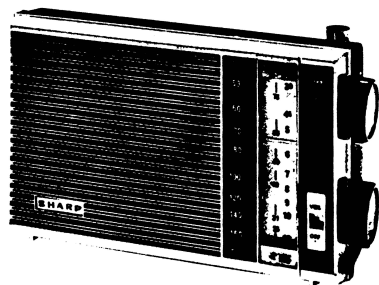


Service Manual



MODEL

BX-392

SPECIFICATIONS

Frequency Range	
MW	530~1650KC
SW	3.9~12MC
Intermediate Frequency	
	455KC
Power Supply	
	6V, UM-3×4
Power Output	
Undistorted	200mW
Maximum	300mW
Speaker	
	2 5/8" (6.5 cm) P.D.S.
Transistor Complement	
Q.1	2SA352B Mixer
Q.2	2SA12A 1st IF Amplifier
Q.3	2SA12C 2nd IF Amplifier
Q.4	2SB75B Audio Amplifier
Q.5	2SB75B Drive Amplifier
Q.6	2SB77B Output
Q.7	2SB77B Output
Q.8	2SA351B Oscillator

GENERAL DESCRIPTION

The circuitry used in this portable radio incorporates 8 transistors, 1 diode and 1 thermistor.

A bar antenna feeds the MW broadcast signal to the converter.

A rod antenna feeds the SW broadcast signal to the mixer. Local oscillator voltage is fed back to the mixer.

After going through 2 IF amplifiers and 1 diode detector, the signal passes through a 4-transistor audio amplifier.

CHASSIS REMOVAL

1. Remove the back cover retaining screw and the back cover.
2. Remove 1 stud located on the speaker angle.
3. Remove 2 screws located on the printed circuit board.
4. Carefully lift up the chassis and remove it from the cabinet.

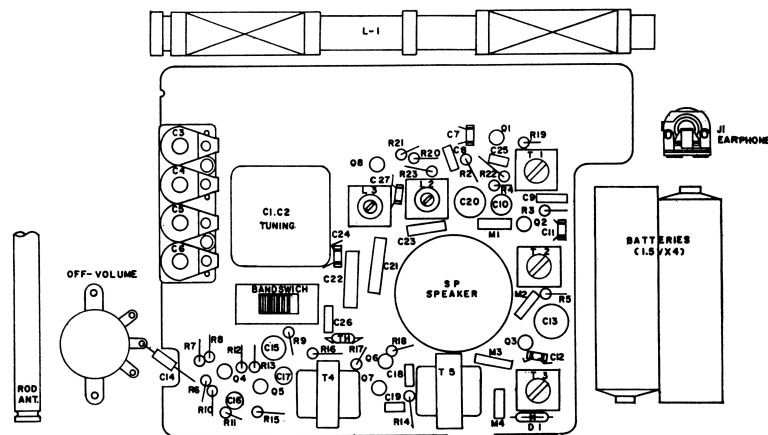


Figure 2- Top View of Chassis

DIAL CORD STRINGING

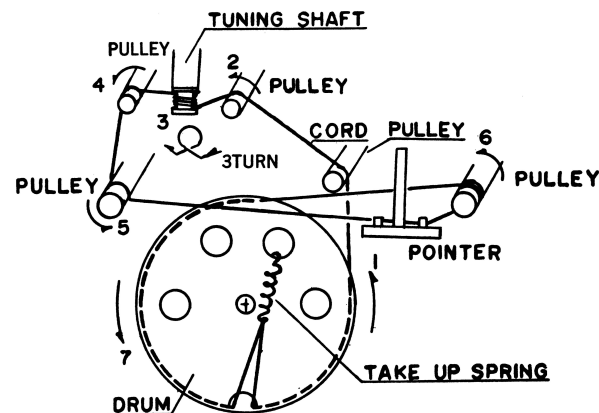


Figure 3

ALIGNMENT INSTRUCTION

Should it become necessary at any time to check the alignment of this receiver, proceed as follows:

- 1) Connect an output meter across the speaker voice coil lugs.
- 2) Set volume control for maximum.
- 3) Use the lowest setting of signal generator capable of producing adequate indication on the lowest scale of output meter.
- 4) Use a non-metallic alignment tool.
- 5) Repeat adjustments to insure good results.

ALIGNMENT CHART

Signal generator				Receiver		Adjust
Step	Band	Connection to receiver	Input signal frequency	Dial setting	Remarks	
1	M.W.	Connect signal generator through a 10K Ω resistor to the antenna tuning condenser. Ground lead to the receiver chassis.	Exactly 455KC. (400%, 30%, AM modulated.)	Tuning gang fully open. (minimum capacity)	Adjust for maximum output on speaker voice coil lugs.	3rd-IF Trans. core 2nd-IF Trans. core 1st-IF Trans. core
2	M.W.	Use radiating loop. Loop of several turns of wire, or place generator lead close to receiver for adequate signal pickup. Connect generator output to one end of this wire.	Exactly 520KC. (400%, 30%, AM modulated.)	Tuning gang fully closed. (maximum capacity)	Same as step 1.	MW Oscillator core L2
3	M.W.	Same as step 2.	Exactly 1680KC. (400%, 30%, AM modulated.)	Tuning gang fully open. (minimum capacity)	Same as step 1.	MW Oscillator trimmer C6
4	M.W.	Same as step 2.	Exactly 600KC. (400%, 30%, AM modulated.)	600 KC	See NOTE	MW Antenna coil L1
5	M.W.	Same as step 2.	Exactly 1400KC. (400%, 30%, AM modulated.)	1400 KC	Same as step 4.	MW Antenna trimmer C4
6	M.W.	Repeat steps 2, 3, 4 and 5 until no further improvement is obtained.				
7	S.W.	Same as step 2.	Exactly 3.8MC (400%, 30%, AM modulated.)	Tuning gang fully closed. (maximum capacity)	Same as step 1.	SW Oscillator core L3
8	S.W.	Same as step 2.	Exactly 12.2MC (400%, 30%, AM modulated.)	Tuning gang fully open. (minimum capacity)	Same as step 1.	SW Oscillator trimmer C5
9	S.W.	Same as step 2.	Exactly 4.5MC (400%, 30%, AM modulated.)	4.5 MC	Same as step 4.	SW Antenna coil L1
10	S.W.	Same as step 2.	Exactly 10MC (400%, 30%, AM modulated.)	10 MC	Same as step 4.	SW Antenna trimmer C3
11	S.W.	Repeat steps 12, 13, 14 and 15 until no further improvement is obtained.				

NOTE

Check alignment of receiver antenna coil by bringing a piece of ferrite (such as a coil slug) near the antenna loop stick, then a piece of brass. If ferrite increases output, loop requires more inductance. If brass increases output, loop requires less inductance. Change loop inductance by sliding the bobbin toward the center of ferrite core to increase inductance, or away to decrease inductance.

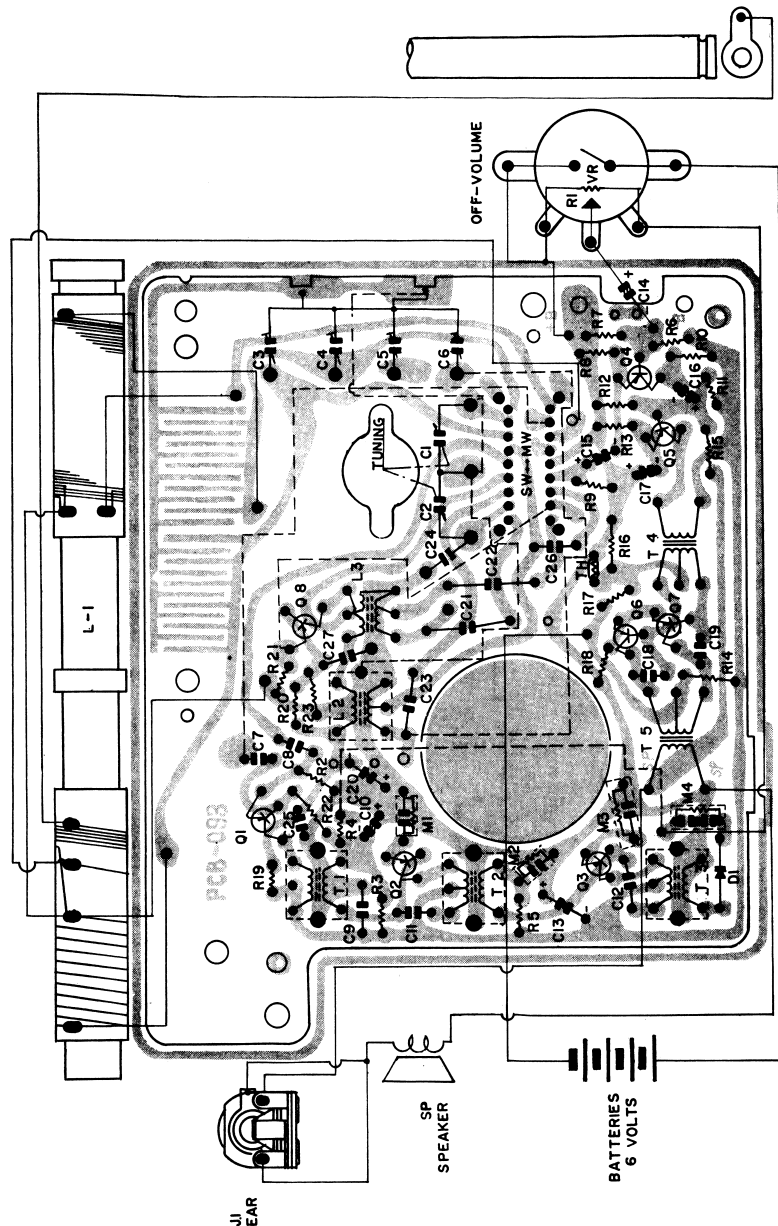


Figure 1— Bottom View of P.C. Board

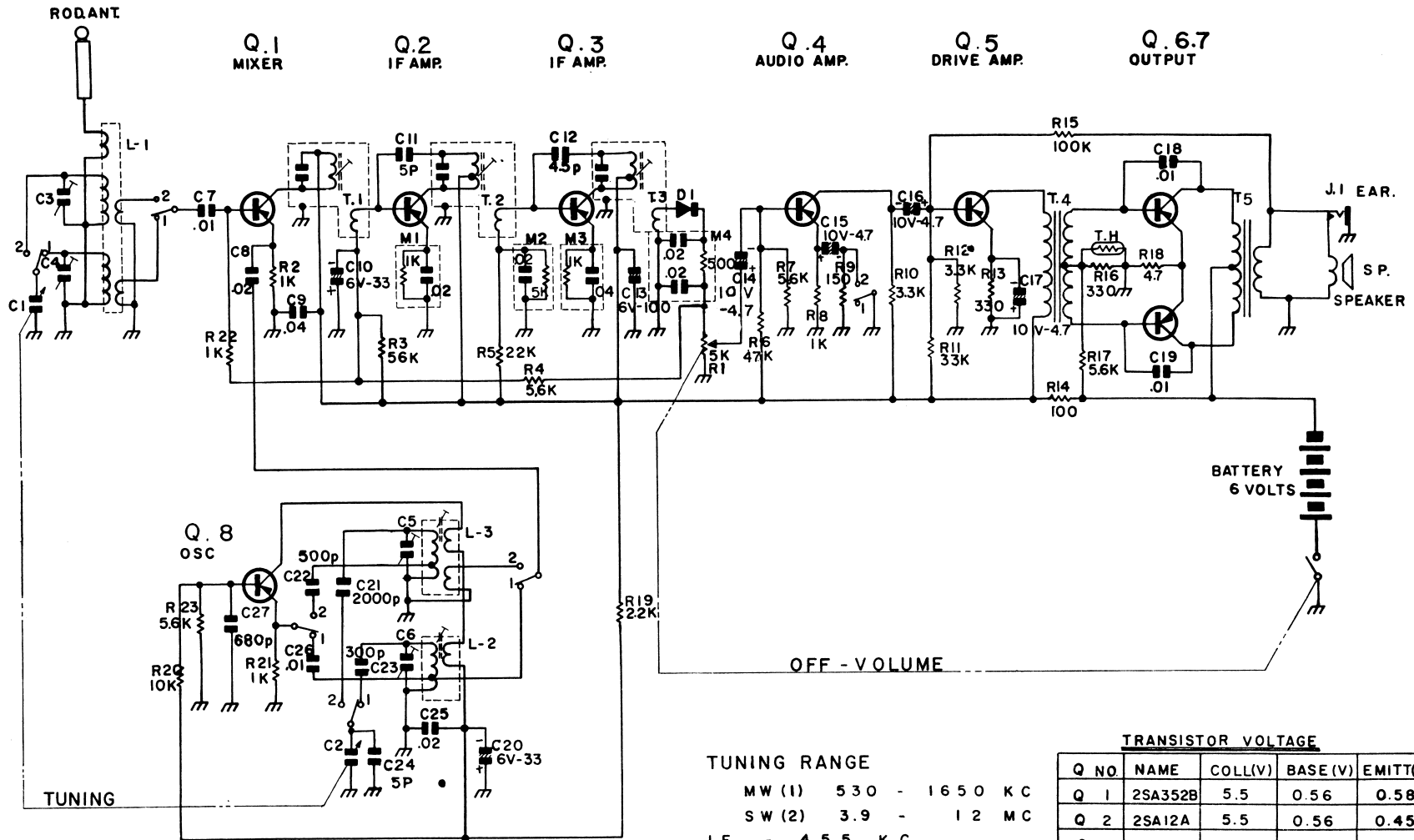


Figure 4- Schematic Diagram