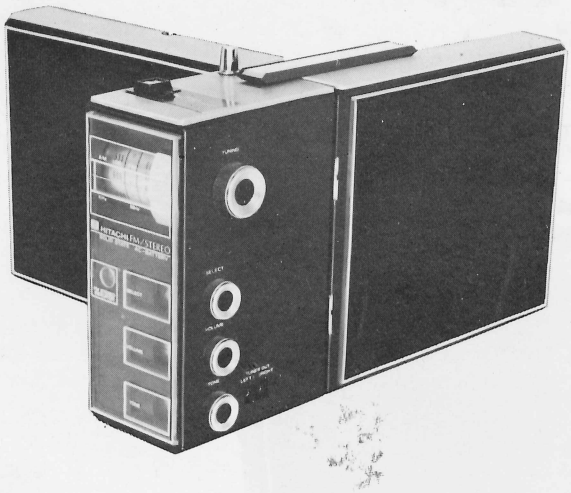


HITACHI
Hitachi, Ltd. Tokyo Japan

FM/AM 18-TRANSISTOR RADIO

MODEL KS-1810H

SERVICE MANUAL

No. 230 1969

SPECIFICATIONS

CIRCUIT SYSTEM ..... 18-transistor superheterodyne with FM stereo adaptor
TUNING RANGE ..... FM 88 ~ 108MHz
AM 530 ~ 1,605KHz
INTERMEDIATE FREQUENCY ... FM 10.7MHz
AM 455KHz

TRANSISTORS
2SC535 ..... FM RF Amp.
2SC535 ..... FM frequency Converter
2SC454 ..... FM IF Amp.
2SC460 ..... FM IF Amp.
2SC454 ..... AM frequency Converter
2SC460 ..... FM/AM IF Amp.
2SC460 ..... FM/AM IF Amp.
2SC458 ..... 19KHz Composite Amp.
2SA12 ..... 38KHz Doubler Amp.
2SB458 ..... AF Amp. } (Right)
2SB77 ..... AF Amp. } (Right)
2SB156 × 2 ..... Power Amp. } (Right)
2SB458 ..... AF Amp. } (Left)
2SB77 ..... AF Amp. } (Left)
2SB156 × 2 ..... Power Amp. } (Left)
2SC458 ..... DC Amp.

DIODES
1N60 ..... FM limiter
1S85 ..... FM AFC.
1N60 ..... FM limiter
1N34A ..... AGC
1N60 × 2 ..... FM DISC.
1N34A ..... AM detector & AGC
1N34A × 2 ..... Doubler
1N60 × 4 ..... Switching
HR-5A ..... Rectifier

VARISTOR & THERMISTORS
IR2 ..... Voltage Stabilizer
D-1A ..... Temperature Compensator (Right)
D-1A ..... Temperature Compensator (Left)
AUDIO OUTPUT ..... 600mW × 2 (Maximum)
400mW × 2 (No signal)
LOUDSPEAKER ..... 4″ P.M. × 2
ANTENNA ..... Telescopic & Ferrite core antenna built-in
JACK ..... Three (Two earphone jacks and one AC power socket)
CURRENT CONSUMPTION ... 27mA (with no signal in AM)
28mA (with no signal in FM)
POWER SUPPLY ..... DC 6V (JIS "UM-2" × 4, or standard "C" cell × 4)
AC 120V 60Hz
SENSITIVITY ..... FM: 0dB } (Maximum)
AM: 30dB } (Maximum)
M: 10dB } (Practical)
AM: 43dB } (Practical)
DIMENSIONS ..... 7¼″ (H) × 3″ (W) × 9 3/16″ (D)
(Speaker folded)
WEIGHT ..... 5 lbs 8oz

ACCESSORIES

Earphones 2
Tuner-out plug 2

CONTROLS

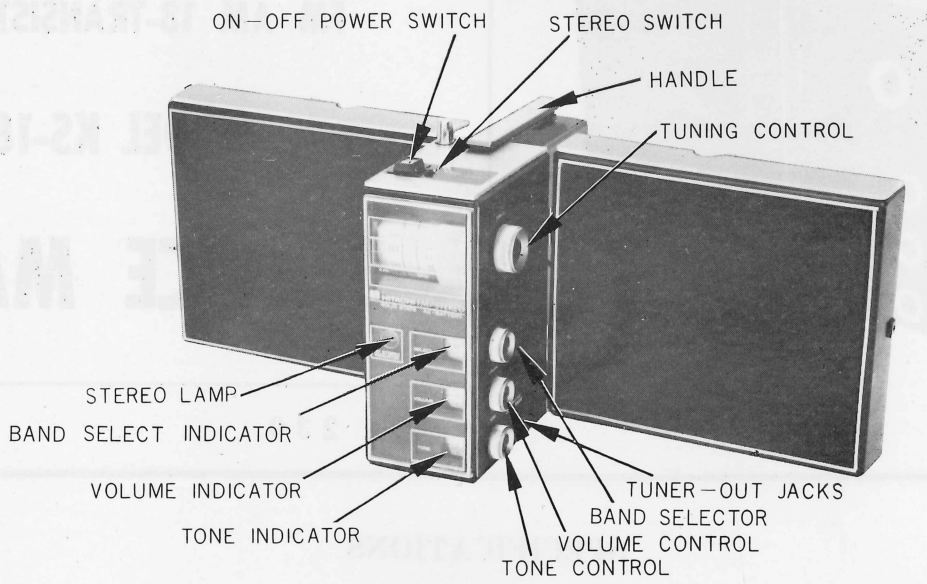


Fig. 1

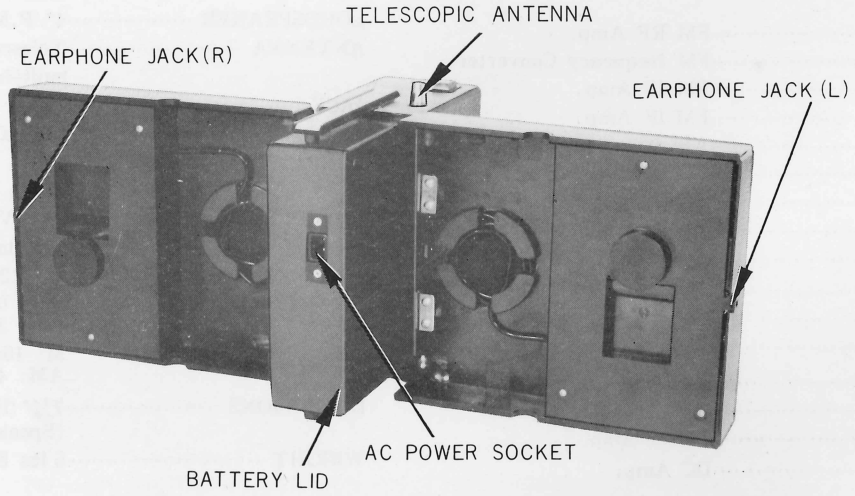


Fig. 2

BLOCK DIAGRAM

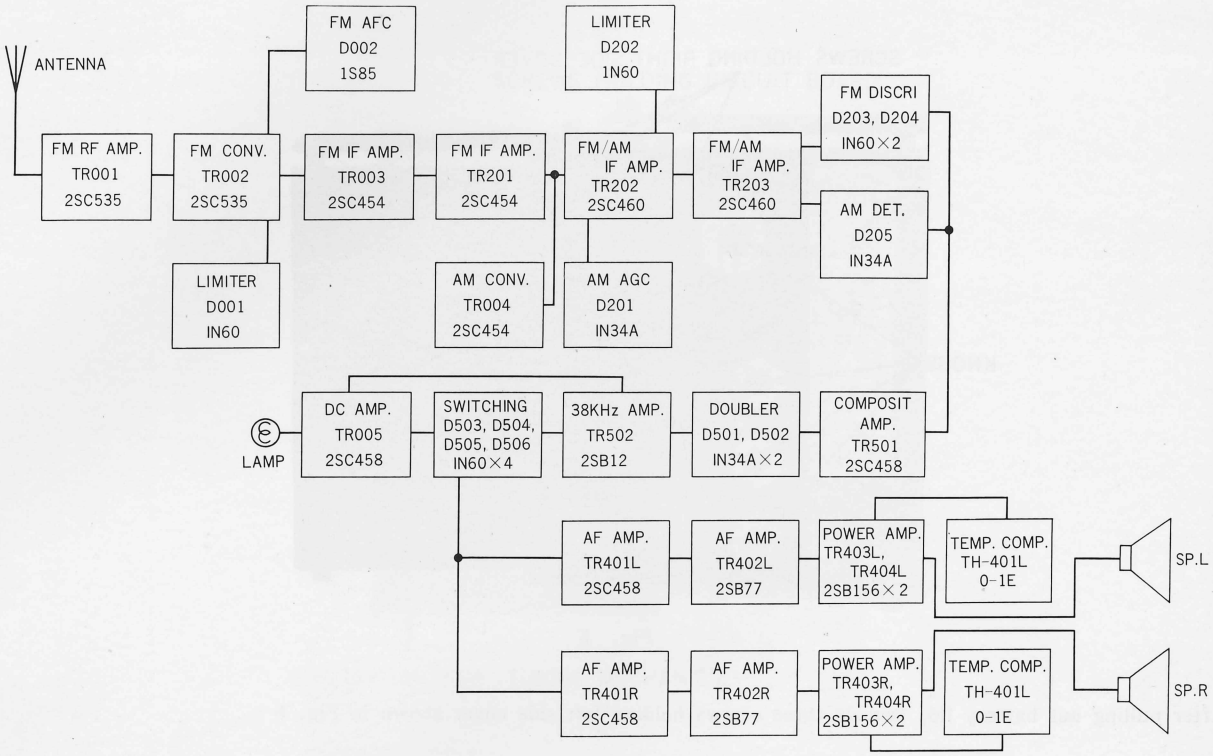


Fig. 3

DISASSEMBLY

1. Removal of speaker box back cover

Remove three screws holding left and right back covers shown in Fig 4

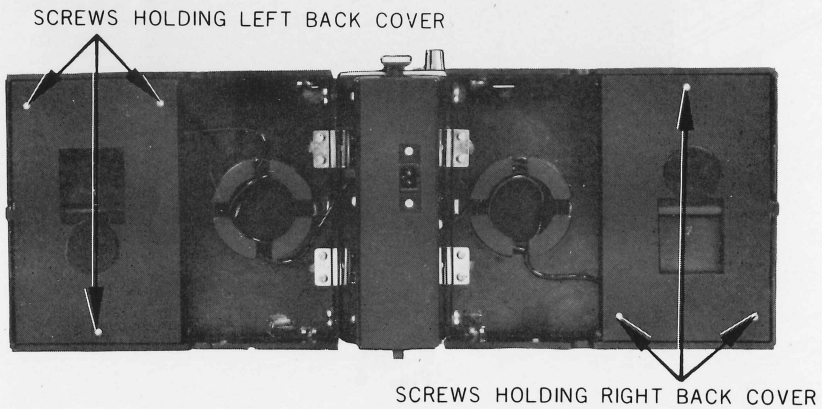


Fig. 4

2. Removal of side cover

After pulling out four knobs, remove three screws holding right side cover shown in Fig. 5

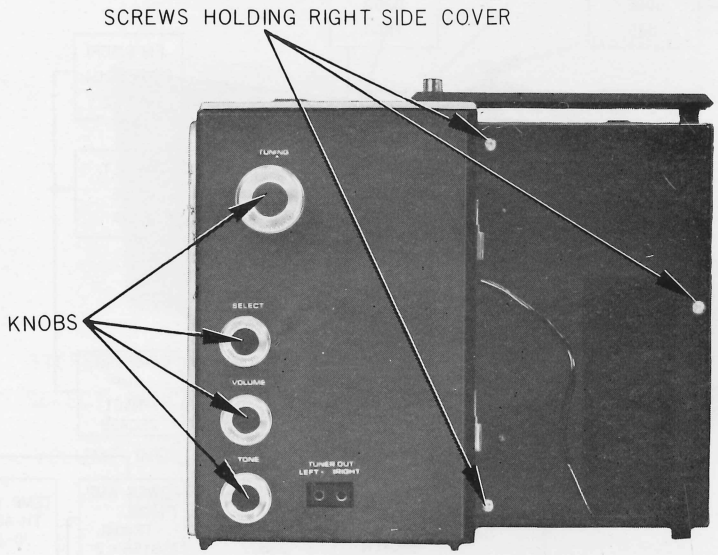


Fig. 5

After pulling out battery lid, remove three screws holding left side cover shown in Fig. 6

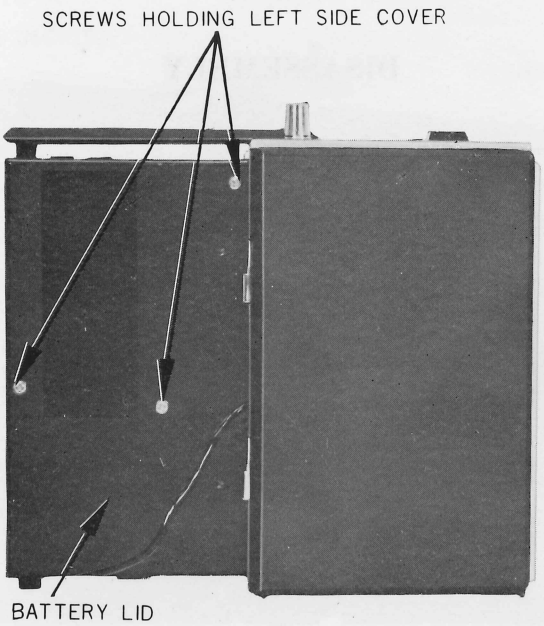


Fig. 6

3. Removal of circuit board

After removing three screws holding tuning mechanism shown in Fig. 7 and two screws holding band selector shown in Fig. 8 , remove four screws holding circuit board shown in Fig. 7

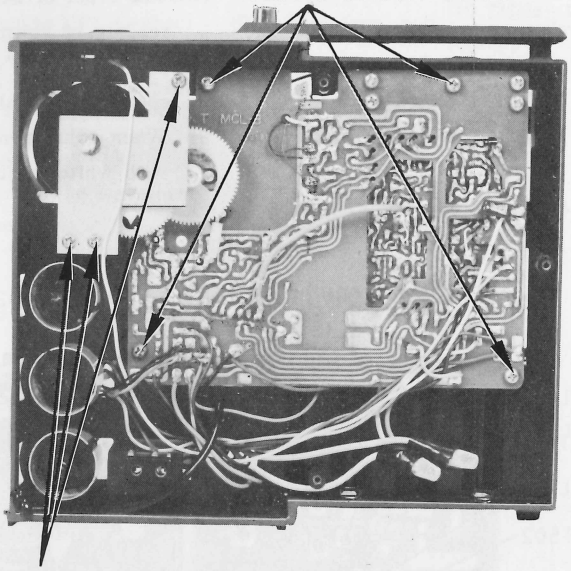


Fig. 7

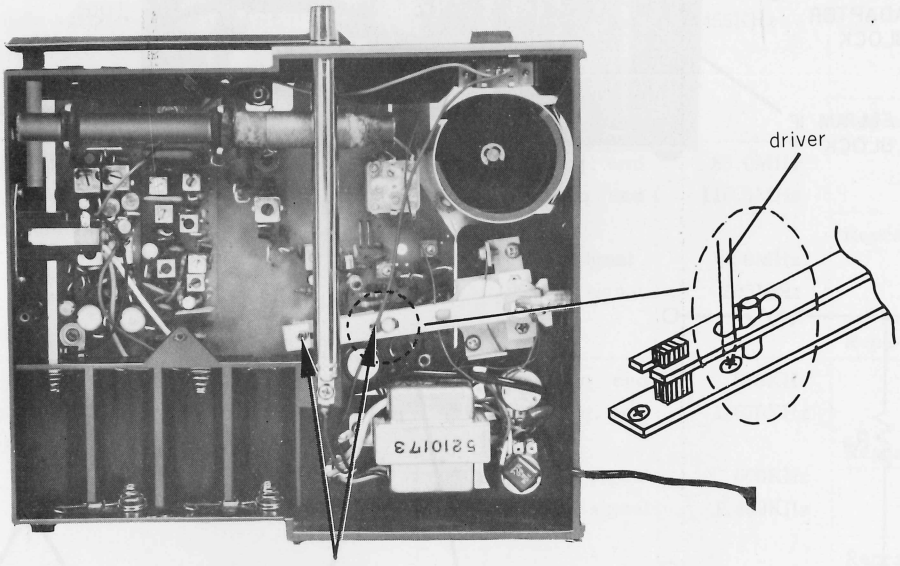


Fig. 8

ALIGNMENT PROCEDURES

RF and IF CIRCUIT

1. Use batteries having the specified voltage. Voltage, when the switch is turned on (with no signal), must not be less than 5.5V.
2. After turning the volume control to maximum, connect the output of signal generator (modulated by 400Hz or 1,000Hz) to a loop antenna (4″ in diameter, looped 2 or 3 rounds) and couple the loop antenna to the ferrite core antenna.

   And connect the voltmeter (AC 3V or less range) with the speaker terminals.
3. Adjust with insulated screw driver to prevent bodyeffect.
4. The order of adjustment is shown below. As the adjust reading of voltmeter rises in proportion to adjustment, the output of signal generator so that the output of speaker terminal may not exceed 1.5V at maximum.
5. When adjustment is complete, fix T001~T502 and L007 with white lacquer, and L006 with wax.

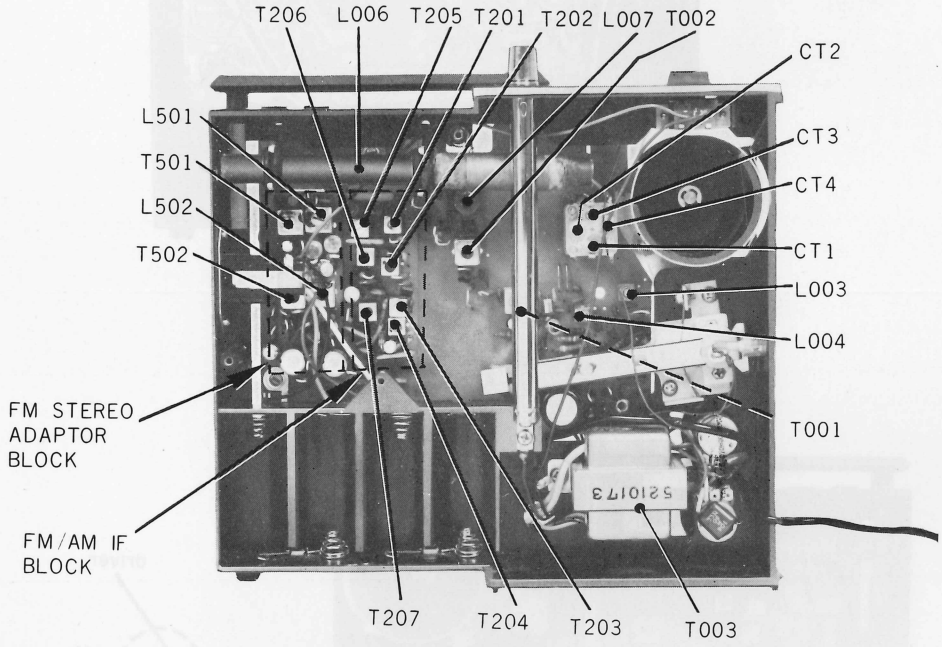
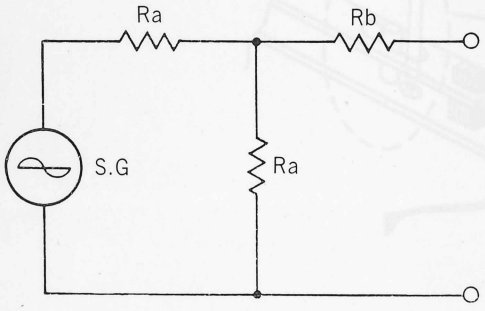


Fig. 9



Ra·····Signal generator's output impedance

Rb·····$(75-\frac{Ra}{2})$ ohms

Fig. 10

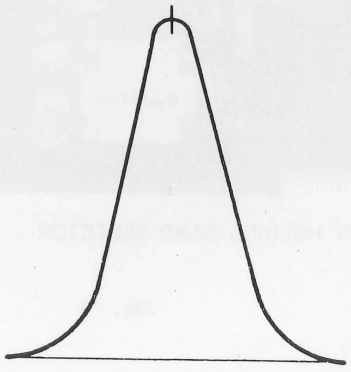


Fig. 11

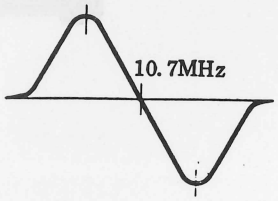


Fig. 12

CIRCUIT BOARD DIAGRAM