### TECHNICAL SPECIFICATIONS

**AMPLIFIER SECTION**

- **Rated minimum sine wave PMS power output**
  - 20 Hz ~ 20 kHz both channels driven: 50 W per channel (8 ohms)
  - 0.04% total harmonic distortion

- **Dynamic headroom**
  - Total harmonic distortion: 0.04% (8 ohms)
  - S/N (IHF, A): 92 dB
  - PHONO: 70 dB
  - TUNER, AUX, TAPE: 76 dB

- **Maximum input voltage**
  - PHONO: 100 mV
  - TAPE: 130 mV

- **Input impedance**
  - PHONO: 47 kQ
  - TAPE: 27 kQ

- **Tone controls**
  - BASS: +10 dB ~ -10 dB
  - TREBLE: +6 dB ~ -6 dB

- **Acoustic controls (at tone “0” position)**
  - LOW BOOST: 100 Hz ~ +6 dB
  - HIGH BOOST: 10 kHz ~ -6 dB

- **Low filter**
  - High filter: 7 kHz, -6 dB / oct.

- **Output voltage**
  - REC OUT: 150 mV
  - LOW: 34 mV (8 ohms)
  - HIGH: 34 mV (8 ohms)

- **Low frequency damping factor**
  - 14 (8 ohms)

**MODULATION**

- **Frequency range**
  - MONO: 100 kHz
  - STEREO: 100 kHz

- **S/N ratio**
  - MONO: 70 dB
  - STEREO: 70 dB

- **Phase linearity**
  - 1 kHz: ±5°

- **IF rejection at 98 MHz**
  - MONO: 50 dB
  - STEREO: 50 dB

- **Stereo separation**
  - 1 kHz: 45 dB

- **Crosstalk**
  - 30 kHz: -40 dB

- **Antenna terminals**
  - 300 ohms (balanced)

**FM TUNER SECTION**

- **Frequency range**
  - 88 ~ 108 MHz

- **Sensitivity**
  - MONO: 1.5 μV
  - STEREO: 1.0 μV

**GENERAL**

- **Power consumption**
  - 300 W, 345 VA

- **Power supply**
  - AC: 120 V, 60 Hz

- **Dimensions**
  - Width: 17-1/2" x 6-9/16" x 11-1/2" (448 x 163 x 290 mm)

- **Weight**
  - 8.4 kg

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**Areas**

- [M]: Available in U.S.A.
- [MC]: Available in Canada.
**DIASSEMBLY INSTRUCTIONS**

1. **How to remove the top board**
   - Remove the 3 set screws (Fig. 1: ① ~ ③) holding the top board and ventilation.
   - Move the top board and ventilation slightly toward the rear of the unit (Fig. 1: ①).

2. **How to remove the front panel and the bottom board**
   - Loosen the 4 set screws (Fig. 2: ⑥ ~ ⑧) holding the side boards.
   - Remove the 5 set screws (Fig. 2: ⑨ ~ ⑪) holding the front panel and remove the 2 set screws (Fig. 3: ⑫, ⑬) holding the bottom board.
   - Pull the front panel outward from the front of the unit.
   - To remove the bottom board, remove the 12 set screws (Fig. 3: ⑯ ~ ⑱) holding the bottom board.
• How to remove the power IC
1. Remove the top board and bottom board. (Refer to the sections "How to remove the top board" and "How to remove the front panel and the bottom board").
2. Remove the solder of power IC for both Lch and Rch.
3. Remove the transistor bracket screw (Fig. 5 : ⑨) to detach the transistor bracket.
4. Unsolder the transistor Q701 and bend it down in the direction of the arrow ⑨. (Refer to Fig. 9)
5. Remove the 2 screws (Fig. 8 : ⑧, ⑨) at the bottom of the heat sink and the 3 screws (Fig. 8 : ⑩～⑬) at the rear panel, and then remove the heat sink along with the power IC in the direction of the arrow ⑨. (Refer to Fig. 5)
6. Remove the 2 screws (Fig. 6 : ⑧, ⑨) used to secure the power IC on the heat sink, and then pull the power IC.
7. When mounting the power IC, apply silicone compound (or equivalent heat diffuser) to the rear side of power IC, and then follow the steps 1 ~ 6 reversely.

• How to remove the LED indicator P.C.B. and LED indicator drive circuit P.C.B.
1. Remove the top board (Refer to the section "How to remove the top board").
2. Remove the 2 screws (Fig. 6 : ⑧, ⑨) holding the dial pointer cover, and then remove the dial pointer cover.
3. Remove the 3 screws (Fig. 7 : ⑩～⑬) which fasten the LED frame in the direction of the arrow ⑨ (Fig. 6)
4. The LED indicator P.C.B. ass'ty is secured with the lug protruded from the LED frame. So, bend the lug down (⑨ in Fig. 9) to remove the LED indicator P.C.B.
5. Remove the set screw (Fig. 9 : ⑨) which fastens the LED indicator drive circuit P.C.B. Then, the LED indicator drive circuit P.C.B. can be detached.
6. When reassembling, reversely follow the steps 1 through 7.

VARIABLE RESISTORS

• Alteration of resistance values according to the rotational angles of variable resistors
Alteration characteristics as shown below are often used for sets. All are intended to keep the frequency response of the set at optimum levels, and are used according to the types of circuits. For example, characteristic (B) is used for sound volume adjustment; (A) and (C) are for bass and treble sound quality adjustment; (G) is for medium sound quality adjustment; and (BH) is for the adjustment of sound balance between the right and left.

In the case of this unit, variable resistor with characteristic (C) which is short-circuited between its ends at rotational angle of 180° (center) is used for bass adjustment. Also, variable resistor with characteristic (C) whose resistance is zero at rotational angle of 180° (center) is used for treble adjustment.
ALIGNMENT INSTRUCTIONS

Notes:
1. Band selector switch ........ EAM (AM Alignment)
2. FM mixing/mode switch .......... FM (FM Alignment)
3. 3000 dummy antenna
4. Connect stereo module to FM/G.
5. Maintain the voltage at 150 volts.
6. 3000 dummy antenna
7. Output of signal generator should be no higher than necessary to obtain an output reading.

AMPM SIGNAL GENERATOR CONNECTION FREQUENCY DIAL SETTING INDICATOR (VUV or 200PF) ADJUSTMENT POINTS REMARKS

AM ALIGNMENT
1. High side through 0.01uf to AM antenna trimmer terminal, (closed, AL) Connect to chassis.
2. 600kHz (200 Mod with 600kHz) Point of null
3. Connect AC VUV or scope to “SPEAKER” terminals.
4. T201 (1st IFT) T202 (2nd IFT)
5. Adjust the input frequency and alignment points so that the output becomes maximum.

FM ALIGNMENT
1. No Signal Point of null
2. Connect DC VUV to T102, T103 terminals (Refer to fig. 14) T101 (DISCR IF) A
3. FM mixing/mode switch to “external” position.
4. Adjust T101 (A) so that voltage measured in signal mode is 0V in 300mv range.

FM RF ALIGNMENT
1. 60kHz (100 Mod with 60kHz) weak input 90kHz
2. Connect scope to “SPEAKER” terminals.
3. L5 (OSC Coil), L3 (RF DET Coil), L1 (ANT Coil)
4. Add weak input so that noise is included in the output wave form.
5. Make the adjustment so that the output wave form is vertical symmetrical.
6. Repeat steps 5 and 6 until the frequency comes near the null point.

FM MONO DISTORTION ALIGNMENT
1. Connect to FM 3000 antenna terminal through 3000 FM dummy antenna.
2. 100kHz (100 Mod with 400kHz) weak input 100kHz
3. Connect scope to “SPEAKER” terminals.
4. T102 (DISCR IF) B
5. Set the FM mixing/mode switch to “external” and then make step 4 no more than 5.
6. If it is deflected: adjust T103 so that distortion of right and left channels are minimized.
7. Repeat steps 4 and 7.

LED SIGNAL METER LIGHT UP LEVEL ALIGNMENT
1. Connect to FM 3000 antenna terminal through 3000 FM dummy antenna.
2. 100kHz (100 Mod with 400kHz) weak input 100kHz
3. Connect scope to “SPEAKER” terminals.
4. VR102 (LED LEVEL UP)
5. With weak input signal (100kHz) applied, make tuning so that the upper and lower wave forms are symmetrical.
6. With input signal from 45.2kHz signal generator at 100kHz, adjust VR102 so that all frequency bands LED’s light up.

FM MUTING LEVEL ALIGNMENT
1. Connect to FM 3000 antenna terminal through 3000 FM dummy antenna.
2. 100kHz (100 Mod with 400kHz) weak input 100kHz
3. Connect AC VUV or scope to “SPEAKER” terminals.
4. VR101 (MUTING LEVEL)
5. FM mixing/mode switch to “external”.
6. Adjust so that output can be obtained.

USE ALTERNATE SYSTEM

1. Apply a 100MHz non-correlated mono signal to FM/G.
2. FM mixing/mode switch to “FM audio”.
3. Connect frequency counter to T101 through filter (100kHz).
4. Adjust VR101 to 10Vrms ± 30%.

SEPARATION ALIGNMENT

PREPARATIONS
1. Add 100MHz, 1 kHz, 30% pilot 10% modulation, 60dB stereo signal to the receiver.
2. Connect AC VUV or scope to speaker terminals through low pass filter. Refer to fig. 17.

ADJUSTING PROCEDURE
1. FM mixing/mode switch to “internal”.
2. Adjust VR201 until zero crossover lights up. (Current arm of VR201 is shown in fig. 18)
3. Adjust Point of Filter Circuit.

ALIGNMENT POINTS

[Image of alignment points diagram]
**DIAL CORD INSTALLATION GUIDE**

* For threading a fresh cord, proceed as follows.
  1. Prepare a fresh cord more than 180 cm (70-1/2") in length.
  2. Bring the variable capacitor into a state where the drum is completely turned to the right (maximum capacity and lowest frequency for the variable capacitor).
  3. Direct the cord in the order from 1 to 10.
  4. Stretch the cord in such a tension as the spring length is elongated by 1.5 times that of the original state.
  5. Fix the ~no. of the cord with the adhesive.

**BLOCK DIAGRAM OF IC'S**

* This is the basic block diagram of the inside circuit of IC. In an actual circuit, there may be sometimes idle terminals or some different functions other than the basic circuit.
IC103, 801 (AN6551)
Operation amplifier

IC104 (AN6876)
FM AM signal indicator drive

IC301 (AN6136)
AF muting

IC401, 402 (SVITA7322F)
Equalizer amplifier

IC601, 602 (AN7060F)
Differential amplifier

IC603, 604 (SVISTK1050K)
Power amplifier