## 8-Transistor, 2-band Portable Radio

 mode 8 BS -322A SERVICE MANUALSANYO ELECRIC CO., LTD.

INTERNATIONAL DIVISION. : SANYO ERECTLIC TRADING CO., LTD. OSAKA, JAPAN


## SPECIFICATIONS

| FREQUENCY RANGE....... |  | BC $530-1605 \mathrm{Kc}$ SW 3.8-12 Mc |
| :---: | :---: | :---: |
| INTERMEDIATE FREQUENCY |  | 455 Kc |
| TRANSISTOR COMPLEMENT : |  |  |
|  | 2SA222 | Local oscillator |
|  | 2 SA 221 | Frequency mixer |
|  | 2SA202 | 1st IF amplifier |
|  | 2SA203 | 2nd IF amplifier |
|  | 2SB185 $\times 2$ | AF amplifier |
|  | 2SB187 $\times 2$ | Power amplifier |
| DIODE | -..... 1S188 | Detector \& AGC |
| THERMISTOR ................. S | -09 Temper | ature compensator |
|  |  |  |
| RADIATION SENSITIVITY: | (10 mW out | put $\mathrm{BC} 230 \mu \mathrm{~V} / \mathrm{m}$ |

OUTPUT POWER : Undistorted ..... 250 mW Maximum $\quad 400 \mathrm{~mW}$ DISTORTION : ........... 50 mW output at $5 \mathrm{mV} / \mathrm{m}$ input $7 \%$ SIGNAL TO NOISE RATIO: 5 mW output at $1 \mathrm{mV} / \mathrm{m}$ input $\quad \mathrm{BC} 25 \mathrm{~dB}$ SW 21 dB
CURRENT DRAIN......................................No signal 17 mA Maximum 136 mA LOUDSPEAKER : ....................4" permanent dynamic speaker Voice coil impedance 4 ohms BATTERY : ..............................Operates on 4 " $\mathrm{C}^{\prime \prime}$ size flashlight $\begin{gathered}\text { batteries } \\ \text { DIMENSIONS : } \ldots \ldots \ldots \ldots \ldots . . . . . . . .95 / 8^{\prime \prime} \text { wide } \times 51 / 2^{\prime \prime} \text { high } \times 27 / 8^{\prime \prime} \text { deep }\end{gathered}$ BATTERY : ..............................Operates on 4 " $\mathrm{C}^{\prime \prime}$ size flashlight
batteries
DIMENSIONS : .................. $95 / 8^{\prime \prime}$ wide $\times 51 / 2^{\prime \prime}$ high $\times 278^{\prime \prime}$ deep WEIGHT : ......................................................... 2.6 lbs

## ALIGNMENT PROCEDURES

(1) Alignment of Semi-fixed resistor

Apply 6 volt to the receiver as power source and make a receiver tune in no signal (station). Connect a volt-meter (range : 1 V ) between two points A and B as figure. Adjust the value' of semi-fixed resister in order to obtain 0.35 volt deflection.
(2) IF and Broadcast RF alignment


Apply volt-meter across the voice coil.
Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain output reading in order to avoid AGC function.

| STEP | SIGNAL GENERATOR COUPLING | $\begin{aligned} & \text { SIGNAL } \\ & \text { GENERATOR } \\ & \text { FREOUENCY } \end{aligned}$ | RADIO DETIAL SETING | ADJUST FOR MAXIMUM OUTPUT |
| :---: | :---: | :---: | :---: | :---: |
| IF ALIGNMENT |  |  |  |  |
| 1 | Radiate signal through the loop antenna, which conneted with signal generator output cable. | 455 Kc | Lower end | T-3 $\mathrm{T}-2$ $\mathrm{~T}-1$ |
| BROADCAST RF ALIGNMENT |  |  |  |  |
| 2 | Radiate signal through the loop antenna, which connected with signal generator output cable. | 520 Kc | Lower end | L-4 |
| 3 |  | 1650 Kc | Upper end | BC osc trim. Ct4 |
| 4 |  | Repeat steps 2 and 3 |  |  |
| 5 |  | 600 Kc | 600 Kc | L-2 |
| 6 |  | 1400 Kc | 1400 Kc | BC ant. trim. Ct2 |
| 7 |  | Repeat steps 5 and 6 |  |  |
| SHORT WAVE RF ALIGNMENT |  |  |  |  |
| 8 | Radiate signal through the loop antenna, which connected with signal generator output cable. | 3.7 Mc | Lower end | L-3 |
| 9 |  | 12.8 Mc | Upper end | SW osc trim. Ct3 |
| 10 |  | Repeat steps 8 and 9 |  |  |
| 11 |  | 4.0 Mc | 4.0 Mc | L-1 |
| 12 |  | 11.0 Mc | 11.0 Mc | SW ant. trim. Ct1 |
| 13 |  | Repeat steps 11 and 12 |  |  |

PARTS LIST


6-20035 Printed in Japan.

1. Antenna coil (L-I)


2. Output trans (T-5)


ANT Coil



Variable resistor 211
(R-124504a)

## Trimmer (R-C0030



