MODEL BP 402

RCA VICTOR

"HIS MASTER'S VOICE"

BATTERY OPERATED PERSONNEL RECEIVER

MODEL BP402

SERVICE DATA

— 1950 No. 22 —

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 3V4 ---------- Output

Loudspeaker

Size and type ---------- 2" x 3" P.M.
Voice coil impedance ---------- 11¾ ohms at 1000 cycles

Batteries Required: Type of Battery	Current Consumption	Approx. Life (Intermittent Service)
"A"—1.5 volt Eveready No. 950	0.25 amp.	7 to 10 hrs.
"B"—67.5 volts Eveready No. 467	8.45 ma.	40 to 60 hrs.

Power Output:

Undistorted ---------- .075 watt
Maximum ---------- 0.10 watt

Dimensions (over-all) ---------- 5½" x 7⅝" x 2⅛"
Weight (with batteries) ---------- slightly under 3 lbs.

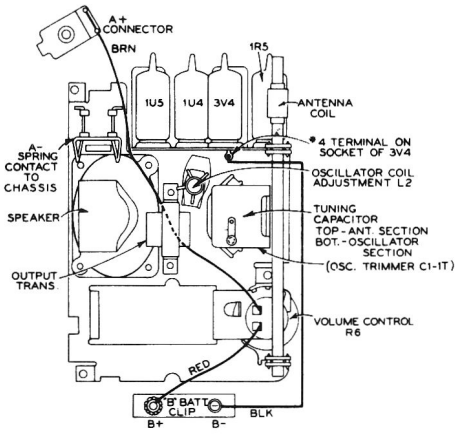

Fig. 1—Tube Trimmer location

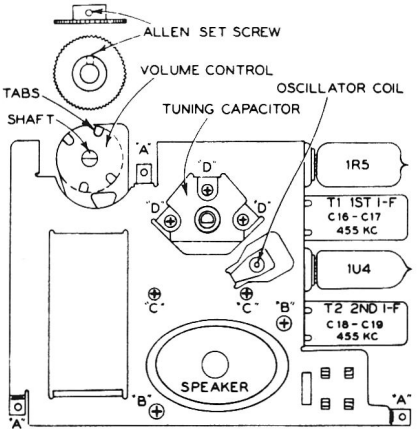

Fig. 2—Chassis assembly

REPLACEMENT PARTS FOR MODEL BP402

STOCK NO.	DESCRIPTION
	CHASSIS ASSEMBLIES
*75783	Capacitor-Gang cond. (C1-1,C1-2)
73153	" -Cer. 4 MMF (C-5)
*75784	" -56 MMF (C-2,C-7)
*75785	" -82 MMF (C-9,C-10)
	" -Paper .001 Mfd. 200 V. (C-12)
	" -Paper .002 Mfd. 200 V.(C-11,C14)
	" -Paper .003 Mfd. 200 V. (C-6)
	" -Cer. .01 Mfd. (C-4)
	" -Paper .02 Mfd. 200 V. (C-13)
	" -Paper .05 Mfd. 400 V. (C-8)
*73964	" -Electrolytic 10 Mfd.70V.(C-15)
*S-5949	Coil-Osc. coil (L-2,L-3)
*75773	Control-Vol.Cont.& power switch(R-6,S-1)
	Resistors 390 ohms +-10% ½ W. (R-11)
	" 1,000 ohms +-20% ½ W. (R-12)
	" 15,000 ohms +-10% ½ W. (R-2)
	" 47,000 ohms +-20% ½ W. (R-5)
	" 100,000 ohms +-20% ½ W. (R-1)
	" 1 megohm +-20% ½ W. (R-9)
	" 3.3 Meg. +-20% ½ W. (R4,R10)
	" 4.7 Meg. +-20% ½ W. (R3,R7)
	" 10 Meg. +-20% ½ W. (R-8)
*75775	Transformer-1st I.F. (T1)

STOCK NO.	DESCRIPTION
	CHASSIS ASSEMBLIES - Cont'd.
*75776	Transformer-2nd I.F. (T-2)
*S-5950	" -Output (T-3)
	SPEAKER ASSEMBLY
S-5948	Speaker
	MISCELLANEOUS ASSEMBLIES
*75778	Antenna-Ferrite rod antenna (L1)
*75787	Back-Case back
S-5947	Case front assy (complete)
*S-5951	Case front only
*75781	Clip-battery mounting clip
*75782	Contact-Battery contact
*75651	Emblem - "RCA Victor" emblem
*75648	Grille - Metal grille
*75649	Handle - Carrying handle
*75788	Knob - Tuning dial knog less spring
*75779	Knob - Volume control knob
*75650	Link - Carrying handle link
*74734	Spring - Spring clip for dial knobs
*S-5952	Trim - R.H.
*S-5953	" - L.H.
	* Indicates new Stock Items.

Only items listed under Stock Numbers are available as Replacement Parts.
All parts subject to change or withdrawal without notice.

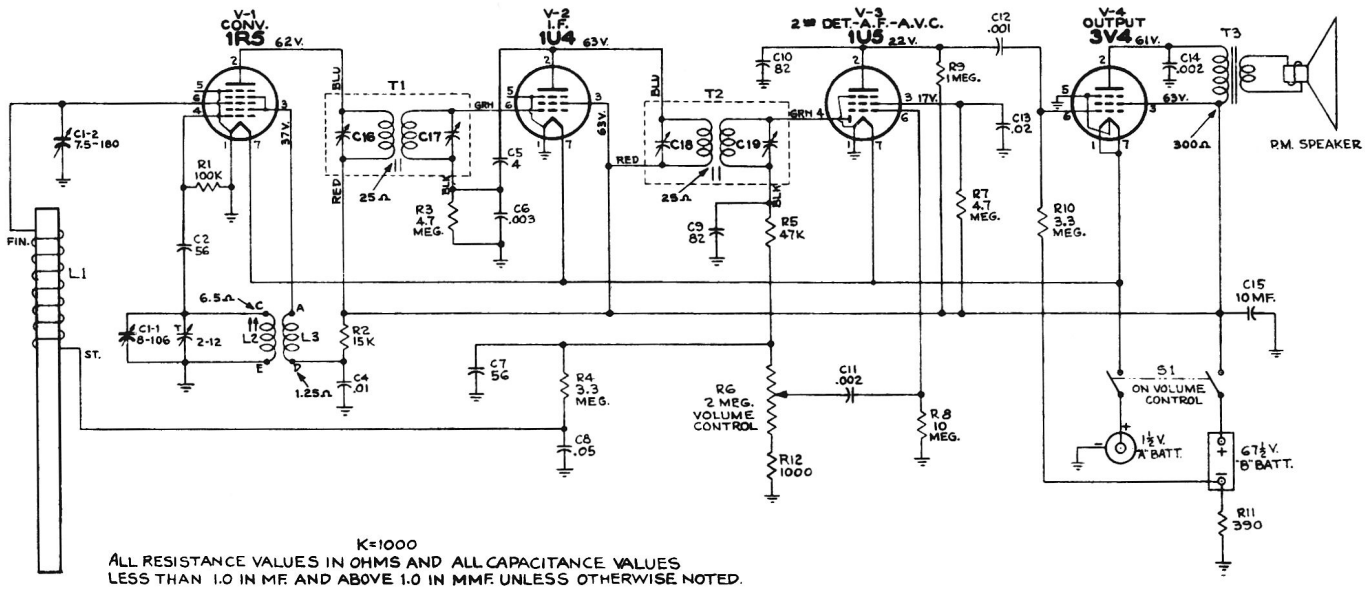

Fig. 3—Schematic Diagram

Alignment Procedure

Output Meter.—Connect meter from No. 2 terminal of V4 (plate of 3V4) to ground. Turn volume control to maximum position.

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 a-v-c action.

Note:—The inductance of the antenna coil is adjusted by sliding the coil along the Ferrite rod. This ant. coil is supplied pre-adjusted and cemented to rod. This makes further adjustment unnecessary. However when replacing ant. assembly make certain that the coil end of the rod extends two inches beyond the tube shelf.

Critical Lead Dress

1. Dress all I-F transformer leads down to base and push any excess lead back in can.
2. Black lead from 1st I-F should lay down against top of tube shelf with capacitor C6 over it.
3. Dress neutralizing capacitor C5 direct and above chassis base, avoid lead length.
4. Dress blue lead from volume control and green lead from terminal board near volume control down to base and under gang frame diagonally to termination.
5. Dress blue lead from output transformer under clamp on back of gang condenser and direct to terminal 2 of V4.
6. Adjust Ferrite antenna so that coil end of rod extends two inches beyond tube shelf.
7. Dress all bare wires, pigtail leads and non-insulated components to prevent shorts.

Alignment Chart

ORDER OF ALIGNMENT		TEST OSCILLATOR				RECEIVER				
		CONNECT 'HI' SIDE TO	CONNECT 'LO' SIDE TO	DUMMY ANTENNA	FREQUENCY SETTING	RANGE SELECTOR	DIAL SETTING	CIRCUIT TO ADJUST	ADJUSTMENT SYMBOLS	NOTES
I.F. Alignment	1	C1-2 Lug	Gnd	.01 mfd.	455 K.C.		Hi End	2nd I.F. Trans.	C-18, C-19	Max. Output
	2	Same	Same	Same	Same		Same	1st I.F. Trans.	C-16, C-17	" "
	3	Repeat steps 1 & 2								
R.F. Alignment	4	*Ant. Coupling Loop (Chassis in case)	Gnd		1400 K.C.		14 Rock Gang	Osc.	C-1 - 1T	Max. Output
	5	Same	Gnd		600 K.C.		60 Rock Gang	Osc.	L-2	" "
	6	Repeat steps 4 & 5								

*Steps 4 and 5 require a coupling loop from the signal generator to feed a signal into the receiver ant. coil. This loop should be loosely coupled to the receiver ant. coil so as not to disturb the receiver ant. coil inductance.