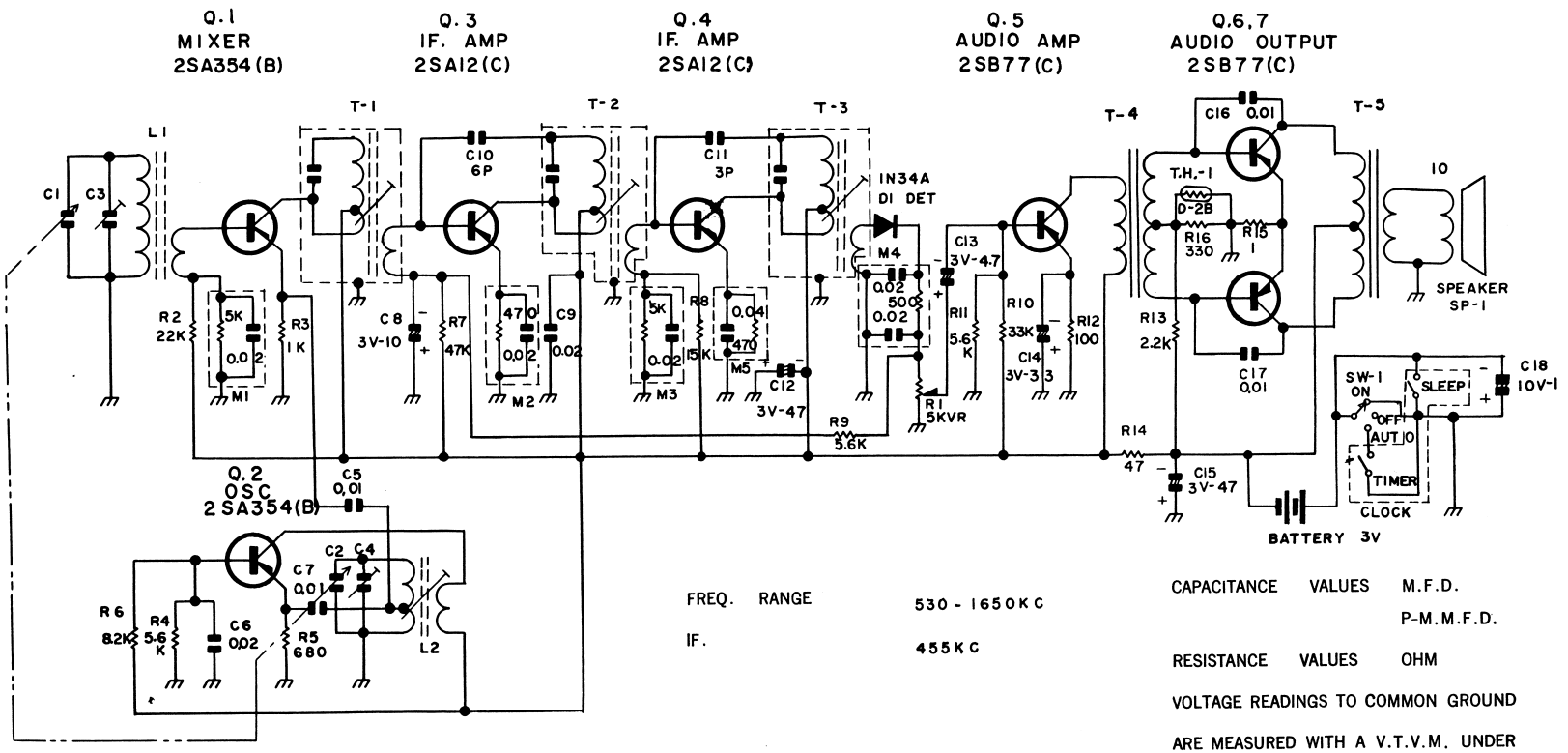



FREQ. RANGE 530 - 1650KC

IF. 455KC

CAPACITANCE VALUES M.F.D.
P-M.M.F.D.

RESISTANCE VALUES OHM

VOLTAGE READINGS TO COMMON GROUND ARE MEASURED WITH A V.T.V.M. UNDER NO SIGNAL CONDITIONS.

TRANSISTOR VOLTAGES

| Q. NO | COLL.(V) | BASE(V) | EMITT(V) |
|---|---|---|---|
| Q.1 | 2.8 | 0.7 | 0.68 |
| Q.2 | 2.8 | 1.13 | 1.05 |
| Q.3 | 2.8 | 0.38 | 0.25 |
| Q.4 | 2.8 | 0.6 | 0.45 |
| Q.5 | 2.4 | 0.27 | 0.13 |
| Q.6 | 3.0 | 0.16 | — |
| Q.7 | 3.0 | 0.16 | — |

SCHEMATIC DIAGRAM
BPC-12 (4096)

LAST PARTS NUMBER
C18 . R16

Figure 1- Schematic Diagram

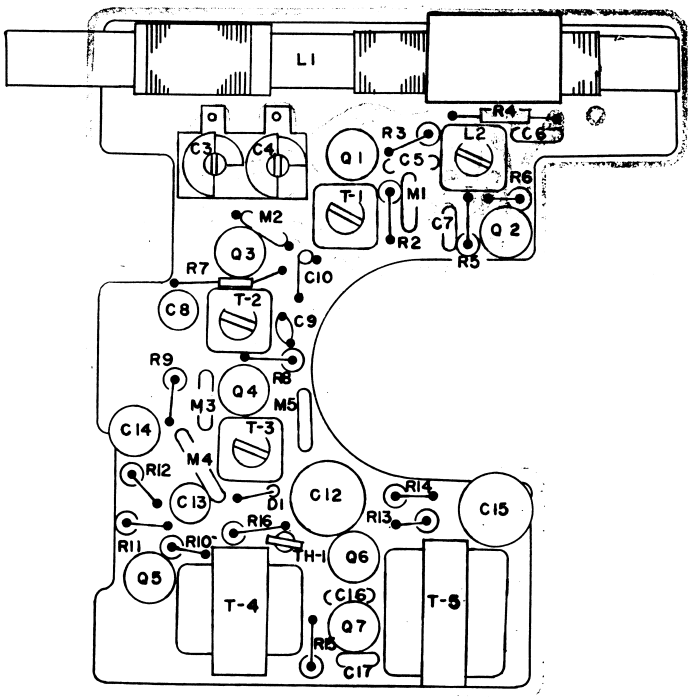



Figure 2- Top View of Chassis

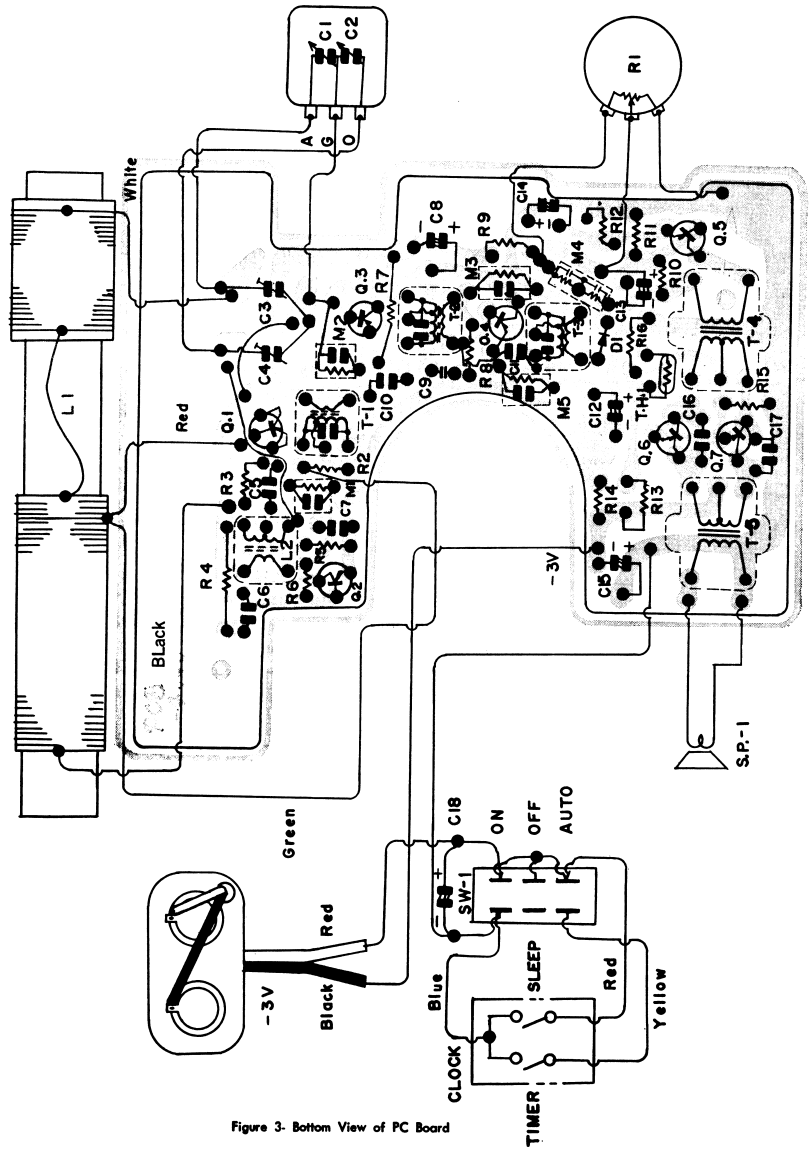
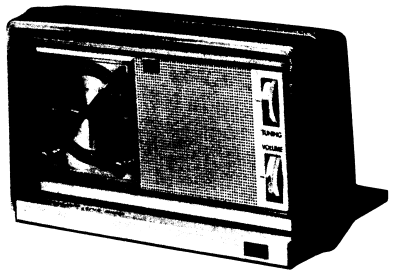



Figure 3- Bottom View of PC Board

# Service Manual

SHARP



MODEL

BPC-12

## SPECIFICATIONS

Frequency Range
- Broadcast ..... 530-1650 KC

Intermediate Frequency..... 455 KC

Transistor Complement
- Q1 2SA354(B).....Mixer
- Q2 2SA354(B).....Oscillator
- Q3 2SA12 (C).....1st IF Amplifier
- Q4 2SA12 (C).....2nd IF Amplifier
- Q5 2SB77 (C).....Audio Amplifier
- Q6,7 2SB77 (C).....Output

Power Output
- Undistorted .....90mW
- Maximum .....130mW

Speaker Size .....2 3/8" PM

Voice Coil Impedance.....10 ohms @400 cycles

Power Supply .....3V (UM-3×2pcs)

## GENERAL DESCRIPTION

The circuitry used in this portable radio incorporates 7 transistors, 1 diode and 1 thermistor.

A bar antenna feeds the AM broadcast signal to the mixer and local oscillator voltage.

After going through 2 IF amplifiers and 1 diode detector, the signal then passes through a 3 transistor audio amplifier circuit.

An AM AGC voltage is fed back to lst IF amplifier.

## CHASSIS REMOVAL

1. Remove back cover and battery supply.
2. Remove 3 screws located on the printed circuit board.
3. Lift the chassis out of the cabinet, exercising caution to avoid puncturing the speaker cone.

## 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.

## AM ALIGNMENT CHART

| Signal generator | | | Receiver | | Adjust |
|---|---|---|---|---|---|
| Step | Connection to receiver | Input signal frequency | Dial setting | Remarks | |
| 1 | Connect signal generator through a 10KΩ resistor to the antenna tuning condenser. Connect ground lead of generator 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. | T3 T2 T1 |
| 2 | 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. | L2 |
| 3 | Same as step 2. | Exactly 1680KC. (400%, 30%, AM modulated.) | Tuning gang fully open. (minimum capacity) | Same as step 1. | C4 |
| 4 | Same as step 2. | Exactly 600KC. (400%, 30%, AM modulated.) | 600 KC | See NOTE. | L1 |
| 5 | Same as step 2. | Exactly 1400KC. (400%, 30%, AM modulated.) | 1400 KC | Same as step 4. | C3 |
| 6 | Repeat steps 2, 3, 4 and 5 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. This adjustment is not normally required unless L1 has been replaced.