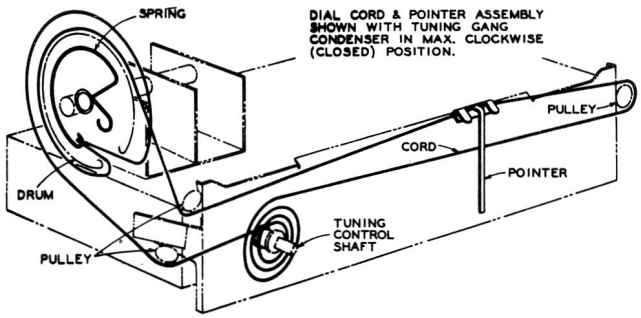
Battery operation of the receiver is preferable during alignment; on AC operation an isolation transformer (117v./117v.) may be necessary if the test oscillator is also AC operated.

Critical Lead Dress

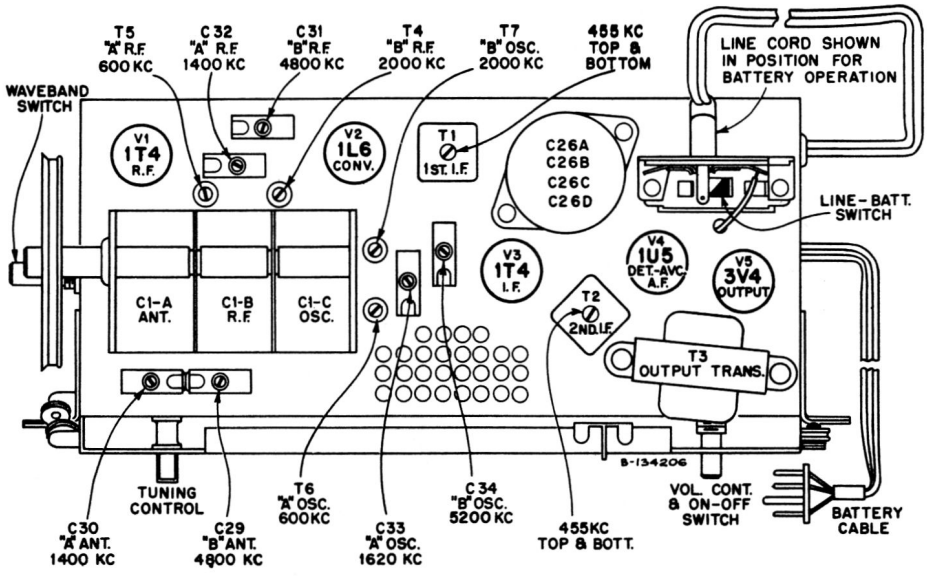
1. Dress all filament leads next to chassis.
2. Use short pigtail leads on components to V1, Pin 6.
3. Dress gang leads direct to avoid excess lead length.
4. Dress capacitor C17 across V3 socket to act as shield for C21.
5. Dress capacitors C3, C4 and C6 down to base between V1 socket and V2 socket, use short leads.
6. Use short pigtail lead on C16 to V3-2 and dress away from Pin 6.
7. Dress capacitor C24 down to base.
8. Twist loop antenna leads and dress into slots provided in cabinet—allow sufficient slack to permit rotation of antenna.
9. The "A" band series ant. coil (L3) and "B" band shunt ant. coil (L2) should be dressed away from chassis.

Chassis Removal

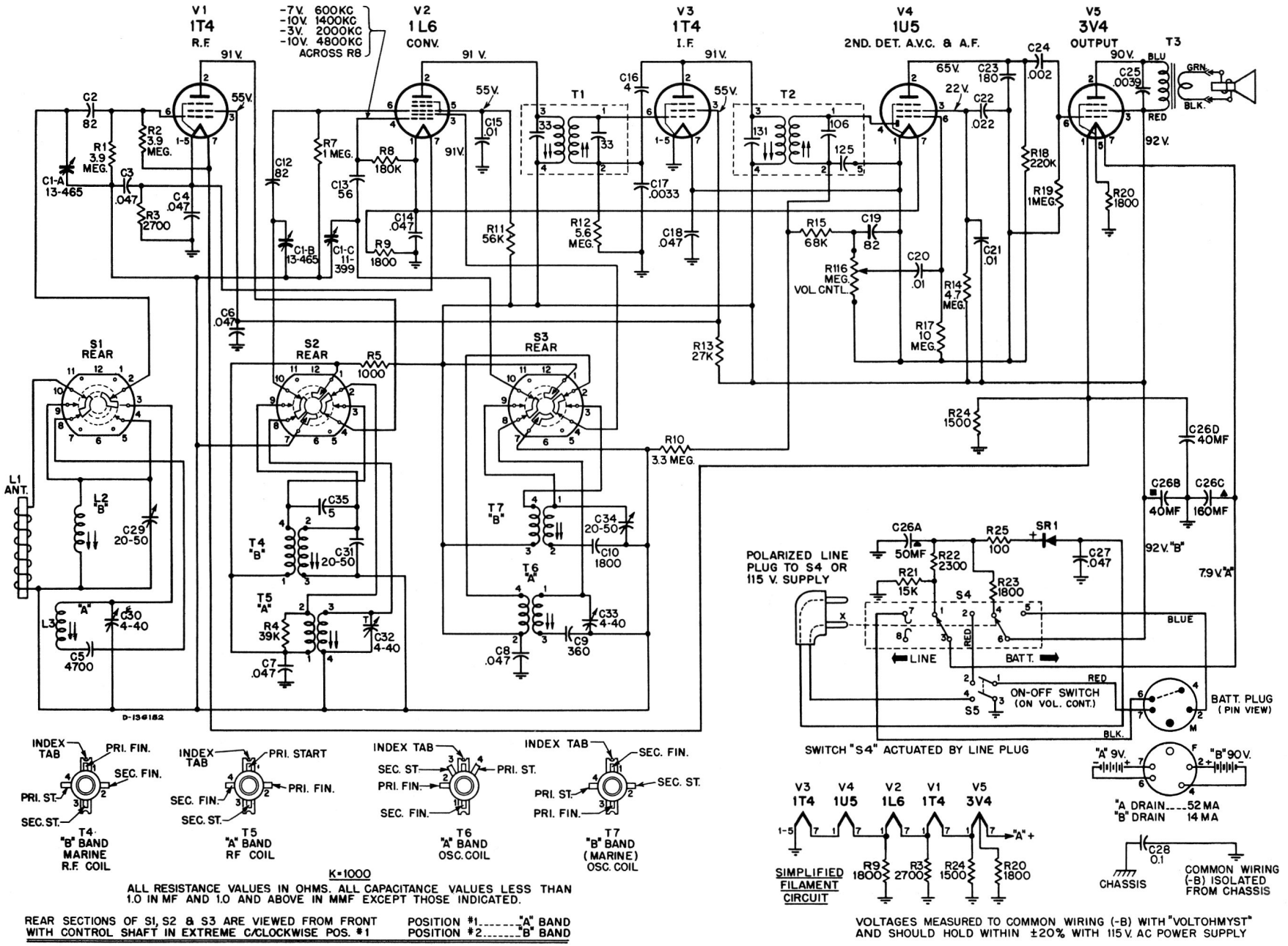
1. Remove control knobs (pull off).
2. Unsolder the two loop antenna leads.
3. Pull out battery and disconnect battery plug.
4. Remove the four chassis mounting screws, two at front sides and two at top rear.



Dial-Indicator and Drive Mechanism



Tube and Trimmer Locations



Schematic Diagram

REPLACEMENT PARTS LIST

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

SYMBOL No.	STOCK No.	DESCRIPTION
		CHASSIS ASSEMBLY RC-1163
C1A, C1B, C1C	102360	Capacitor—Variable tuning capacitor.
C2	71514	Capacitor—Fixed ceramic, 82 mmf., ±10%, 500 v.
C3	77422	Capacitor—Fixed paper, 0.047 mf., ±20%, 400 v.
C4	78921A	Capacitor—Fixed paper, 0.047 mf., ±20%, 200 v.
C5	101721	Capacitor—Fixed paper, 4700 mmf., ±10%, 200 v.
C6, C7, C8	77422	Same as C3
C9	72572	Capacitor—Fixed mica, 360 mmf., ±2%, 500 v.
C10	39658	Capacitor—Fixed mica, 1800 mmf., ±5%, 500 v.
C12	71514	Same as C2
C13	71924	Capacitor—Fixed ceramic, 56 mmf., ±10%, 500 v.
C14	78921A	Same as C4
C15	73960	Capacitor—Fixed ceramic, 0.01 mf., +100% −0%, 500 v.
C16	102430	Capacitor—Fixed ceramic, 4 mmf., ±1.0 mmf., 500 v.
C17	102425	Capacitor—Fixed paper, 0.0033 mf., ±10%, 400 v.
C18	78921A	Same as C4
C19	71514	Same as C2
C20, C21	101000	Capacitor—Fixed paper, 0.01 mf., ±10%, 200 v.
C22	102080	Capacitor—Fixed paper, 0.022 mf., ±10%, 200 v.
C23	71922	Capacitor—Fixed ceramic, 180 mmf., ±10%, 500 v.
C24	102079	Capacitor—Fixed paper, 0.0022 mf., ±10%, 400 v.
C25	102218	Capacitor—Fixed paper, 0.0039 mf., ±10%, 400 v.
C26A to C26D incl.	76659	Capacitor—Electrolytic, 50/40 mfd., 150 v., 160/40 mfd., 25 v.
C27	75071	Capacitor—Fixed paper, moulded, 0.047 mf., ±20%, 400 v.
C28	77423	Capacitor—Fixed paper, 0.1 mf., ±20%, 400 v.
C29	102359	Capacitor—Variable mica trimmer, 20-50 mmf., 500 v.
C30	102358	Capacitor—Variable mica trimmer, 4-40 mmf., 500 v.
C31	102359	Same as C29.
C32, C33	102358	Same as C30
C34	102359	Same as C29.
C35	75613	Capacitor—Fixed ceramic, 5 mmf., ±1%, 500 v.
L2	102432	Coil—Shunt coil, "B" band antenna.
L3	102431	Coil—Loading coil, "A" band antenna.
R1, R2	502539	Resistor—Fixed, composition, 3.9 megohms, ±10%, ½ w.
R3		Resistor—Fixed, composition, 2700 ohms, ±10%, ½ w.
R4		Resistor—Fixed, composition, 39,000 ohms, ±10%, ½ w.
R5		Resistor—Fixed, composition, 1000 ohms, ±10%, ½ w.
R7		Resistor—Fixed, composition, 1 megohm, ±20%, ½ w.
R8		Resistor—Fixed, composition, 180,000 ohms, ±10%, ½ w.
R9		Resistor—Fixed, composition, 1800 ohms, ±10%, ½ w.
R10		Resistor—Fixed, composition, 3.3 megohms, ±10%, ½ w.
R11		Resistor—Fixed, composition, 56,000 ohms, ±10%, ½ w.
R12	31455	Resistor—Fixed, composition, 5.6 megohms, ±10%, ½ w.
R13		Resistor—Fixed, composition, 27,000 ohms, ±10%, ½ w.
R14		Resistor—Fixed, composition, 4.7 megohms, ±20%, ½ w.
R15		Resistor—Fixed composition, 68,000 ohms, ±10%, ½ w.
R16		Control—Volume control and "on-off" switch (S5)
R17		Resistor—Fixed, composition, 10 megohms, ±20%, ½ w.
R18		Resistor—Fixed, composition, 220,000 ohms, ±20%, ½ w.
R19		Same as R7.
R20		Resistor—Fixed, composition, 1800 ohms, ±10%, ½ w.
R21		Resistor—Fixed, composition, 15,000 ohms, ±10%, ½ w.
R22		Resistor—Fixed, wirewound, 2300 ohms, ±5%, 7 w.
R23		Resistor—Fixed, composition, 1800 ohms, ±10%, 1 w.
R24		Resistor—Fixed, composition, 1500 ohms, ±10%, ½ w.
R25	102429	Resistor—Fixed, wirewound, 100 ohms, ±10%, 4 w.
S1, S2, S3	102363	Switch—Function switch.
S4	38905	Switch—D.P.D.T. "battery/line" switch.
S5	101999	Part of R16.
SR1	77958	Rectifier—Selenium rectifier.
T1	73129	Transformer—1st I.F. transformer.
T2	73130	Transformer—2nd I.F. transformer.
T3	102364	Transformer—Output transformer.
T4	102369	Coil—R.F. coil, "B" band.
T5	102368	Coil—R.F. coil, "A" band.
T6	102366	Coil—Oscillator coil, "A" band.
T7	102367	Coil—Oscillator coil, "B" band.
	101921	Bracket—Dial plate mounting bracket (2 req'd)
	101727	Connector—Terminal connector for speaker leads (2 req'd)
	73275	Connector—5-contact male connector for battery cable.
	79351	Cord—Power line attachment cord and plug.
	72953	Cord—Dial drive cord (250' spool).
	101926	Pointer—Station selector dial pointer.
	72602	Pulley—Aluminum pulley for dial plate assembly, 13/32" O.D. x 0.127 hole.
	101919	Shaft—Tuning control shaft.
	101375	Socket—Tube socket, 7 pin miniature for V4 & V5.
	73117	Socket—Tube socket, 7 pin miniature for V1, V2, & V3.
	76332	Spring—Dial cord tension spring.
		SPEAKER ASSEMBLY 971495-7
	77055	Speaker—4" P.M. speaker, complete with cone and voice coil (3.2 ohms).
		MISCELLANEOUS
L1	102340	Antenna—Antenna assembly—green "Impac."
	100090	Catch—Case catch, spring steel.
	Y2934	Case—Case front—green "Impac"—with grille, window and emblem.
	Y2935	Case—Case back—green "Impac"
	101989	Emblem—Trademark emblem.
	101930	Grille—Aluminum grille.
	102328	Handle—Carrying handle—green "Impac."
	101925	Insert—Plastic insert for antenna case assembly.
	102338	Knob—Function control knob with spring—green.
	102336	Knob—Tuning control knob with spring—green.
	102334	Knob—Volume control knob with spring—green.
	102675	Plate—L. H. hinge plate for carrying handle.
	102676	Plate—R. H. hinge plate for carrying handle.
	79744	Retainer—Formed wire retainer (hinge) for case front and case back.
	101927	Spring—Retaining spring for volume and tuning control knobs.
	101069	Spring—Retaining spring for function control knob.
	101939	Washer—Spring washer for antenna assy. beryllium copper.
	101920	Washer—Phenolic stop washer (⅜" I.D.) for antenna assembly.
	101918	Window—Dial window—clear vinylite.

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

All parts subject to change or withdrawal without notice.