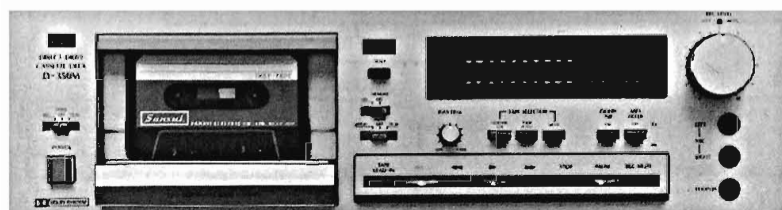


# SERVICE MANUAL

## DIRECT DRIVE CASSETTE DECK

# SANSUI D-350M

(Silver & Black Model)



### ● SPECIFICATIONS

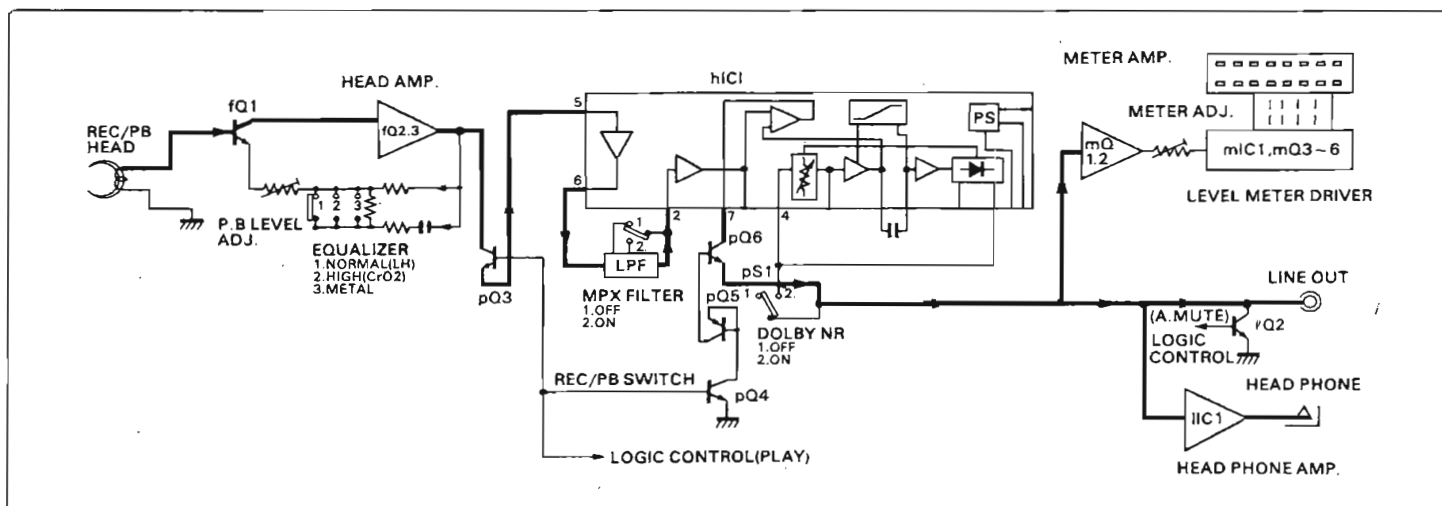
|   |   |
|---|---|
| Track   | 4-Track (2-Channel Stereo)  |
| Tape speed  | 4.8 cm/sec. (1-7/8 ips)   |
| Heads   | Record/Playback: FH Head<br>Erase: Double Gap Ferrite Head        |
| Motor   | Capstan: FG Servo DC Motor<br>Reels: DC Motor                     |
| Wow and flutter                                   | within 0.035 % WRMS   |
| Fast wind time                                    | approximately 75 seconds (C-60)                                   |
| Frequency response (Record/Playback)              |   |
| Normal Tape (LH) (-20 VU)                         |   |
| .....   | 20 to 16,000 Hz<br>(25 to 15,000 Hz $\pm 3$ dB)                   |
| Metal Tape (-20 VU)                               |   |
| .....   | 20 to 19,000 Hz<br>(25 to 18,000 Hz $\pm 3$ dB)                   |
| (0 VU) . . .                                      | 25 to 13,000 Hz $\pm 3$ dB  |
| Signal to noise ratio (Record/Playback)           |   |
| Metal Tape (without Dolby Noise Reduction Effect) |   |
| .....   | better than 59 dB (weighted)                                      |
| (With Dolby Noise Reduction)                      |   |
| .....   | better than 69 dB (above 5 kHz)                                   |
| Erase factor (Metal Tape)                         |   |
| .....   | more than 70 dB at 1,000 Hz                                       |
| Input sensitivity and impedance (0 VU, 1,000 Hz)  |   |
| MIC   | 0.4 mV/200 $\Omega$ ~ 5 k $\Omega$                                |
| LINE IN (REC) . . .                               | 70 mV/47 k $\Omega$   |
| Output level (0 VU, 1,000 Hz)                     |   |
| LINE OUT (PLAY)                                   |   |
| .....   | 400 mV  |
| PHONES  | 60 mV   |
| Power requirements                                |   |
| Power voltage . . . .                             | 120, 220, 240 V (50/60 Hz)  |
| For U.S.A. and Canada                             |   |
| .....   | 120 V (60 Hz)   |
| Power consumption                                 |   |
| .....   | 25 W  |
| Dimensions  |   |
| .....   | 430 mm (16-15/16") W<br>128 mm (5-1/16") H<br>282 mm (11-1/8") D  |
| Using rack mounting adaptors                      |   |
| .....   | 480 mm (18-5/16") W<br>128 mm (5-1/16") H<br>302 mm (11-15/16") D |
| Weight  |   |
| Silver panel type . .                             | 5.8 kg (12.8 lbs) net   |
| Black panel type . .                              | 5.9 kg (13.0 lbs) net   |

\* Design and specifications subject to changes without notice for improvements.

**Sansui**

SANSUI ELECTRIC CO., LTD.

### 1-1. Recording Operation Block Diagram



## 2. OPERATIONS

### 2-1. Mechanical Operations (See Fig. 2-1)

#### A. Tape Transport Mechanism

The tape transport mechanism on Model D-350M is mainly divided into Direct Capstan Drive System featuring FG servo motor, and Belt-less, Slip-less, and Clatch-less Mechanism to drive the reel hub ass'y through the idler.

#### B. Operation of PLAYBACK

- 1) When setting the cassette half, the half switch is turned on to enable to operate each mode of PLAYBACK, RECORDING, FASTFORWARD and REWIND.
- 2) When depressing the PLAY button in this condition, the capstan motor begins to rotate, and the brake plunger and the play plunger are energized. Resultly the brake is released by moving the brake plate ass'y upward, and the head base ass'y is moved upward to hold the brake at released position. Then the reel motor begins to rotate.
- 3) In addition, the pinch roller is pressed against the capstan to drive the tape, and also the idler is pressed against the take-up reel hub ass'y by reel motor torque to wind the tape.

#### C. Operation of RECORDING

- 1) The basic operation is the same as in the PLAYBACK operation. When the erroneous-erasure prevention switch is turned on to enable to perform the RECORDING operation of the logic circuit.
- 2) When depressing the REC button, the rec/play plunger is energized to switch the rec/play amplifier to the rec mode.

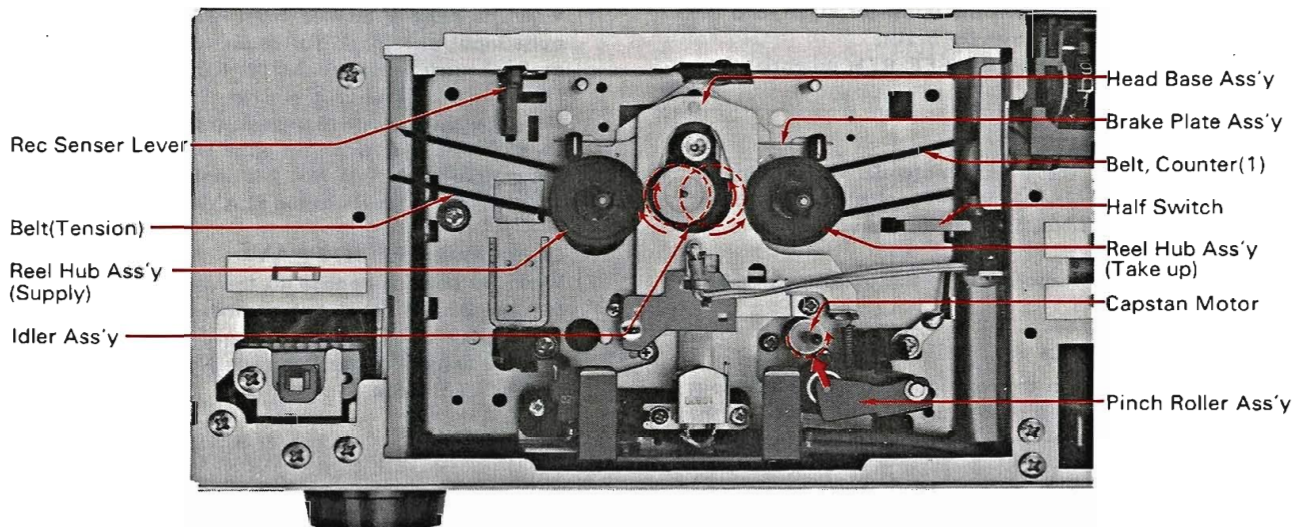
#### D. Operation of FASTFORWARD

- 1) When depressing the FF button, the brake plunger releases the brake.
- 2) The reel motor turns to forward, and the idler is pressed against the take-up reel hub ass'y by reel motor torque. Then wind the tape.

#### E. Operation of REWIND

- 1) When depressing the REW button, the brake plunger releases the brake.
- 2) The reel motor turns to reverse, and the idler is pressed against the supply reel hub ass'y by reel motor torque. Then rewind the tape.

Fig. 2-1



### 2-2. Electrical Operations of Logic Control Circuit (Refer to Fig. 2-2, 2-3 and schematic diagram.)

#### A. Operation of PLAYBACK

- 1) When depressing the PLAY button, the transistor nQ4 is turned on to apply a signal from the matrix signal output pin No. 2 to the input pin No. 22.
- 2) About 0.2 seconds after the PLAY button is depressed, the 0-PLAY potential of pin No. 17 changes from L-level to H-level to turn on the transistor nQ29, and thereby the capstan motor begins to rotate.
- 3) At the same time, the transistor nQ19 turns on to light up the play LED (nLD3).
- 4) The 0-PLAY potential of pin No. 20 also changes from L-level to H-level to turn on the transistors nQ25 and 26, and thereby the play and brake plungers are energized, to move the head base upward, and to release the brake.
- 5) Next, 0-PLAY potential of pin No. 12 changes from L-level to H-level and the transistor nQ24 turns on to decrease the play plunger voltage. So that the play plunger is held without any movement, and the brake is also held at released position mecha-

nically, even after the transistors nQ25 and 26 are turned off.

- 6) The 0-PLAY output is also applied to input pin No. 5 of reel motor control IC (BA6109) and the transistor nQ31. The reel motor rotates by output voltage from pin No. 2 of BA6109. The voltage is determined by that of pin No. 4 which is controlled by the circuit of nQ13.
- 7) Then the 0-AUTO MUTE potential increases 0.8V from H-level, and the transistor IQ1 turns off to release the audio muting.

#### B. Operation of RECORDING

- 1) When the erroneous-erasure prevention switch is turned on, depressing the REC button causes the transistors nQ1 and 2 are turned on to apply a signal from matrix output pin No. 2 to input pin No. 23.
- 2) The 0-REC potential of pin No. 10 changes from L-level to H-level to turn on the REC LED (nLD1) and the transistor nQ32. Then the transistors pQ2 and 9 are turned on to activate the recording amplifier.

- 3) The 0-REC potential of pin No. 18 is also changes from L-level to H-level, and the transistor pQ14 turns on to activate the bias oscillator circuit.
- 4) Then the 0-AUTO MUTE potential increases 0.8V from H-level, and turns off the transistor IQ1 to release the audio muting.
- 5) Next, by depressing the PLAY button during the REC button is depressed, the same operation as in the PLAYBACK mode is performed.

### C. Operation of PAUSE

- 1) On PAUSE operation, the 0-PLAY potential of pin No. 12 changes from H-level to L-level to turn off the transistor nQ24, and the PLAY plunger is released. Then the brake is activated by moving the head base downward.
- 2) When the PAUSE button is depressed on the PLAY mode, the 0-AUDIO MUTE potential decreases 0.8V, and equals to H-level. Then the audio muting circuit is activated.
- 3) When the PAUSE button is depressed on the REC mode, the 0-REC MUTE potential of pin No. 11 decreases 0.8V from H-level. Then the REC muting circuit is activated.

### D. Operation of FASTFORWARD

- 1) On FASTFORWARD operation, the 0-FF potential of pin No. 7 changes from L-level to H-level, and it is applied to pin No. 5 of BA6109. The output pin No. 2 of BA6109 supplies the voltage to rotate the reel motor to forward.
- 2) At the same time, the 0-FF·REW potential of pin No. 7 changes from L-level to H-level to turn on the transistor nQ26, and the brake plunger is energized to release the brake.
- 3) The FF LED lights up caused by the 0-FF·REW potential turns on the transistor nQ20.

### E. Operation of REWIND

- 1) On REWIND operation, the 0-REW potential of pin No. 16 changes from L-level to H-level, and it is applied to pin No. 6 of BA6109. The output pin No. 10 supplies the voltage to rotate the reel motor to reverse.
- 2) The output of the 0-REW also turns on the transistor nQ18 to light up REW LED (nLD4).

### F. Operation of AUTO STOP

- 1) When no pulse is applied to the rotation detection pulse input pin No. 25 for about two seconds, the mode changes to the STOP mode automatically.

### G. Operation of AUTO RESET

- 1) To avoid erroneous operations when the power is turned on, for instance, caused by noise generated in the audio amplifier or unbalance of rise times due to various time constants in the logic circuit, the LSI D-554C is provided a time constant circuit including the transistor nQ14. This circuit holds the potential of the reset pin No. 26 at H-level for about three seconds, and this is the same condition when the STOP button is depressed automatically.

### H. Operation of TIMER PLAYBACK

- 1) When the power supply is turned on with TIMER switch is set to the PLAY mode, the transistor nQ13 is turned on to apply a signal from the matrix output pin No. 19 to the input pin No. 21 after RESET operation is performed. Resultly the mode changes to the PLAY mode after about five seconds from the power supply is turned on.

### I. Operation of TIMER RECORDING

- 1) When the power supply is turned on with the TIMER switch is set to the REC mode, the transistor nQ14 is turned on to apply a signal from the matrix output pin No. 19 to the input pin No. 23 after RESET operation is performed. Resultly the mode changes to the REC mode after about five seconds from the power supply is turned on.

### J. Operation of AUTO REPEAT

- 1) When no pulse is applied from nIC1 to the rotation detection pulse input pin No. 25 for about two seconds during FF, PLAY or REC mode with the AUTO REPEAT switch is on, a signal from the matrix output pin No. 5 is applied to the input pin No. 24, and the mode changes to the REW mode.
- 2) In this condition, when no pulse is applied again, a signal from the matrix output pin No. 5 is applied to the input pin No. 23, and the mode changes to the PLAY mode.

### K. Operation of AUTO PLAY

- 1) When no pulse is applied to the rotation detection pulse input pin No. 25 for about two seconds during REW mode with the AUTO PLAY switch is on, a signal from the matrix output pin No. 5 is applied to the input pin No. 23, and the mode changes to the PLAY mode.

Fig. 2-2 Top View & Pin function of IC  $\mu$ PD-554C

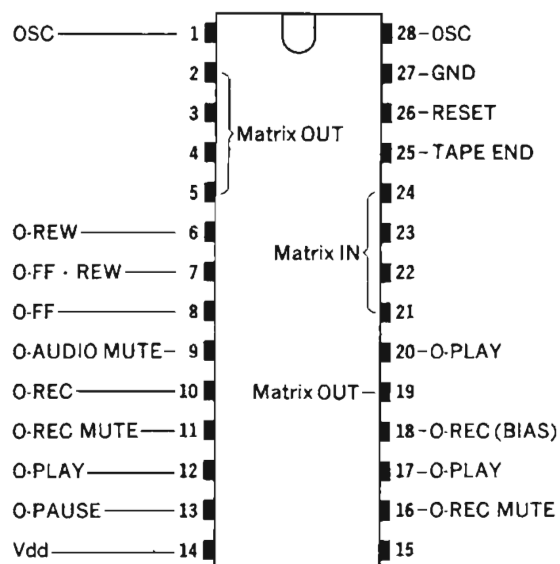


Fig. 2-3 Mode of each output terminal for each key input.  
(The "O" mark indicates the H-Level output)

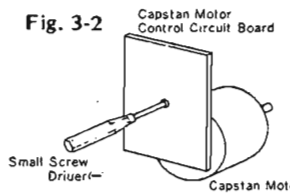
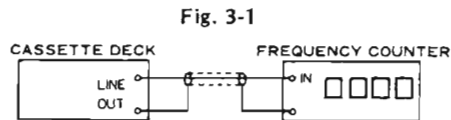
| PINE No. | INPUT<br>OUTPUT | STOP | FF | REW | PLAY | REC/<br>PLAY | PAUSE |      |              | REC/<br>MUTE<br>REC/<br>PLAY |
|----------|-----------------|------|----|-----|------|--------------|-------|------|--------------|------------------------------|
|          |                 |      |    |     |      |              | STOP  | PLAY | REC/<br>PLAY |                              |
| 6        | O-REW           |      |    | O   |      |              |       |      |              |                              |
| 7        | O-FF·REW        |      | O  | O   |      |              |       |      |              |                              |
| 8        | O-FF            |      | O  |     |      |              |       |      |              |                              |
| 9        | O-AUDIO MUTE    | O    | O  | O   | *O   | *O           | O     | O    | O            | O                            |
| 10       | O-REC           |      |    |     |      | O            |       |      |              | O                            |
| 11       | O-REC MUTE      | O    | O  | O   | O    | O            | O     | O    | *            | *                            |
| 12       | O-PLAY          |      |    |     | O    | O            |       |      |              | O                            |
| 13       | O-PAUSE         |      |    |     |      |              | O     | O    | O            |                              |
| 16       | O-REC MUTE      |      |    |     |      |              |       |      |              | O                            |
| 17       | O-PLAY          |      |    |     | O    | O            |       | O    | O            |                              |
| 18       | O-REC           |      |    |     |      | O            |       |      |              |                              |
| 20       | O-PLAY          |      |    |     | O    | O            |       |      |              | O                            |

Note: The "O" mark indicates level more than H-level by 0.8 V.  
The "\*" mark indicates level less than H-level by 0.8 V.

## 3. ADJUSTMENTS

### 3-1. Tape Speed Adjustment

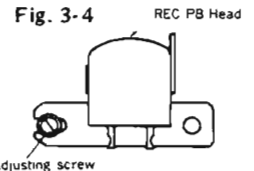
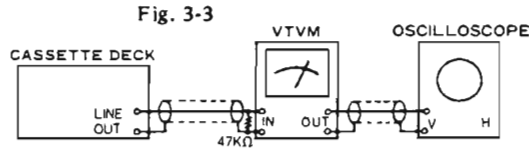
- Note: 1. Use Sansui Test Tape, SCT-S3K  
(3 kHz signals are recorded on the tape).  
2. Connections are shown in Fig. 3-1.



| STEP | SUBJECT         | MEASURE OUTPUT             | SETTING                         | ADJUSTMENT                               | ADJUST FOR          | REMARKS                 |
|------|-----------------|----------------------------|---------------------------------|--|---------------------|-------------------------|
| 1.   | TAPE SPEED Adj. | LINE OUT Frequency counter | Playback the TEST TAPE SCT-S3K. | Turn semi-variable resistor as Fig. 3-2. | 3000 Hz $\pm$ 45 Hz | Use small screw driver. |

### 3-2. Playback Adjustment

- Note: 1. Before this adjustment, clean REC/P.B. head surface.  
2. For this adjustment, use Sansui Test Tape, SCT-F10KN, SCT-L400N and SCT-F1K.  
3. Set the Dolby NR switch to be OFF.  
4. Connections are shown in Fig. 3-3.



| STEP | SUBJECT                           | MEASURE OUTPUT       | SETTING  | ADJUSTMENT                                      | ADJUST FOR                    | REMARKS   |
|------|-----------------------------------|----------------------|--|---|-------------------------------|---|
| 1.   | REC/P.B. Head Adj.                | LINE OUT VTVM, Scope | Playback the TEST TAPE SCT-F10KN   | Adjust the azimuth adjusting screw in Fig. 3-4. | MAX. Output on both channels. | After this adjustment, lock the screw with paint.                                       |
| 2.   | Playback Level Adj.               | Same as above        | Set TAPE SELECTOR to NORMAL (LH) position. Playback the TEST TAPE SCT-L400N. | Adjust each fVR1 on L-CH and R-CH.              | 500 mV $\pm$ 2 dB             | See Top View on page 11.  |
| 3.   | High Frequency Equalization Check | Same as above        | Set TAPE SELECTOR to NORMAL (LH) position. Playback the TEST TAPE SCT-F1K.   | _____   | _____                         | Read output levels on both channels.  |
|      |                                   |                      | Playback the TEST TAPE SCT-F10KN.  | _____   | _____                         | Confirm that the output levels are within $\pm$ 3 dB comparing with the above readings. |

Note: On STEP 3, set the TAPE SELECTOR to HIGH (CrO<sub>2</sub>) position during playback of SCT-10KN, and confirm the indication on VTVM drops approximately 3 dB ~ 4 dB.

### 3-3. Recording Adjustment

#### 1) Bias Adjustment

- Note: 1. For this adjustment, use Sansui Test Tape, SCT-SA.  
2. Set the Dolby NR Switch to be OFF.  
3. Connections are shown in Fig. 3-5.

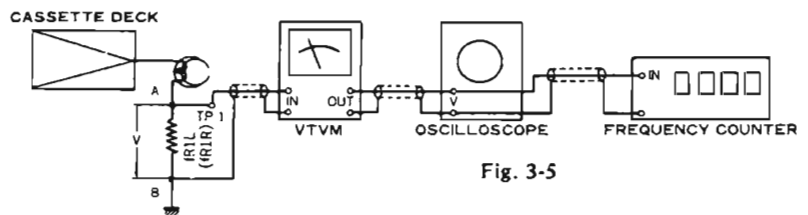


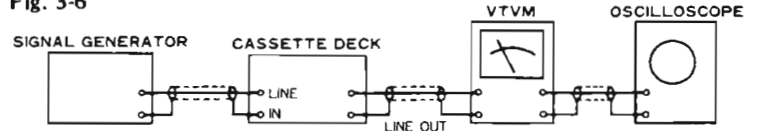
Fig. 3-5

| STEP | SUBJECT              | MEASURE OUTPUT   | SETTING   | ADJUSTMENT  | ADJUST FOR | REMARKS   |
|------|----------------------|--|---|---|------------|---|
| 1.   | Recording Bias Adj.  | Between A & B points of each fR1L & fR1R. VTVM, Scope, Frequency Counter | Load the TEST TAPE SCT-SA. Depress PAUSE, REC and PLAY buttons. Set TAPE SELECTOR to HIGH (CrO <sub>2</sub> ) position. | Adjust kVR1L for L-CH and kVR1R for R-CH on G-1282. | 6.0 mV     | See Top View on page 11:                                      |
|      |                      |  | Set TAPE SELECTOR to NORMAL (LH) position.  | _____   | _____      | Confirm the indication on VTVM shows 4.0 mV.                  |
|      |                      |  | Set TAPE SELECTOR to METAL position.  | _____   | _____      | Confirm the indication on VTVM shows 11 mV.                   |
| 2.   | Bias Frequency Check | Same as above  | Load the TEST TAPE SCT-SA. Set TAPE SELECTOR to NORMAL (LH) position.   | _____   | _____      | Confirm that the Frequency Counter shows 85 kHz $\pm$ 10 kHz. |

## 2) Rec Level & Frequency Response Adjustment

- Note: 1. Rec Level Volume . . . . Max.  
2. Connections are shown in Fig. 3-6.  
3. Set the Dolby NR switch to be OFF.

Fig. 3-6

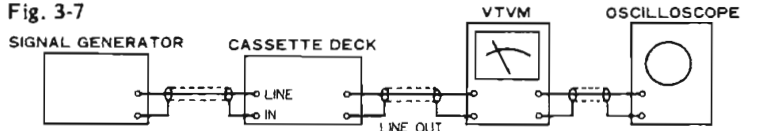


| STEP | SUBJECT                 | INPUT SIGNAL  | MEASURE OUTPUT      | SETTING   | ADJUSTMENT  | REMARKS  |
|------|-------------------------|---|---------------------|---|---|--|
| 1.   | REC Level Adj.          | Feed 1 kHz, 70 mV from S.G into LINE IN.                                  | LINE OUT VTVM Scope | Load the TEST TAPE SCT-SA.<br>Set TAPE SELECTOR to HIGH (CrO <sub>2</sub> ) position.<br>1. Depress PAUSE, PLAY and REC button.<br>2. Adjust the Rec Level Volume for obtaining 400 mV on VTVM.<br>3. Push off the PAUSE button, then record the 1 kHz signal.<br>4. Play back the 1 kHz signal.<br>5. Confirm that the output levels on both channels are 400 mV $\pm$ 2 dB on VTVM. | 1. If not, turn jVR1 (REC, L-CH) and jVR1 (REC, R-CH) until output level 400 mV $\pm$ 2 dB on both channel are obtained.<br>2. Repeat this REC Level adj. until the indication on VTVM will be 400 mV $\pm$ 2 dB. | jVR1 (REC, L-CH), and jVR1 (REC, R-CH) are shown in Top View on page 11.                                 |
| 2.   | Frequency Response Adj. | Feed 1 kHz 7 mV (-20 dB) and 10 kHz 7 mV (-20 dB) from S.G. into LINE IN. | Same as above       | Load the TEST TAPE SCT-SA.<br>Set TAPE SELECTOR to HIGH (CrO <sub>2</sub> ) position.<br>1. Record the 1 kHz and 10 kHz signals from S.G.<br>2. Play back the 1 kHz and 10 kHz signals, then confirm that both output levels equal.   | 1. If not, adjust kVR1L for L-CH and kVR1R for R-CH slightly until the output levels will be equal.   | As kVR1L and kVR1R are previously adjusted in step of Bias Adjustment, turn them slightly, if necessary. |

## 3-4. Peak Level Indicator Adjustment

- Note: 1. Set the TAPE SELECTOR to be NORMAL (LH) position.  
2. Set the Dolby NR Switch to be OFF.  
3. Connections are shown in Fig. 3-7.

Fig. 3-7



| STEP | SUBJECT                         | INPUT SIGNAL                            | MEASURE OUTPUT      | SETTING  | ADJUSTMENT  | REMARKS                  |
|------|---------------------------------|---|---------------------|--|---|--------------------------|
| 1.   | Peak Level Indicator Adjustment | Feed 1 kHz, 70mV from S.G. into LINE IN | LINE OUT VTVM Scope | Load the TEST TAPE SCT-SA<br>1. Depress PAUSE, PLAY & REC button.<br>2. Adjust the REC Level Volume for obtaining 400mV on VTVM. | 1. Light 0VU indication of Peak Meter to adjust mVR1 (L-CH), mVR1 (R-CH) on G-1282. | See Top View on page 11. |

## ◆ List of Sansui Test Tape

| Name of TEST TAPE               | Recorded Frequency | Description                                   |
|---------------------------------|--------------------|---|
| SCT-F40                         | 40 Hz              | Playback Frequency Response Check             |
| SCT-F1K                         | 1 kHz              | High Frequency Equalization Check             |
| SCT-F10k                        | 10 kHz             | REC/PB Head Adjustment                        |
| SCT-L400N                       | 400 Hz             | Playback Level and Indicator Level Adjustment |
| SCT-S3K                         | 3 kHz              | Speed Check and Wow & Flutter Check           |
| SCT-LH NORMAL (LH)              |                    | Recording Bias Adjustment                     |
| SCT-SA HIGH (CrO <sub>2</sub> ) |                    | REC/PB Level Adjustment                       |
| SCT-CS Fe-Cr                    |                    | Frequency Response Check                      |

## ◆ Tape Selector Position

| TAPE BAND TONBAND | BIAS FINE   | TAPE SELECTOR            |
|-------------------|-------------|--------------------------|
|                   | -20% 0 +20% |                          |
| FUJI DR           |             | NORMAL (LH)              |
| ER                |             |                          |
| MAXELL UL         |             |                          |
| UD, XL I          |             |                          |
| O                 |             |                          |
| TDK OD            |             |                          |
| AD                |             |                          |
| SCOTCH CRYSTAL    |             |                          |
| MASTER I          |             |                          |
| SONY AHF          |             |                          |
| BHF               |             | HIGH (CrO <sub>2</sub> ) |
| CHF               |             |                          |
| BASF LH, SLH I    |             |                          |
| FUJI UR           |             |                          |
| XL II             |             |                          |
| MAXELL XL BS      |             |                          |
| SA                |             |                          |
| TDK SA-X          |             |                          |
| SCOTCH MASTER II  |             |                          |
| SONY SHF          |             |                          |
| BASF SCR          |             | METAL                    |
| FUJI SR           |             |                          |
| MAXELL MX         |             |                          |
| TDK MA, MA-R      |             |                          |
| SCOTCH Metalfine  |             |                          |
| SONY METALLIC     |             |                          |
| SONY Dual         |             |                          |
| BASF FCR          |             |                          |

\* ① REC/ENR/AUFNAHME ② PLAY/REPROWIEDERGABE

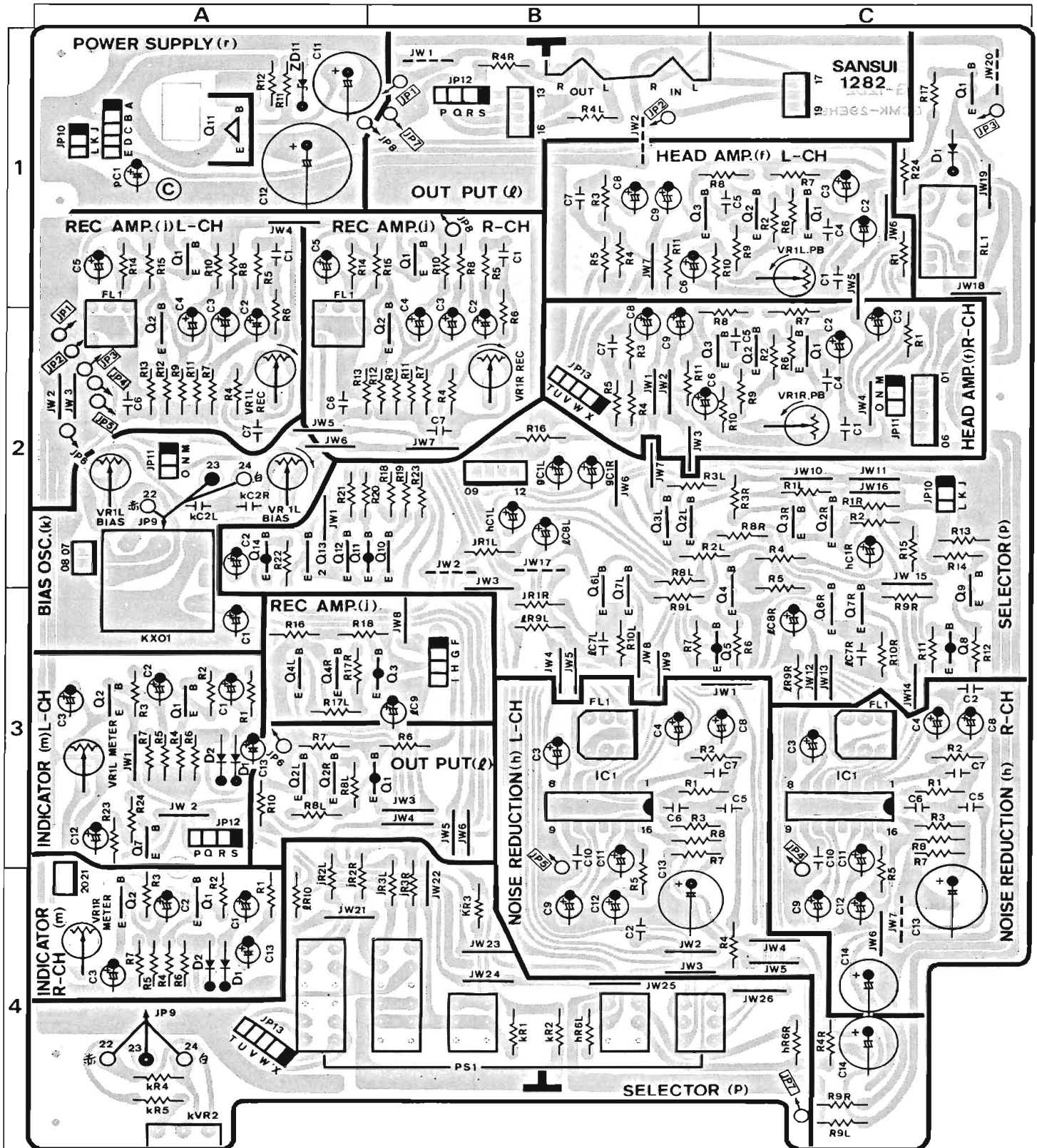


## 4. PARTS LOCATION & PARTS LIST

### 4-1. G-1282 Play & Rec Amp. Circuit Board (Stock No. 07099201)

Component Side

• Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors, which was appended previously to Sansui Manual.



## Parts List

| Parts No.   | Stock No. | Description   |
|-------------|-----------|---|
| ●Transistor |           |   |
| fQ1         | 07225401  | 2SC2320L  |
| fQ2         | 07225401  | 2SC2320L  |
| fQ3         | 07225401  | 2SC2320L  |
| fC2         | 00324600  | 33μF 25 V E.C.  |
| fC5         | 00373100  | 8 pF 125 V P.C.                                       |
| fVR1        | 07240900  | Semi Variable Resistor 500Ω (B)<br>PB LEVEL Adj.      |
| ●IC         |           |   |
| hIC1        | 03613600  | NE646B  |
| ●Filter     |           |   |
| hFL1        | 07196900  | Filter, MPX   |
| ●Transistor |           |   |
| jQ1         | 03068301  | 2SC2320   |
| jQ2         | 03068301  | 2SC2320   |
| jQ3         | 03012701  | 2SA999  |
| jQ4         | 03068301  | 2SC2320   |
| ●Filter     |           |   |
| jFL1        | 07237900  | Filter, BIAS TRAP                                     |
| jVR1        | 07241300  | Semi Variable Resistor<br>10 kΩ (B), REC LEVEL ADJ.   |
| ●OSC Block  |           |   |
| kXO1        | 07242000  | Osc Block B03HK                                       |
| kVR1        | 07241500  | Semi Variable Resistor<br>50kΩ (B), BIAS Adj.         |
| kVR2        | 07246500  | Variable Resistor (Bias Fine)<br>100kΩ (B), BIAS Fine |
| ●Transistor |           |   |
| lQ1         | 03012701  | 2SA999  |
| lQ2         | 03068301  | 2SC2320   |
| mQ1         | 03068301  | 2SC2320   |
| mQ2         | 03068301  | 2SC2320   |
| mQ7         | 03068301  | 2SC2320   |
| ●Diode      |           |   |
| mD1         | 03117600  | 1S2473D   |
| mD2         | 03117600  | 1S2473D   |
| mVR1        | 07241700  | Semi Variable Resistor<br>200 kΩ (B), METER Adj.      |
| ●Transistor |           |   |
| pQ1         | 03067401  | 2SC1845   |
| pQ2         | 03068301  | 2SC2320   |
| pQ3         | 03068301  | 2SC2320   |
| pQ4         | 03068301  | 2SC2320   |
| pQ5         | 03012701  | 2SA999  |
| pQ6         | 03068301  | 2SC2320   |
| pQ7         | 03068301  | 2SC2320   |
| pQ8         | 03012701  | 2SA999  |
| pQ9         | 03068301  | 2SC2320   |
| pQ10        | 03068301  | 2SC2320   |
| pQ11        | 03012701  | 2SA999  |
| pQ12        | 03068301  | 2SC2320   |

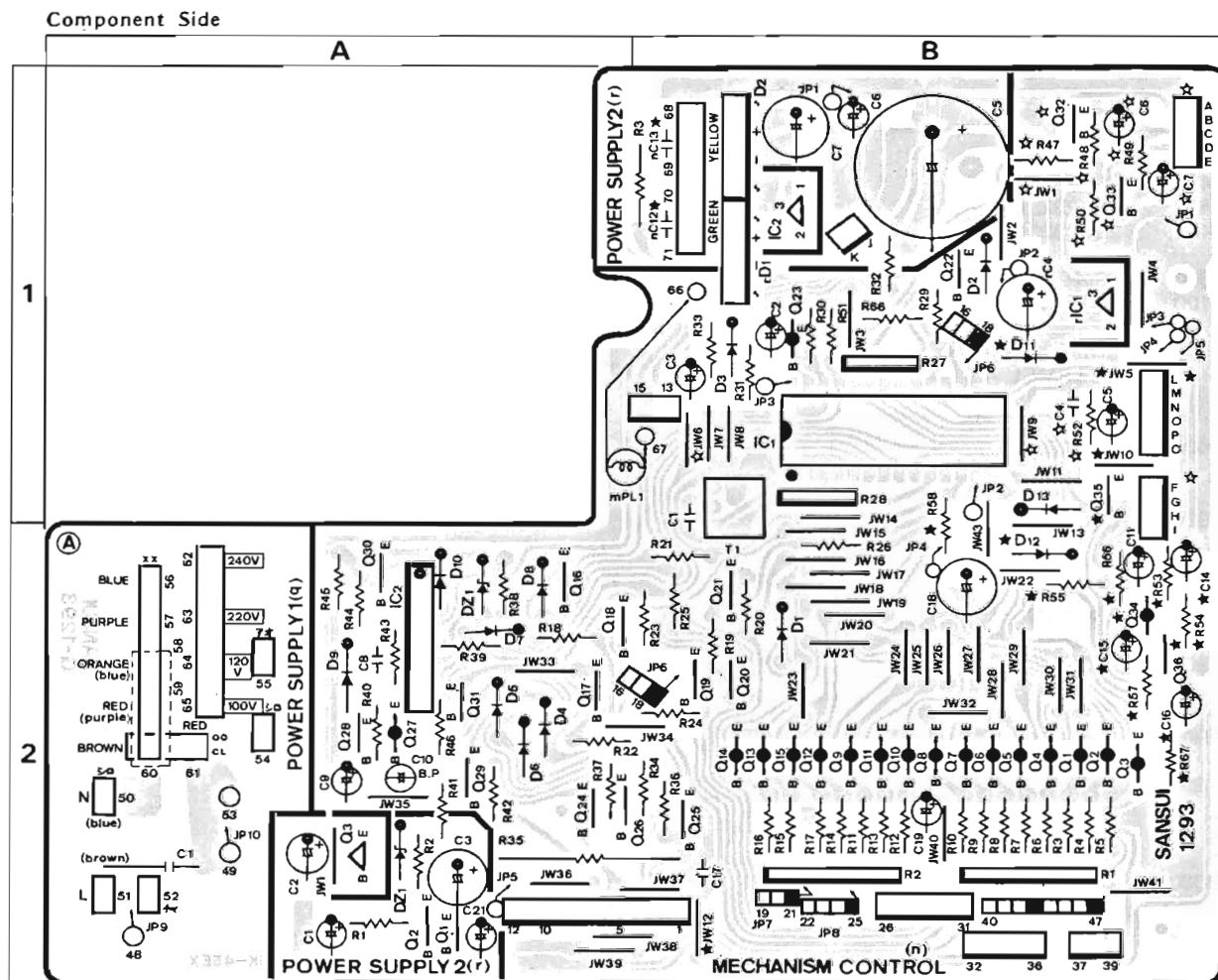
| Parts No.    | Stock No. | Description                |
|--------------|-----------|----------------------------|
| pQ13         | 03068301  | 2SC2320                    |
| pQ14         | 03012701  | 2SA999                     |
| pS1          | 07237000  | Push Switch, tape selector |
| pRL1         | 11505100  | Relay                      |
| pJ3          | 07249100  | 4P Terminal, Input/Output  |
| ●Transistor  |           |                            |
| rQ11         | 03083901  | 2SD313AL                   |
| ●Zener Diode |           |                            |
| rDZ11        | 03179200  | RD15E B                    |

## Abbreviations

|  |   |
|--|---|
| C.R. . . Carbon Resistor                             | E.L. . . Low Leak Electrolytic Capacitor            |
| S.R. . . Solid Resistor                              | E.B. . . Bi-Polar Electrolytic Capacitor            |
| Ce.R. . . Cement Resistor                            | E.B.L. . . Low Leak Bi-Polar Electrolytic Capacitor |
| M.R. . . Metal Film Resistor                         | Ta.C. . . Tantalum Capacitor                        |
| F.R. . . Fusing Resistor                             | F.C. . . Film Capacitor                             |
| N.I.R. . . Non-Inflammable Resistor                  | M.P. . . Metalized Paper Capacitor                  |
| C.C. . . Ceramic Capacitor                           | P.C. . . Polystyrene Capacitor                      |
| C.T. . . Ceramic Capacitor, Temperature Compensation | G.C. . . Gimmic Capacitor                           |
| E.C. . . Electrolytic Capacitor                      |   |



## 4-2. G-1293 Mechanism Control Circuit Board (Stock No. 07098701)



### Parts List

| Parts No.   | Stock No. | Description       |
|-------------|-----------|-------------------|
| qC1         | 08302200  | 10000pF 125V S.C. |
| mPL1        | 07234400  | Lamp 8V 150mA     |
| •Transistor |           |                   |
| nQ1         | 03012701  | 2SA999            |
| nQ2         | 03012701  | 2SA999            |
| nQ3         | 03012701  | 2SA999            |
| nQ4         | 03012701  | 2SA999            |
| nQ5         | 03012701  | 2SA999            |
| nQ6         | 03012701  | 2SA999            |
| nQ7         | 03012701  | 2SA999            |
| nQ8         | 03012701  | 2SA999            |
| nQ9         | 03012701  | 2SA999            |
| nQ10        | 03012701  | 2SA999            |
| nQ11        | 03012701  | 2SA999            |
| nQ12        | 03012701  | 2SA999            |
| nQ13        | 03012701  | 2SA999            |
| nQ14        | 03012701  | 2SA999            |
| nQ15        | 03012701  | 2SA999            |
| nQ16        | 03068301  | 2SC2320           |
| nQ17        | 03068301  | 2SC2320           |
| nQ18        | 03068301  | 2SC2320           |
| nQ19        | 03068301  | 2SC2320           |
| nQ20        | 03068301  | 2SC2320           |
| nQ21        | 03068301  | 2SC2320           |
| nQ22        | 03068301  | 2SC2320           |
| nQ23        | 03012701  | 2SA999            |
| nQ24        | 07206901  | 2SC2001           |
|             | 03069101  | 2SC2060           |
| nQ25        | 07206901  | 2SC2001           |
|             | 03069101  | 2SC2060           |
| nQ26        | 07206901  | 2SC2001           |
|             | 03069101  | 2SC2060           |

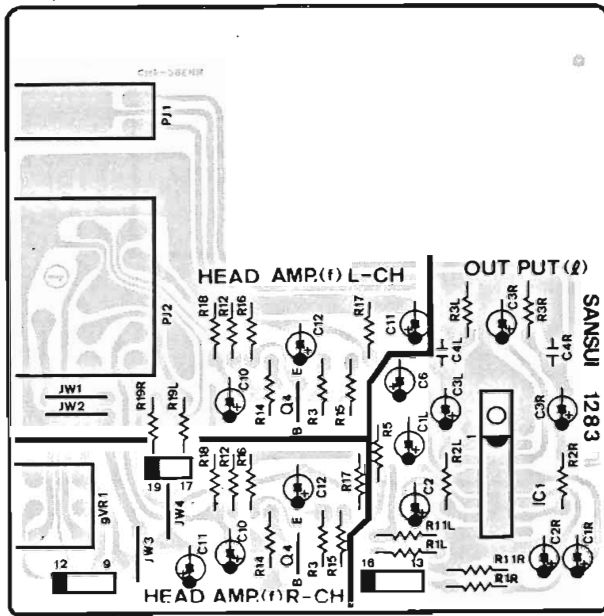
| Parts No.       | Stock No. | Description   |
|-----------------|-----------|---------------|
| nQ27            | 07206801  | 2SA952        |
|                 | 07254801  | 2SA854        |
| nQ28            | 03068301  | 2SC2320       |
| nQ29            | 03068301  | 2SC2320       |
| nQ30            | 03068301  | 2SC2320       |
| nQ31            | 03068301  | 2SC2320       |
| nQ32            | 03068301  | 2SC2320       |
| nQ33            | 03068301  | 2SC2320       |
| •IC             |           |               |
| nIC1            | 07232500  | μPD554C-031   |
| nIC2            | 07233100  | BA-6109       |
| •Diode          |           |               |
| nD1             | 03111600  | 1S2473D       |
| nD2             | 03111600  | 1S2473D       |
| nD3             | 03111600  | 1S2473D       |
| nD4             | 03111600  | 1S2473D       |
| nD5             | 03111600  | 1S2473D       |
| nD6             | 03111600  | 1S2473D       |
| nD7             | 03111600  | 1S2473D       |
| nD8             | 03111600  | 1S2473D       |
| nD9             | 03117700  | 10E-2         |
| nD10            | 03111600  | 1S2473D       |
| •Zener Diode    |           |               |
| nDZ1            | 03186000  | RD5.6E B      |
| •Block Resistor |           |               |
| nR1             | 07244500  | RM8-223J 22kΩ |
| nR2             | 07244500  | RM8-223J 22kΩ |
| nR27            | 07244400  | RM4-223J 22kΩ |
| nR28            | 07244400  | RM4-223J 22kΩ |

| Parts No.    | Stock No. | Description          |
|--------------|-----------|----------------------|
| •Resistor    |           |                      |
| nR35         | 00155100  | 33Ω 3W N.I.R.        |
| nC10         | 00304300  | 10μF 16V E.B.        |
| nT1          | 42306100  | Clock Pulse Osc Coil |
| •Transistor  |           |                      |
| rQ1          | 07206901  | 2SC2001              |
|              | 03069101  | 2SC2060              |
| rQ2          | 03068301  | 2SC2320              |
| rQ3          | 03084501  | 2SD356               |
|              | 03086101  | 2SD357               |
| •IC          |           |                      |
| rIC1         | 07232400  | μPC78M10H            |
| rIC2         | 03609200  | FS7805M              |
| •Diode       |           |                      |
| rD1          | 03117000  | RB-152               |
| rD2          | 03117000  | RB-152               |
| •Zener Diode |           |                      |
| rDZ1         | 03163100  | RD13E B              |
| rR3          | 00137700  | 10Ω 1W N.I.R.        |
| •Capacitor   |           |                      |
| rC5          | 08300100  | 4700μF 25 V E.C.     |

#### 4-3. G-1283 Headphone Amp. Circuit Board

(Stock No. 07099301)

Component Side

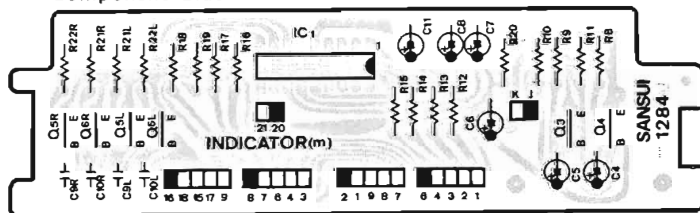


| Parts No.   | Stock No. | Description   |
|-------------|-----------|---|
| •Transistor |           |   |
| fQ4         | 07225401  | 2SC2320L  |
| gVR1        | 07235400  | 50k $\Omega$ (A) x 2 Variable Resistor<br>REC LEVEL |
| •IC         |           |   |
| IIC1        | 07224500  | LA4170  |
| pJ1         | 07194300  | Headphone Jack                                      |
| pJ2         | 07200300  | Mic Jack  |

#### 4-4. G-1284 Peak Meter Circuit Board

(Stock No. 07099401)

Component Side



##### Parts List

| Parts No.   | Stock No. | Description        |
|-------------|-----------|--------------------|
| •Transistor |           |                    |
| mQ3         | 03068301  | 2SC2320            |
| mQ4         | 03068301  | 2SC2320            |
| mQ5         | 03012701  | 2SA999             |
| mQ6         | 03012701  | 2SA999             |
| •IC         |           |                    |
| mIC1        | 07224000  | MSL9350RS          |
| mLD1        | 03194100  | SEL8809, LED Ass'y |

#### 4-5. G-1291 Function Switch Circuit Board

(Stock No. 07099501)

##### Parts List

| Parts No. | Stock No. | Description               |
|-----------|-----------|---------------------------|
| •LED      |           |                           |
| nLD1      | 07250800  | TLO123 LED (Orange)       |
| nLD2      | 07250900  | TLG123 LED (Green)        |
| nLD3      | 07250900  | TLG123 LED (Green)        |
| nLD4      | 07250900  | TLG123 LED (Green)        |
| nLD5      | 07251000  | TLY123 LED (Yellow)       |
| nS1       | 07234700  | Push Switch, REC          |
| nS2       | 07234700  | Push Switch, REW          |
| nS3       | 07234700  | Push Switch, PLAY         |
| nS4       | 07234700  | Push Switch, FF           |
| nS5       | 07234700  | Push Switch, STOP         |
| nS6       | 07234700  | Push Switch, PAUSE        |
| nS7       | 07234700  | Push Switch, REC MUTE     |
| nS8       | 07234700  | Push Switch, TAPE LEAD IN |

•Note: The circuit board, G-1294, G-1295 & G-1303 are not supplied as the assembled. However, the individual parts on the circuit board are provided by orders.

#### 4-6. G-1294 Memory/Auto Switch Circuit Board

##### Parts List

| Parts No. | Stock No. | Description          |
|-----------|-----------|----------------------|
| nS9       | 07249900  | Slide Switch, Auto   |
| nS10      | 07249800  | Slide Switch, Memory |

#### 4-7. G-1295 Timer Switch Circuit Board

##### Parts List

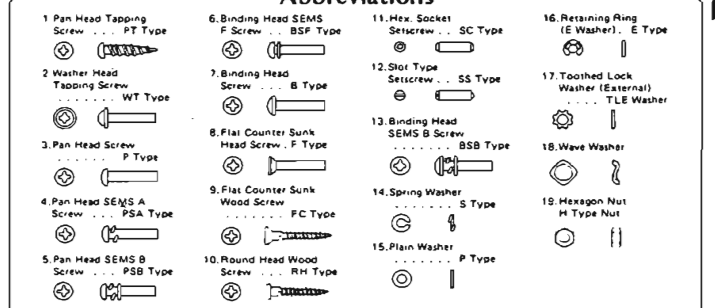
| Parts No. | Stock No. | Description         |
|-----------|-----------|---------------------|
| nS11      | 07249900  | Slide Switch, Timer |

#### 4-8. G-1303 Power Switch Circuit Board

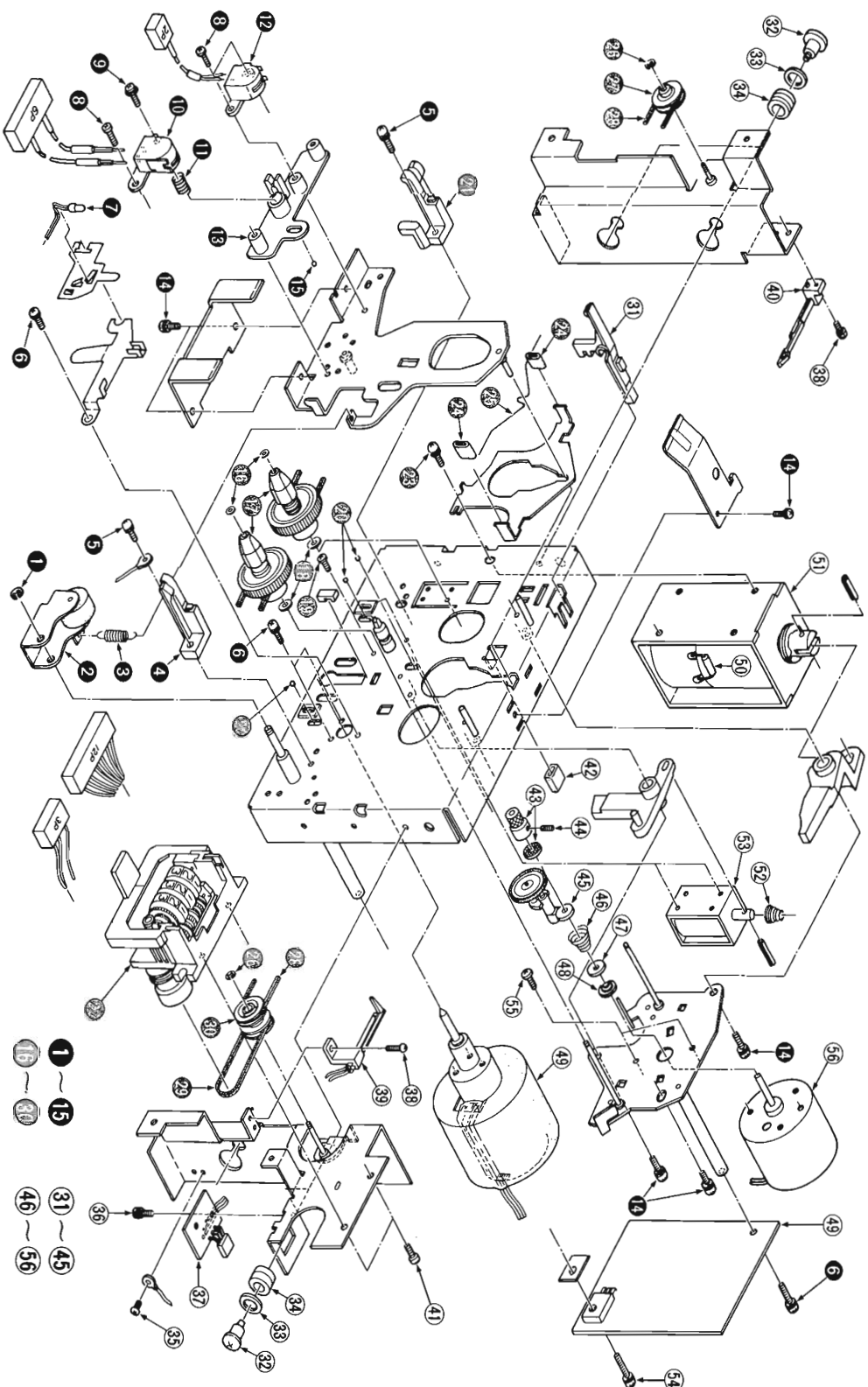
##### Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------|
|           | 07267100  | Push Switch |

##### Abbreviations



5. EXPLODED VIEW AND PARTS LIST



| Parts No. | Stock No. | Description             |
|-----------|-----------|-------------------------|
| 2         | 07735300  | Pin: Roller Ass'y       |
| 4         | 08446500  | Cassette Holder (Right) |
| 7         | 07720000  | Lamp, 8V 50mA           |
| 10        | 07735300  | Rec. Hub                |
| 11        | 07735300  | Rec. Hub                |
| 12        | 07735300  | Rec. Hub                |
| 13        | 07735300  | Rec. Hub                |
| 15        | 07734800  | Steel Ball              |
| 17        | 07733100  | Steel Hub Ass'y         |
| 20        | 08400300  | Steel Ball              |
| 21        | 08400300  | Steel Ball              |
| 22        | 08402600  | Cassette Holder (Left)  |

| Parts No. | Stock No. | Description                    |
|-----------|-----------|--------------------------------|
| 24        | 07734000  | Brake Shoe                     |
| 27        | 08446700  | Tension Pulley                 |
| 28        | 07735300  | Rec. counter (1), tension      |
| 29        | 07735300  | Rec. counter (2), tension      |
| 30        | 07735300  | Rec. counter (3), tension      |
| 31        | 08446800  | Rec. Sensor Lever              |
| 34        | 07734100  | Cushion, mechanism support     |
| 37        | 07733300  | Tape-Run Sensing Circuit Board |
| 38        | 08414000  | Hole IC D6838                  |
| 39        | 08447100  | Hole IC D6838                  |
| 39        | 07719700  | Leaf Switch                    |

\* When Replacing Hole IC, refer to Service Bulletin, Ref. AN-123.

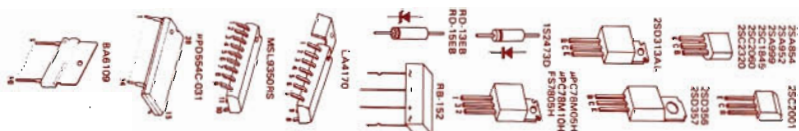
| Parts No. | Stock No. | Description                |
|-----------|-----------|----------------------------|
| 40        | 07719600  | Leaf Switch                |
| 42        | 07733300  | Cushion                    |
| 43        | 07733300  | Capstan Motor              |
| 44        | 07733300  | Capstan Motor              |
| 45        | 07733300  | Capstan Motor              |
| 46        | 08446800  | Rec. Sensor Lever          |
| 48        | 07719300  | Capstan Motor              |
| 49        | 07733300  | Capstan Motor              |
| 50        | 07733300  | Capstan Motor              |
| 51        | 07719800  | Plunger Solenoid, play/rec |
| 53        | 07719800  | Plunger Solenoid, play/rec |
| 54        | 07719800  | Plunger Solenoid, play/rec |
| 56        | 07719400  | Reel Motor                 |

| Parts No. | Stock No. | Description                        |
|-----------|-----------|------------------------------------|
| •Screw    |           |                                    |
| 5         | 00448000  | Pan Head (PSA) M3 x 8              |
| 6         | 08321400  | Pan Head (PSA) M2.6 x 6            |
| 8         | 07736700  | Pan Head M2 x 13                   |
| 9         | 07736500  | Washer, toothed Head M2 x 14       |
| 10        | 07736500  | Pan Head (PSA) M2.6 x 4            |
| 11        | 07736500  | Pan Head M2 x 3                    |
| 12        | 07736500  | Pan Head M2 x 3                    |
| 13        | 00448100  | Pan Head (PSA) M3 x 6              |
| 14        | 07732900  | Pan Head M4 x 11.2                 |
| 15        | 00436700  | Fair Counter Sink Head M2.5 x 5    |
| 16        | 08321500  | Pan Head (PSA) M2 x 5              |
| 17        | 08446300  | Pan Head (PSA) M2 x 5              |
| 18        | 00440400  | Pan Head Tapping M2.6 x 5          |
| 19        | 07736500  | Slat Type M2 x 3.5                 |
| 20        | 00436800  | Pan Head (PSA) M2.6 x 8            |
| 21        | 07736400  | Pan Head M2.6 x 3                  |
| •Washer   |           |                                    |
| 1         | 00489000  | E ring D-2.0                       |
| 2         | 07732600  | Poly-trust plain M3 x 2 x 0.5      |
| 3         | 07734400  | Poly-trust plain M5.4 x 3.1 x 0.25 |
| 4         | 07732800  | E ring D-1.5                       |
| 5         | 00489900  | Plain (Mechanism Support)          |
| 6         | 07733700  | M10 x 4.5 x 0.5                    |
| 7         | 07732700  | Plain (Idle) M7 x 2.1 x 0.5        |
| •Spring   |           |                                    |
| 1         | 07734700  | Pinch Roller Spring                |
| 2         | 07734700  | Head Adjust Spring                 |
| 3         | 07734500  | Brake Spring                       |
| 4         | 07734500  | Idle Spring                        |
| 5         | 07734300  | Brake Plunger Spring               |

6. MAIN PARTS REPLACEMENT  
(See Exploded View left)

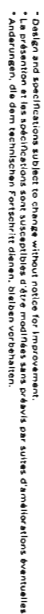
- A. Mechanism Chassis**
- 1) Remove bonnet and front panel.
  - 2) Loosen two screws on mechanism cover ass'y to remove it.
  - 3) Take out G-1303 (Power switch circuit board) and G-1295 (timer switch circuit board).
  - 4) Plug out 4 connectors on G-1293 (Mechanism Control Circuit Board) and G-1282 (Play/Rec Amp Circuit Board) and cut off the vinyl bands.
  - 5) Loosen 4 screws fixing mechanism chassis. And, the mechanism chassis is easily off.
- B. Idler Ass'y ④ and Reel Motor ⑤**
- 1) Take out mechanism chassis, tension and counter (1) belt.
  - 2) Remove thrust washer ⑥ at reel hub ass'y (supply - take up) ⑦, and reel hub ass'y from mechanism chassis.
  - 3) Loosen two screws ⑥, ⑤ fixing capstan motor control circuit board.
  - 4) Loosen three screws ⑧ fixing reel motor mounting plate and take out reel motor.
  - 5) Loosen one screw ④ around pulley to pull out the pulley, then remove idler ass'y from reel motor.
  - 6) Next, to remove reel motor, take out idler spring ⑨, washer ⑩ and spring support ⑪.
  - 7) Loosen two screws ⑫ fixing reel motor and reel motor can be off from reel motor mounting plate.
- C. Capstan Motor**
- 1) Take out mechanism chassis first.
  - 2) To remove this motor, loosen two screws ⑬, ⑭ fixing capstan motor control circuit board, and three screws ⑮ fixing capstan motor.

- \* Design and specifications subject to change without notice for improvement.
- \* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- \* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



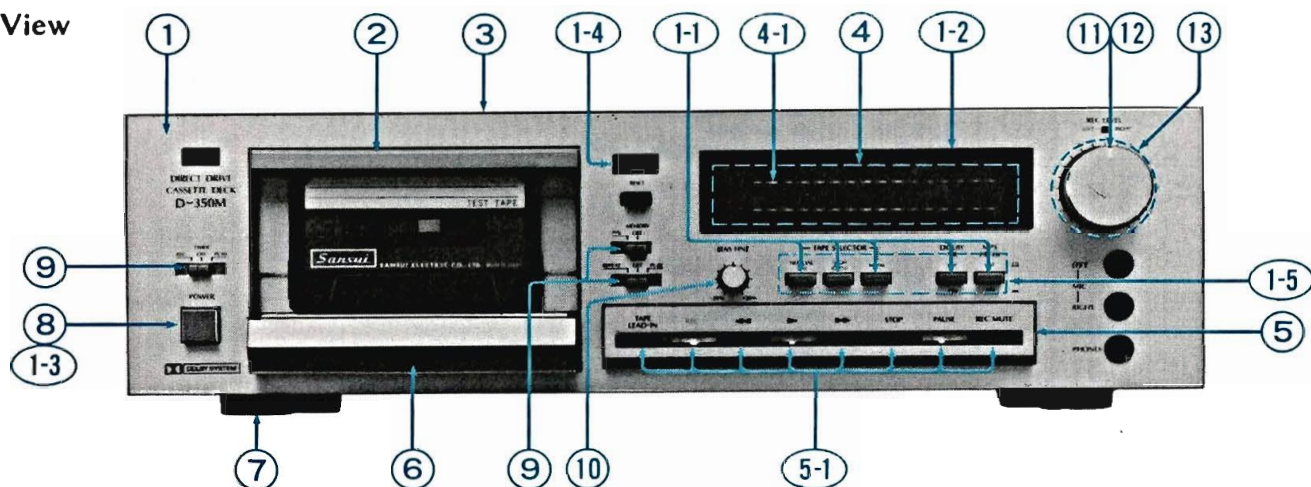


2

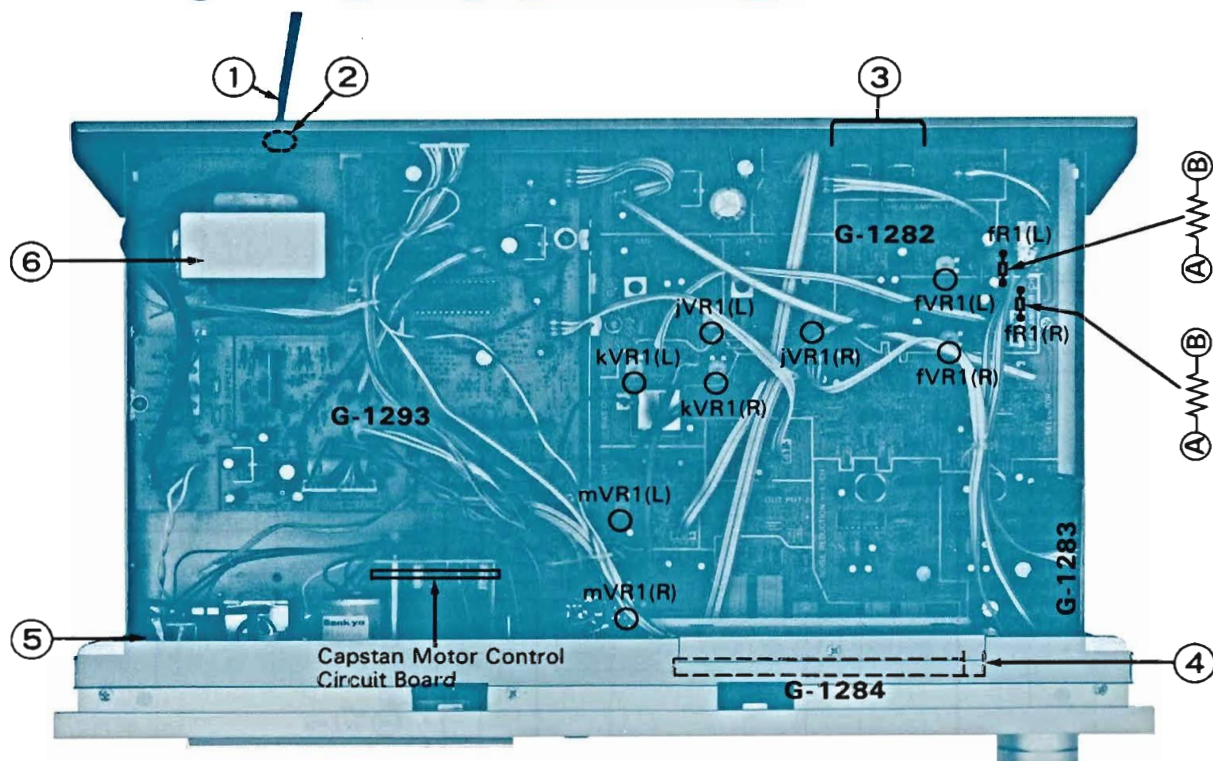


## 8. OTHER PARTS

### 8-1. Front View



### 8-2. Top View



#### Parts List <Front View>

| Parts No. | Stock No. | Description                          |
|-----------|-----------|--------------------------------------|
| 1         | 07630100  | Front Panel Ass'y (Silver Model)     |
|           | 07630300  | Front Panel Ass'y (Black Model)      |
| 1-1       | 07630800  | Push Knob Ass'y (Silver Model)       |
|           | 07630900  | Push Knob Ass'y (Black Model)        |
| 1-2       | 07604300  | Meter Cover Glass                    |
| 1-3       | 59560800  | Knob Guide (Silver Model)            |
|           | 59560900  | Knob Guide (Black Model)             |
| 1-4       | 07603800  | Counter Lens                         |
| 1-5       | 07610700  | Guide Cushion                        |
| 2         | 07631220  | Mechanism Cover Ass'y (Silver Model) |
|           | 07631310  | Mechanism Cover Ass'y (Black Model)  |
| 3         | 07610900  | Bonnet (Silver Model)                |
|           | 07611000  | Bonnet (Black Model)                 |
| 4         | 07632000  | Frame Ass'y, peak meter              |
| 4-1       | 07604400  | Scale, Peak Meter                    |
| 5         | 07636000  | Control Plate Ass'y (Silver Model)   |
|           | 07636100  | Control Plate Ass'y (Black Model)    |
| 5-1       | 07623800  | Control Button                       |
| 6         | 07604500  | Head Cover (Silver Model)            |
|           | 07604600  | Head Cover (Black Model)             |
| 7         | 55073500  | Leg                                  |

| Parts No. | Stock No. | Description                                    |
|-----------|-----------|--|
| 8         | 53195000  | Knob (Silver Model), power                     |
|           | 53196500  | Knob (Black Model), power                      |
| 9         | 07604100  | Slide Knob (Silver Model), auto, timer, memory |
|           | 07604200  | Slide Knob (Black Model), auto, timer, memory  |
| 10        | 07603300  | Knob (Silver Model), bias fine                 |
|           | 07604000  | Knob (Black Model), bias fine                  |
| 11        | 07603400  | Knob (Silver Model), left rec level            |
|           | 07603500  | Knob (Black Model), left rec level             |
| 12        | 07603600  | Knob (Silver Model), right rec level           |
|           | 07603700  | Knob (Black Model), right rec level            |
| 13        | 07506900  | Masking Sheet                                  |

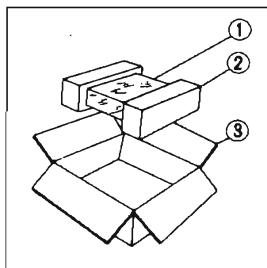
#### Parts List <Top View>

| Parts No. | Stock No. | Description               |
|-----------|-----------|---------------------------|
| 1         | 38005700  | Power Supply Cord         |
| 2         | 39106000  | Strain Relief             |
| 3         | 07249100  | 4P Terminal, input output |
| 4         | 07234400  | Lamp 8V 150mA             |
| 5         | 07267100  | Power Switch              |
| 6         | 15001001  | Power Transformer         |



## 9. PACKING LIST

| Parts No. | Stock No. | Description                |
|-----------|-----------|----------------------------|
| 1         | 91167610  | Vinyl Cover                |
| 2         | 07632300  | Styrofoam Packing          |
| 3         | 07632400  | Carton Case (Silver Model) |
|           | 07632600  | Carton Case (Black Model)  |



## 10. ACCESSORY LIST

| Stock No. | Description                         |
|-----------|-------------------------------------|
| 07641800  | Operating Instruction               |
| 38103300  | PJP Cord x 2                        |
| 94300500  | Head Cleaner (Cotton Buds)          |
| 07712200  | Rack Mounting Adaptor (Black Model) |



SANSUI ELECTRIC COMPANY LTD.:

SANSUI ELECTRONICS CORPORATION:

SANSUI ELECTRONICS (U.K.) LTD.:  
SANSUI ELECTRONICS G.M.B.H.:

14-1, Izumi 2-chome, Suginami-ku, Tokyo 168 Japan  
PHONE: (03) 324-8891/TELEX: 232-2076 (International Division)  
1250 Valley Brook Ave. Lyndhurst, N.J. 07071 U.S.A.  
333 West Alondra Blvd. Gardena, California 90247 U.S.A.  
3036 Koapaka St. Honolulu, Hawaii 96819 U.S.A.

Unit 10A, Lyon Industrial Estate, Rockware Avenue, Greenford, Middx UB6, OAA, England  
Arabella center, 6 Frankfurt AM Main, Lyoner Strasse 44-48, West Germany

(SM1-19)

Printed in Japan (810830M) <Stock No. 36458700>