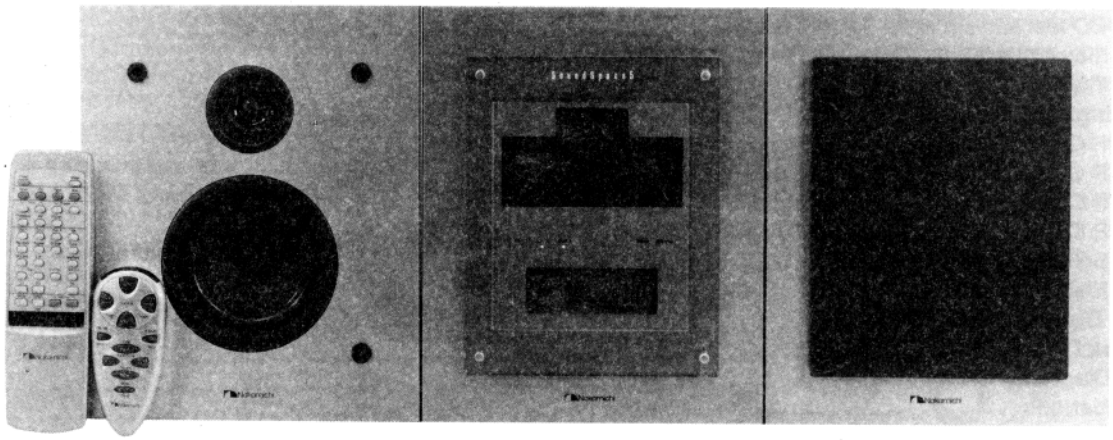
Service Manual

SoundSpace5

Stereo Music System



Nakamichi

CONTENTS

GENERAL

1.1. Product Code
N509

1.2. Destinations
KR, MA, CH, TW, HK, USA, CAN, JPN, UK, EP, OTR, DA

Abbreviations

KR – Korea MA – Malaysia CH – China
TW – Taiwan HK – Hongkong USA – U.S.A.
CAN – Canada JPN – Japan UK – United Kingdom
EP – Europe OTR – Other DA – South America

1.3. Cautions/Warnings
(1) Product Safety Notice

Parts marked with the symbol ⚠ in the schematic diagram have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer. It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

(2) Leakage Current Check/Resistance Check

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective.
WARNING — DO NOT return the unit to the customer until the problem is located and corrected.

(3) Protection of Eyes from Laser Beam

To protect eyes from invisible laser beam during servicing, *DO NOT LOOK AT THE LASER BEAM.*

- Laser Diode Properties

Material: GaAs+GaAlAs
Laser output: 0.4mW Max.
Wavelength: 760 - 800 nm
Emission duration: Continuous

(4) Laser Caution

CAUTION

Adjusting the knobs, switches, and controls, etc. or taking actions not specified herein may result in a harmful emission of laser beams. This CD Changer must be adjusted and repaired only by qualified service personnel.

CLASS 1
LASER PRODUCT

THIS COMPACT DISC PLAYER IS CLASSIFIED AS A CLASS 1 LASER PRODUCT.
THE CLASS 1 LASER PRODUCT LABEL IS LOCATED ON THE REAR EXTERIOR.

1.4. Handling the Laser Pickup
In case of repair or replacement of the Laser Pickup, pay attention to the following handling instructions since the laser diode in the Laser Pickup is not resistant to static electricity.

(1) Grounding

When you repair a Laser Pickup, first ground the human body, as well as the measuring instruments and other tools (with particular caution to soldering iron). What's more, your workbench and floor should desirably be grounded using conductive sheet or copper plate. See Fig. 1.1.

NOTE: Be careful so as not to let your clothes touch the Laser Pickup, as static electricity on the clothes will not be released even if your body is grounded.

(2) Discharge of Electricity

Be sure to discharge electricity from objects brought into contact with the Laser Pickup (i.e., soldering iron, tweezers, probes, volt-ohm-meter probes, etc.) before starting work by contacting them with the body chassis. Besides, never touch the Laser Pickup while power is applied.

(3) Soldering Iron to be Used

The soldering iron for use in repair work should be: (1) a ceramic soldering iron, (2) a soldering iron with its metal part grounded, or (3) a soldering iron whose insulation resistance after five minutes of power application is 10 M-ohm or more at 500 VDC. Soldering should be completed promptly, at a soldering iron temperature of 320° max (39 W). A soldering iron heated above this temperature can break down the laser diode.

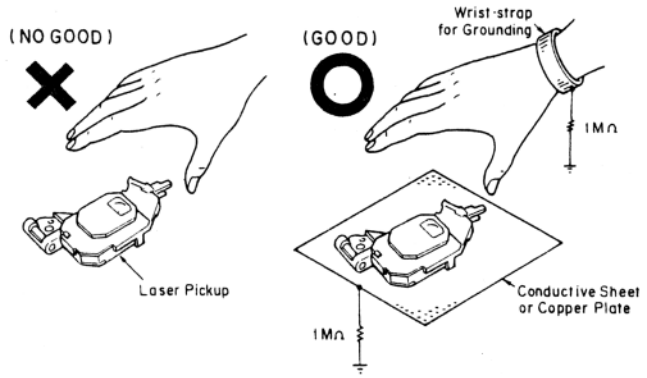


Fig. 1 Handling the Laser Pickup

1-4. Package Ass'y and Accessory Ass'y

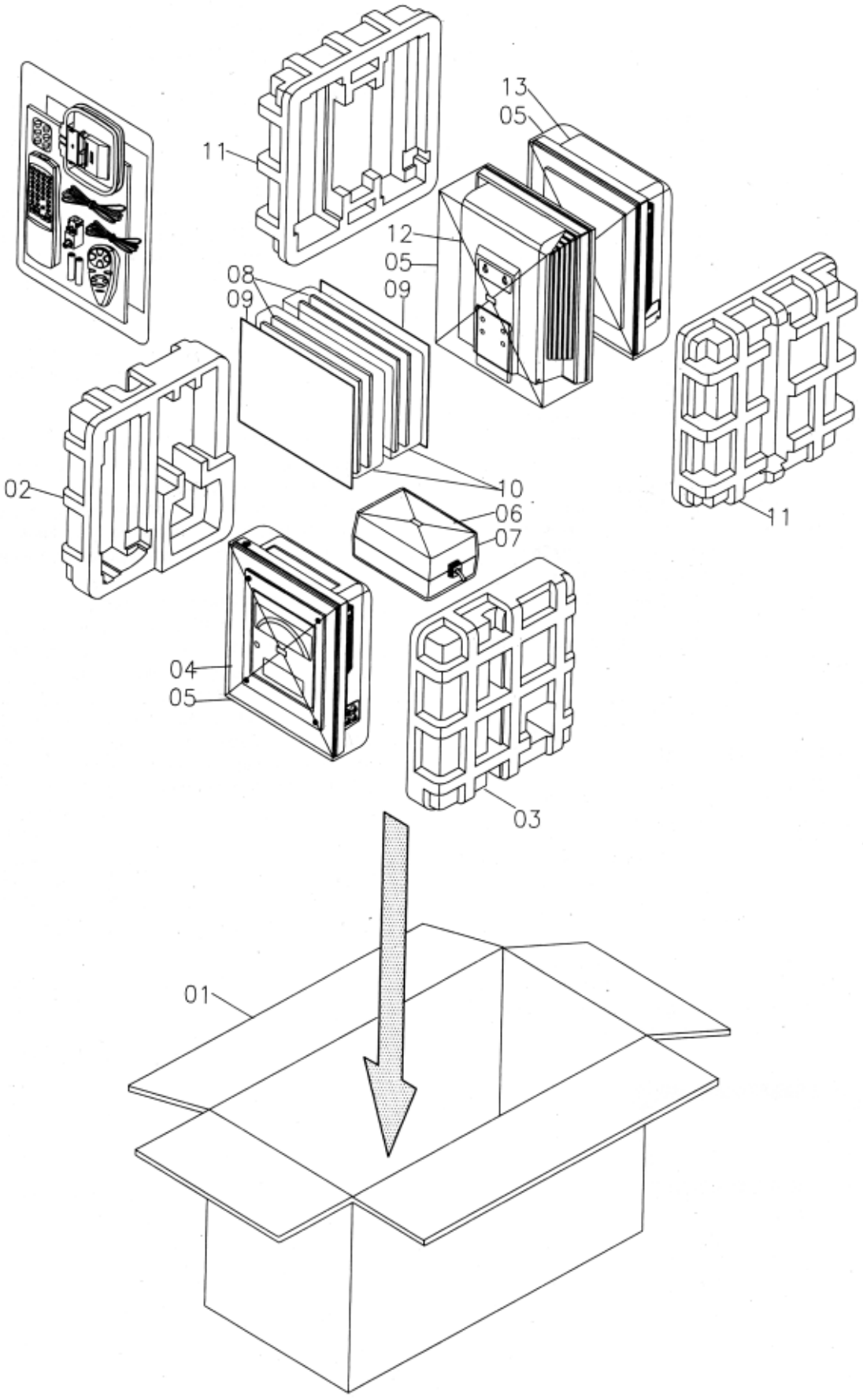


Fig. 1

1-4. Package Ass'y and Accessory Ass'y

Ref. No.	Part Number	Description	Q'ty	Ref. No.	Part Number	Description	Q'ty
		Package Ass'y		08	00040799S5	Speaker grille (green)	2
01	9003079955	Master carton	1	09	9010079955	Carton spacer	2
02	9001079955	Snow box (L)	1	10	9902003040	Poly bag 200x300x0.04T	2
03	9002079955	Snow box (R)	1				
04		Front panel ass'y	1	11	9005079955	Speaker snow box	2
05	9940799S5	Soft sheet (A)	3	12		Speaker ass'y (R)	1
06		Trans. case ass'y	1	13		Speaker ass'y (L)	1
07	9006079955	Soft sheet (B)	1				
08	0003079955	Speaker grille (blue)	2				

Ref. No.	Part Number	Description	Q'ty	Ref. No.	Part Number	Description	Q'ty
		Accessory Ass'y			9080026110	Instruction book (F/SP) (for CH/HK/USA /CAN/EP/DA)	1
	RE39-D1	Remote control ass'y (for TW/USA/CNA /JPN/OTR/DA)	1		9080026120	Instruction book (E/F/G/SP) (for UK)	1
	RE39-D2	Remote trans. ass'y (for KR/MA/CH/HK/UK/EP)	1		9120006060	Instruction Sheet (KR) (for KR)	1
	B0DG05310A	Remote SUB SS-8 ass'y	1		463132M065	Cord set UL/CSA BLK 6.5FT SPT-2 (for TW/OTR/DA)	1
	4300103410	AM loop antenna 3083-062-0	1		463153H065	Cord set UL/CSA BLK 6.5FT-2P (for USA/CAN)	1
	4620620031	Battery R03(E)/2UM-4E	4		463225M065	Cord set BS BLK 6.5FT (for MA/HK/UK)	1
	5401160021	FM indoor antenna	1		463225T065	Cord set VDE BLK 6.5FT (for EP)	1
	704975A013	Antenna adaptor YEA-21-0425	1		463512H065	Cord set JIS BLK 6.5FT (for JPN)	1
	0H07933A	Bumpon SJ-5303 (for HK/USA/CAN/EP)	6		463625M065	Cord set Korea BLK 6.5FT (for KR)	1
	1028079955	Bumpon SJ-5306 (for KR/MA/CH/TW /JPN/UK/OTR/DA)	6		463752T065	Cord set China BLK 6.5FT (for CH)	1
	9900500840	Poly bag 50x80x0.047 (for Bumpon)	1		9100021660	Poly bag (W/C) (for JPN)	1
	9080025890	Instruction book (E) (for KR/MA/TW/USA /CAN/OTR/DA)	1		9902304080	Poly bag 23x40 (I/B)	1
	9080026100	Instruction book (J) (for JPN)	1				

2. REMOVAL PROCEDURES

2.1. Main Unit

Refer to Fig. 2.1.1 to 2.1.6.

(1) Remove screws F01 (4 pcs.) and disconnect two wires to detach F02 (Front Panel Ass'y) and F03 (Back Cabinet Ass'y).

(2) Remove screws F04 (4 pcs.), F06 (5 pcs.) to detach F05 (Key P.C.B. Ass'y) and F07 (Display P.C.B. Ass'y).

(3) Remove screws F08 (4 pcs.) and disconnect two wires to detach F09 (CD Mechanism Ass'y).

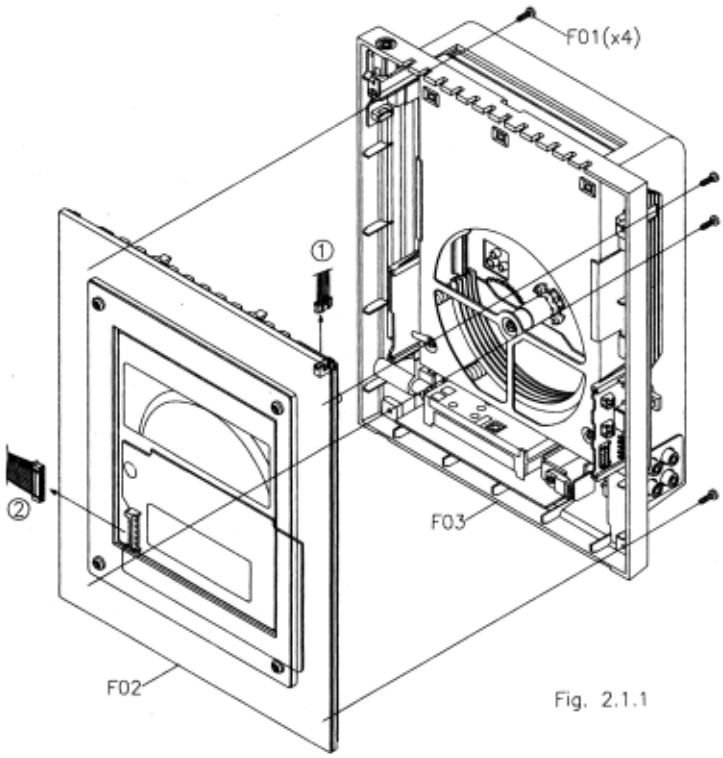


Fig. 2.1.1

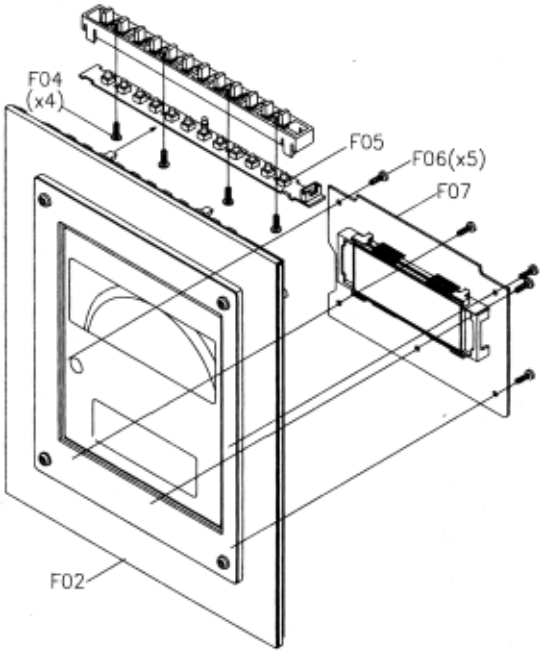


Fig. 2.1.2

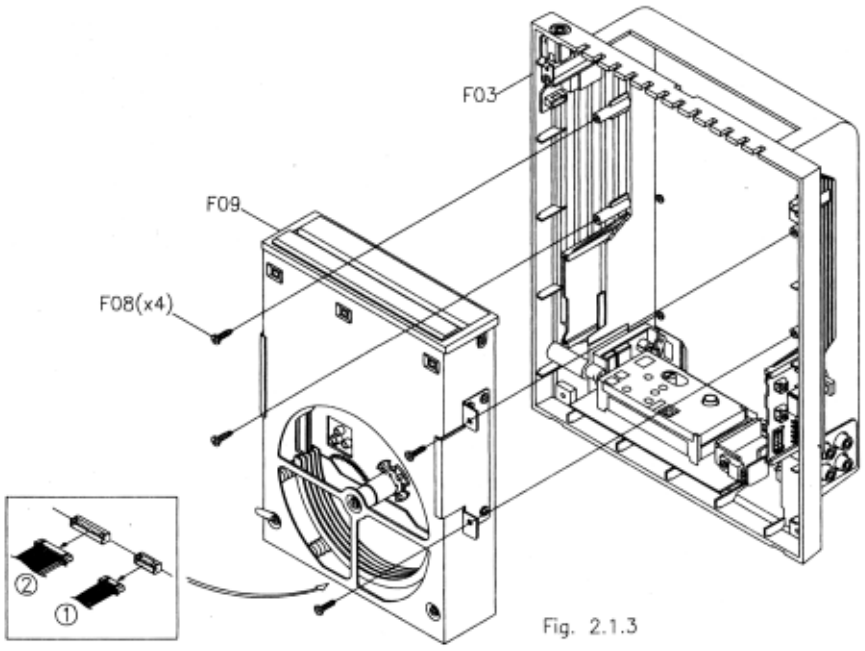


Fig. 2.1.3

(4) Remove screws F01 (1 pcs.) and disconnect five wires to detach F02 (Headphone P.C.B. Ass'y), F03 (Speaker Jack P.C.B. Ass'y), F04 (SCP P.C.B. Ass'y) from F05 (Back Cabinet Ass'y).

(5) Remove screws F06 (1 pcs.), F08 (2 pcs.) to detach F07 (Transistor P.C.B. Ass'y), F09 (Tuner P.C.B. Ass'y) from F05 (Back Cabinet Ass'y).

(6) Remove screws F10 (6 pcs.), F11 (1 pcs.) to detach F12 (Main P.C.B. Ass'y) from F05 (Back Cabinet Ass'y).

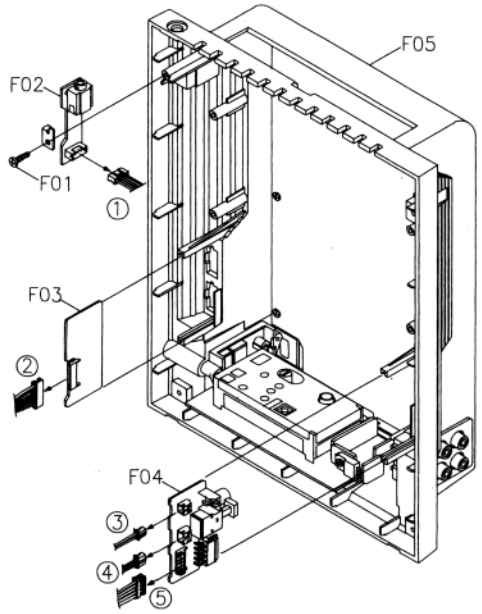


Fig. 2.1.4

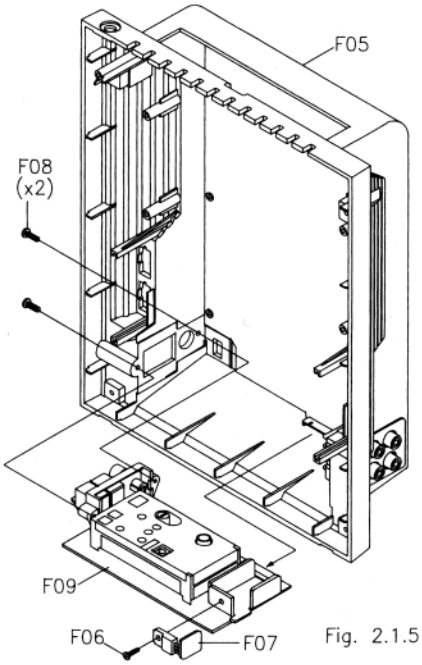


Fig. 2.1.5

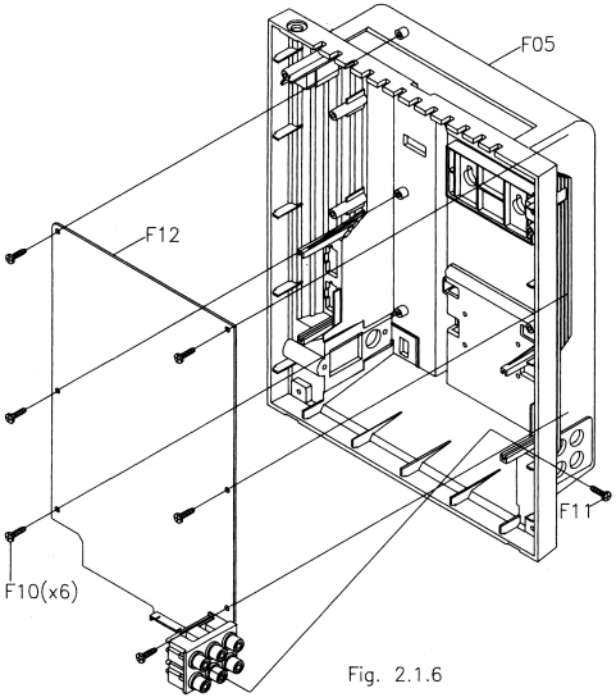


Fig. 2.1.6

2.2. Speaker Ass'y and Transformer Case Ass'y

Refer to Fig. 2.2.1 to 2.2.8.

(1) Remove screws F01 (4 pcs.), F02 (2 pcs.) and disconnect wire to detach F03 (Speaker Front Panel Ass'y) from F04 (Speaker Cabinet Ass'y).

(2) Remove screws F05 (6 pcs.) to detach F06 (Tweeter) and F07 (Woofer).

(3) Remove screws F08 (8 pcs.) to detach F09 (Heat Sink Cover).

(4) Remove screws F10 (4 pcs.), F12 (2 pcs.) to detach F11 (Amp. IC P.C.B. Ass'y) and F13 (Connector P.C.B. Ass'y).

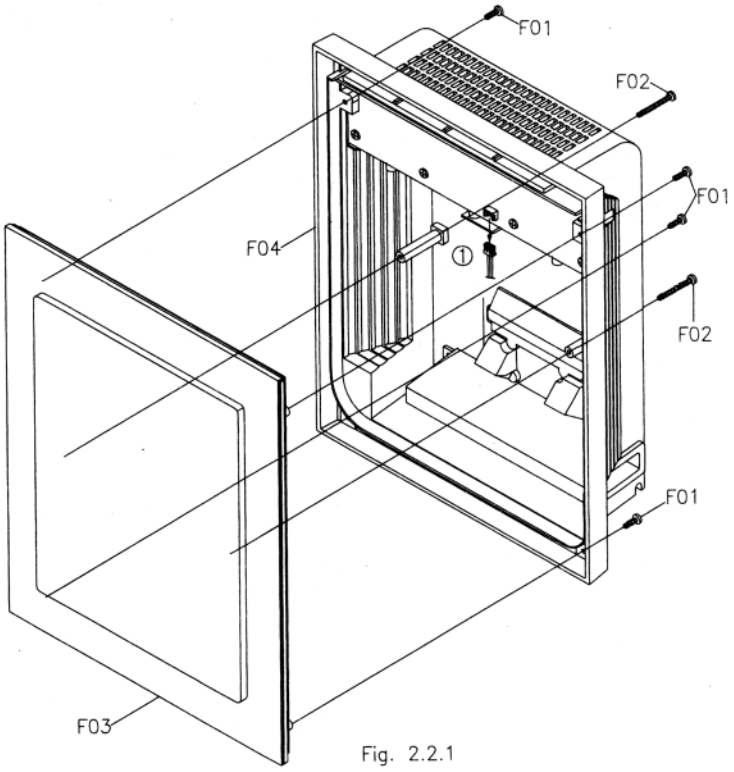


Fig. 2.2.1

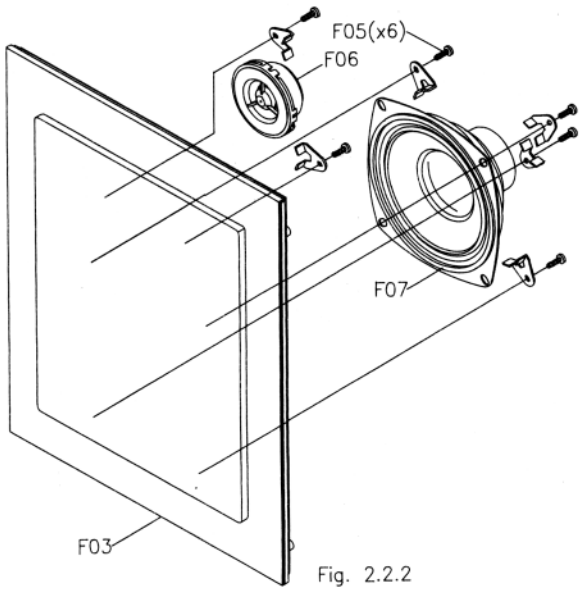


Fig. 2.2.2

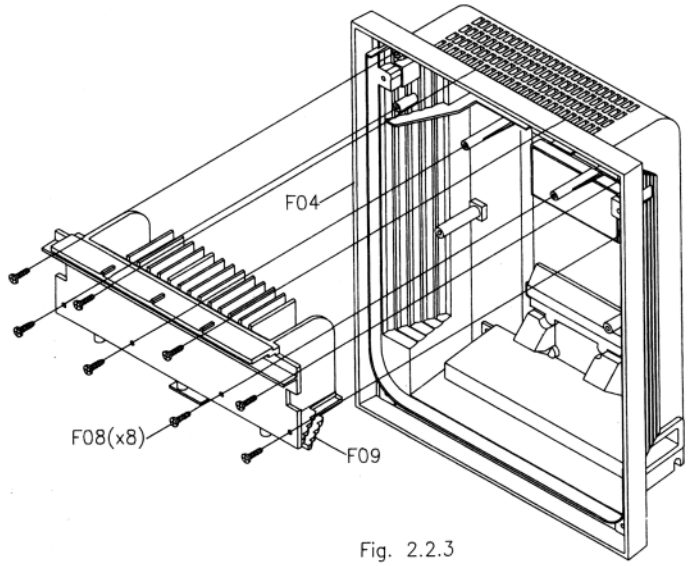


Fig. 2.2.3

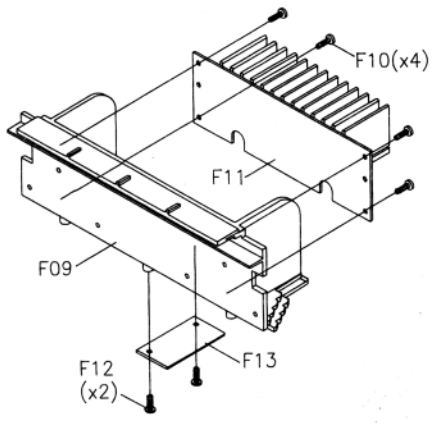


Fig. 2.2.4

(5) Remove screws F01 (4 pcs.) to detach F02 (Top Cabinet Ass'y) from F03 (Bottom Cabinet Ass'y).
(6) Remove screws F04 (2 pcs.) to detach F05 (AC Selector P.C.B. Ass'y). (for TW/OTR/DA)
(7) Remove screw F06 (1 pcs.) and unsolder diode (with F07) from F08 (Power Trans. P.C.B. Ass'y) to detach F07 (Heat Sink).
(8) Remove screw F09 (1 pcs.) and detach F10 (DC Out P.C.B. Ass'y).
(9) Remove screws F11 (2 pcs.) to detach F12 (AC Socket P.C.B. Ass'y).
(10) Remove screw F13 (1 pcs.) to loosen Connector Ass'y.
(11) Remove screws F14 (4 pcs.) to detach F15 (Power Transformer).
(12) Replace fuses if they are blown out.

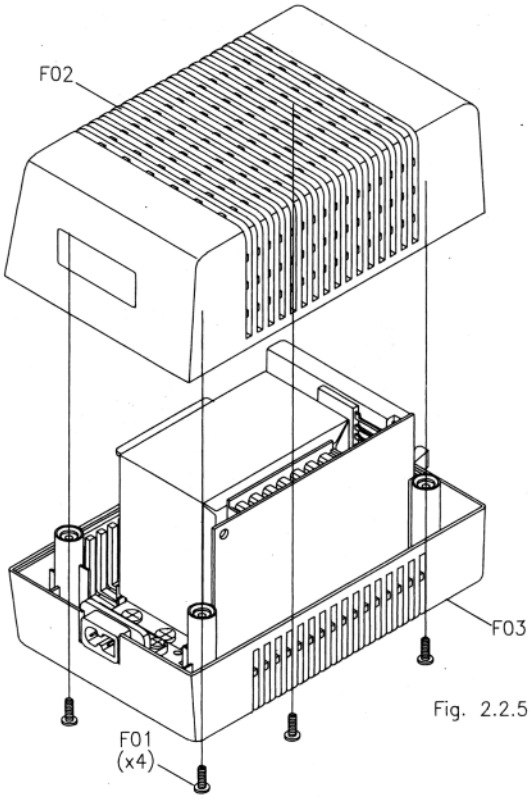
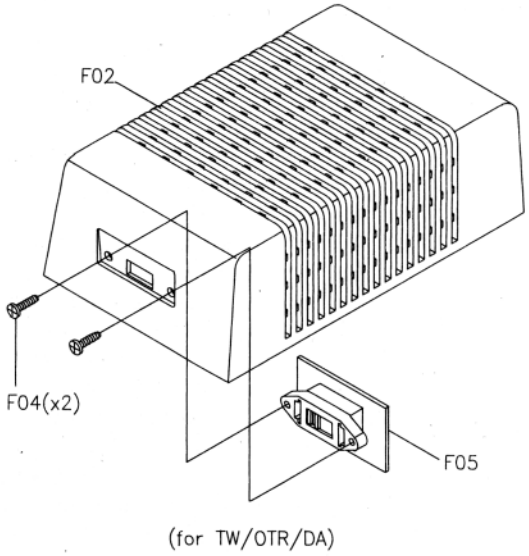


Fig. 2.2.5



(for TW/OTR/DA)

Fig. 2.2.6

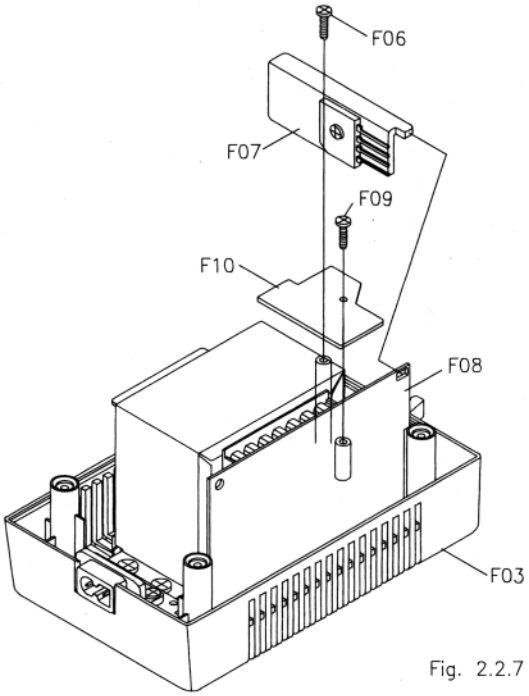


Fig. 2.2.7

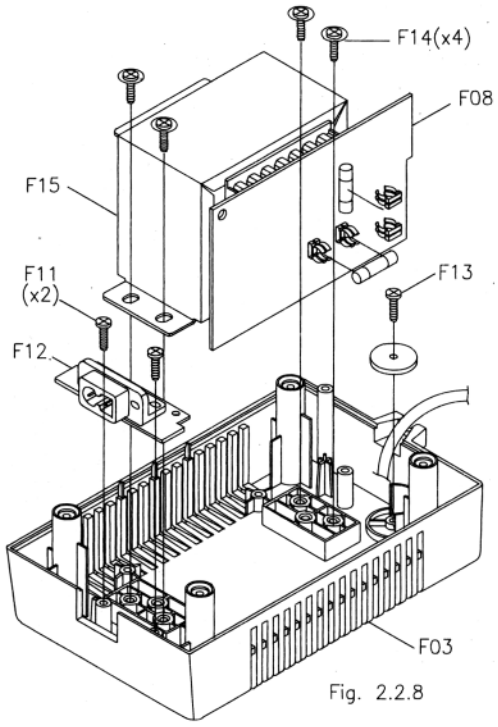


Fig. 2.2.8

2.3. Top Cover SL S Ass'y, Bottom Cover MF Ass'y, and Front Panel Ass'y

Refer to Figs. 2.3.1 to 2.3.3.

(1) Remove the Mechanism Synthesis Ass'y. See item 2.2.
(2) Remove screws F01 (2 pcs.) and detach F02 (Top Cover SL S Ass'y). Refer to Fig. 2.3.1.
(3) Remove screws F03 (6 pcs.) and detach F04 (Bottom Cover MF Ass'y). Refer to Fig. 2.3.1.
(4) Remove F05 (Front Panel Ass'y) from the unit.

NOTES: 1. Before reassembling F05 (Front Panel Ass'y), be sure that the end of the Mecha UD Sub Cam SL on the right front does not protrude as shown in Fig. 2.3.2. If it protrudes, move it backward as follows:
   1) Carefully remove the left side adhesive label (Dust Seal Emergency SL) on the left side of the unit. Refer to Fig. 2.3.3.
   2) Turn the Emergency Gear with your finger tip in the direction of the arrow until the end of the Mecha UD Sub Cam SL is drawn inside the unit. (See Fig. 2.3.3.)
   When turning the Gear, **DO NOT use nail** as the gear tooth can be broken.
   3) Reattach the adhesive label (Dust Seal Emergency SL).

2. Be sure that the claws of F05 (Front Panel Ass'y) are securely inserted into each holes in F02 (Top Cover SL S Ass'y) and F04 (Bottom Cover MF Ass'y).

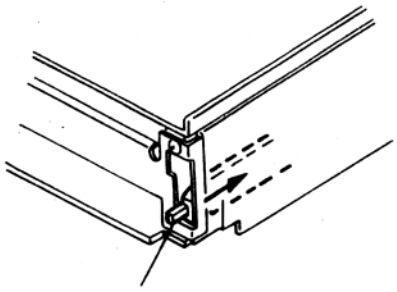


Fig. 2.3.2

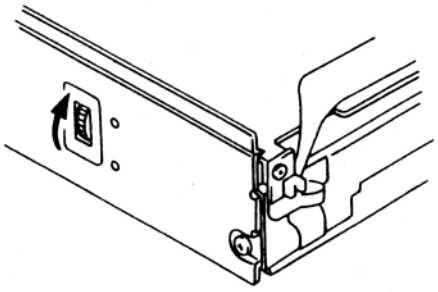


Fig. 2.3.3

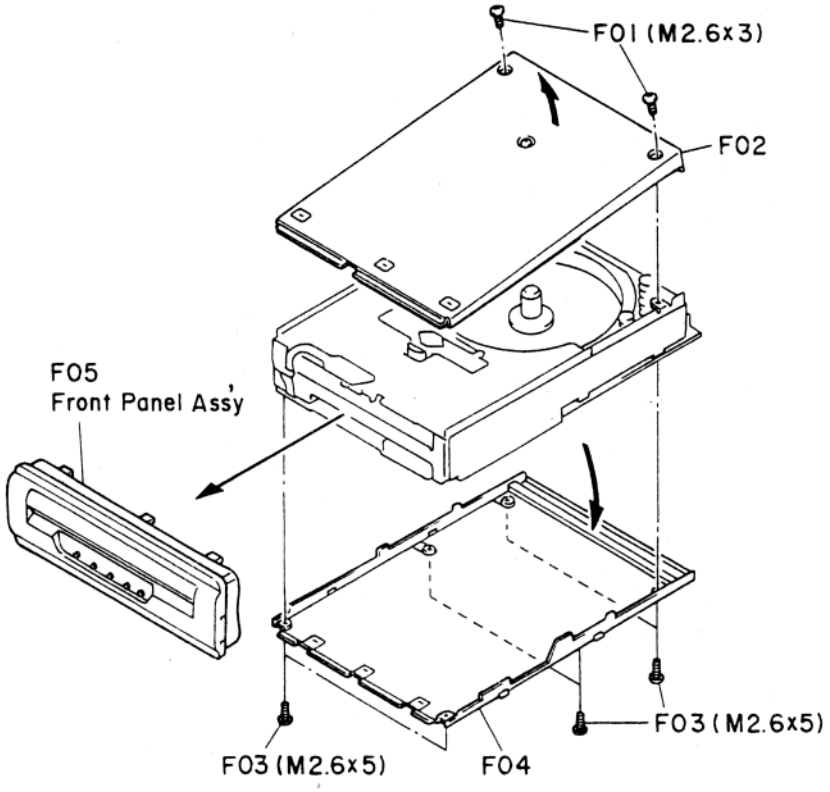


Fig. 2.3.1

(Main P.C.B. Ass'y indicated same as HMB-5 P.C.B. Ass'y)

2.4. Main P.C.B. Ass'y

2.4.1. Removing the Main P.C.B. Ass'y

Refer to Figs. 2.4.1 and 2.4.2.

NOTE: Three flexible P.C.B.s are connected to the Main P.C.B. Ass'y. When disconnecting these flexible P.C.B.s, do not open the Main P.C.B. Ass'y wide to avoid damage to the flexible P.C.B.

(1) Remove the Top Cover SL S Ass'y, Bottom Cover SL S Ass'y, and Front Panel Ass'y. Refer to item 2.3.

(2) Short the laser diode shorting lands on the Pickup Flexible P.C.B. with a soldering iron whose metal part is grounded or with a ceramic soldering iron. Refer to Fig. 2.4.1.

(3) Remove screws F01 (1 pce.) and F02 (1 pce). Refer to Fig. 2.4.2.

(4) Disconnect F03 (Mecha Flexible P.C.B. Ass'y) by pulling the edges of the connector CP103 on the Main P.C.B. Ass'y to unlock the connector edges. Refer to Fig. 2.4.2.

(5) Pull the edges of the connector CP102 on the Main P.C.B. Ass'y to unlock the connector edges and carefully pull out F04 (Traverse Flexible P.C.B. Ass'y).

(6) Pull the edges of the connector CP101 on the Main P.C.B. Ass'y to unlock the connector edges and carefully pull out F05 (Pickup Flexible P.C.B.).

(7) Remove F06 (Main P.C.B. Ass'y).

2.4.2. Installing the Main P.C.B. Ass'y

NOTE: To allow easier installation of the Main P.C.B. Ass'y, move the Laser Pickup Block to the outermost position, before removing the Main P.C.B. Ass'y.

(1) Reconnect the flexible P.C.B.s to the Main P.C.B. Ass'y in the following order to make the connection easier.
   1) F05 (Pickup Flexible P.C.B.)
   2) F03 (Mecha Flexible P.C.B. Ass'y)
   3) F04 (Traverse Flexible P.C.B. Ass'y)

(2) Install the Main P.C.B. Ass'y with one screws F01 and F02.

(3) Unsolder the shorting lands on the Pickup Flexible P.C.B.

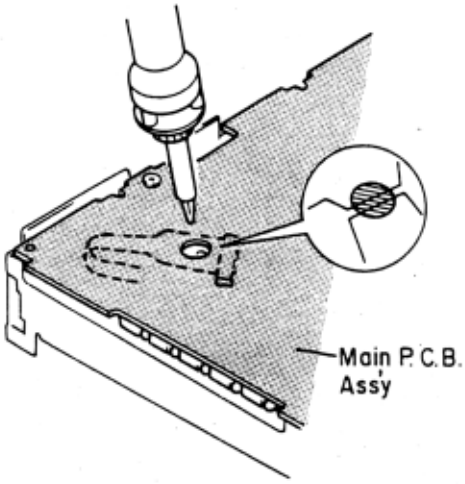


Fig. 2.4.1 Bottom View

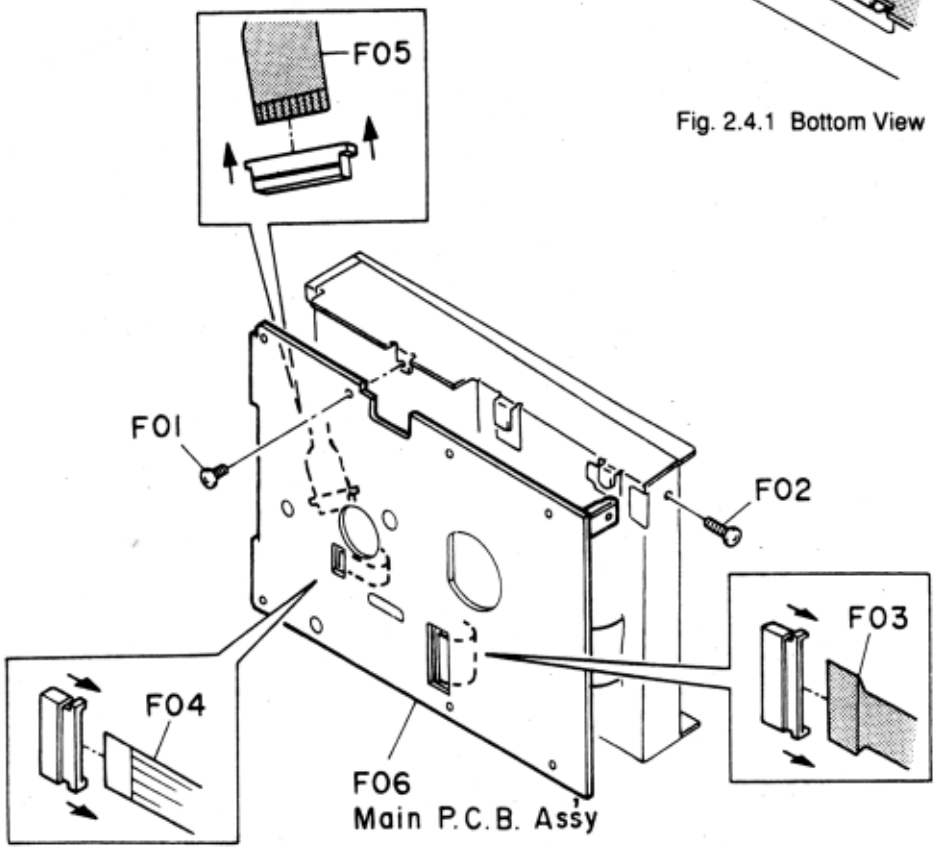


Fig. 2.4.2 Bottom View

(Main P.C.B. Ass'y indicated same as HMB-5 P.C.B. Ass'y)

2.5. Loading MF Ass'y

Refer to Fig. 2.5.

(1) Remove the Main P.C.B. Ass'y. Refer to item 2.4.
TIPS: The Loading MF Ass'y can be removed without taking off the Main P.C.B. Ass'y since you can access to the screw F04 from the bottom of the unit.

(2) Remove screws F01 (3 pcs.) and unsolder two wires to detach F02 (LED P.C.B. Ass'y).

(3) Remove screws F03 (4 pcs.) and F04 (1 pce.).

(4) While pushing F05 inward, remove F06 (Loading MF Ass'y) by lifting it upward.

(5) Remove one cut washer (F07) and detach F08 (Loading Link SL Ass'y) from F06 (Loading MF Ass'y).

Notes When Reassembling the Loading MF Ass'y:

1. Before reassembling F06 (Loading MF Ass'y) together with F08 (Loading Link SL Ass'y), move F08 (Loading Link SL Ass'y) so that its shaft is inserted into the shaft hole as shown in the figure.
2. During reassembling F06 (Loading MF Ass'y), push F05 inward as it will be caught by the chassis.
3. When reassembling F06 (Loading MF Ass'y), insert its "A" on both sides into the plates of the chassis.
4. When installing F02 (LED P.C.B. Ass'y) to the Mecha Flexible P.C.B. Ass'y, correctly solder the two wires.
5. When reassembling the Mecha Flexible P.C.B. Ass'y with screws F01, tighten the screws with a torque of 2.0 kg-cm. Tighten the screws F01 in the order of ① and ②.

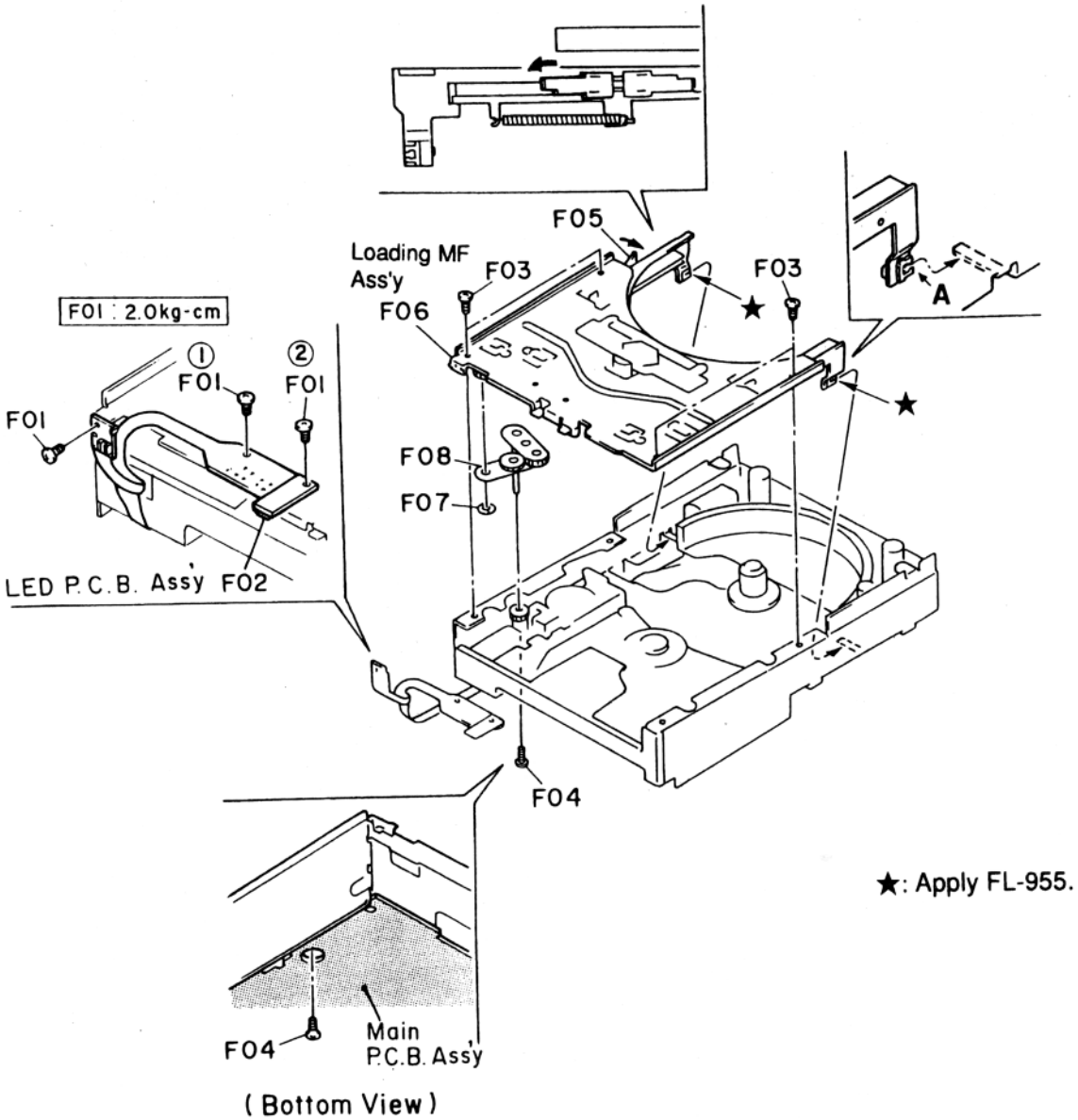


Fig. 2.5

2.6. Traverse Mecha Ass'y

Refer to Fig. 2.6.

(1) Remove the Loading MF Ass'y. Refer to item 2.5.
(2) Remove screws F01 (3 pcs.) and detach F02 (Front Chassis Ass'y).
(3) Remove screws F03 (4 pcs.) and detach F04 (Traverse Mecha Ass'y).

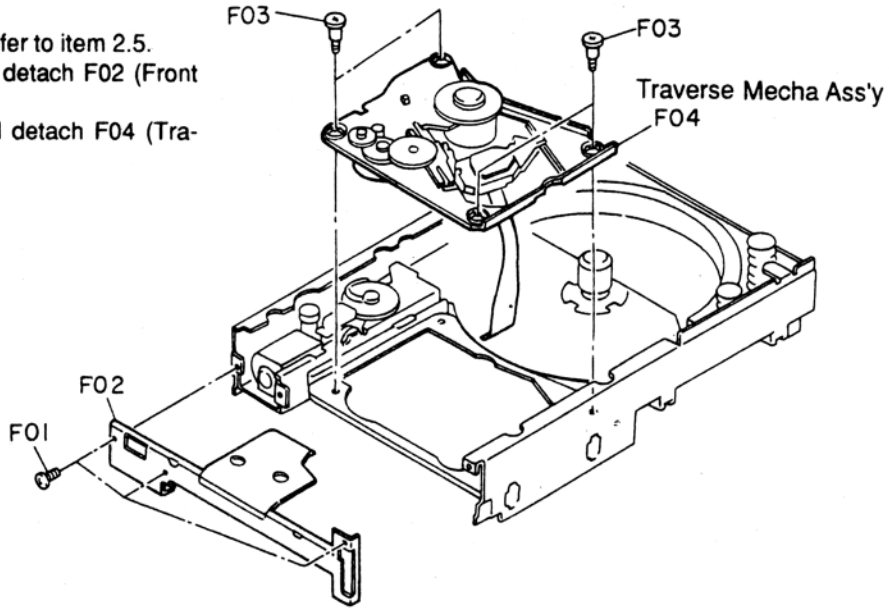


Fig. 2.6

2.7. Sled Motor

2.7.1. Removing the Sled Motor

Refer to Fig. 2.7.1.

(1) Remove the Traverse Mecha Ass'y. Refer to item 2.6.
(2) Remove a cut washer F01 and pull out F02 (Second Gear).
(3) Remove screws F03 (2 pcs.) and detach the Sled Motor Ass'y.
(4) Remove F05 (First Gear) from F04 (Sled Motor).
(5) Unsolder the wires of F04 (Sled Motor) from the Traverse P.C.B. Ass'y.

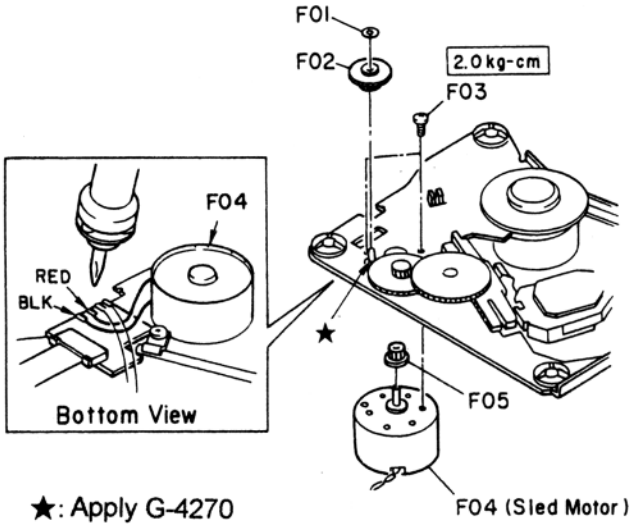


Fig. 2.7.1

2.7.2. Installing a new Sled Motor

(1) Reassemble F04 (Sled Motor) with screws F03 (2 pcs.) with a torque of 2.0 kg-cm.
NOTE: Pay attention to the sled motor installing direction. Install it as shown in Fig. 2.7.1.
(2) Press fit a new F05 (First Gear) so that the gap between the chassis surface and the bottom of F05 (First Gear) is 0.1 mm as shown in Fig. 2.7.2.
(3) Solder the wires of F04 (Sled Motor) to the Traverse P.C.B. Ass'y.
(4) Reassemble other removed parts by reversing the removal procedure.

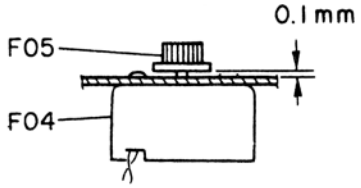


Fig. 2.7.2

2.8. Laser Pickup

2.8.1. Removing the Laser Pickup

Refer to Fig. 2.8.1.

(1) Remove the Traverse Mecha Ass'y. Refer to item 2.6.
(2) Remove screws F01 (2 pcs.) and F02 (2 pcs.), and F03 (4 pcs.), and disassemble F04 (Laser Pickup Block).
(3) Pull out the PU Guide Shaft SL from the Laser Pickup Block.

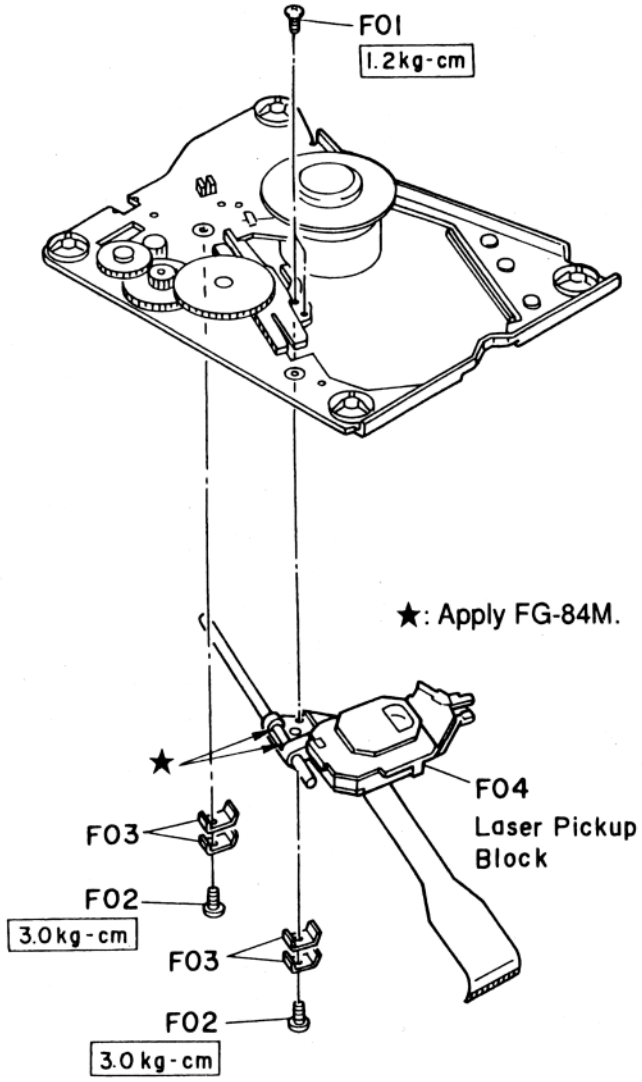


Fig. 2.8.1

(4) Before disconnecting the Pickup Flexible P.C.B. from the Laser Pickup, short the laser diode shorting lands on the bottom of the Laser Pickup. Refer to Fig. 2.8.2.
NOTE: Use the soldering iron whose metal part is grounded or a ceramic soldering iron.
(5) Disconnect the Pickup Flexible P.C.B. from the Laser Pickup.

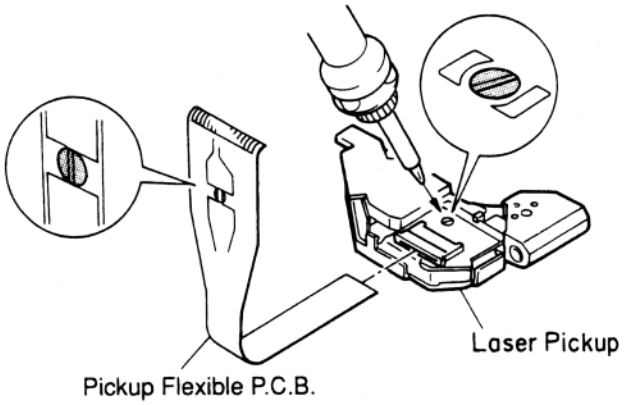


Fig. 2.8.2

2.8.2. Installing a New Laser Pickup

(1) Connect the Pickup Flexible P.C.B. to the Laser Pickup. Refer to Fig. 2.8.2.
(2) Open the laser diode shorting lands on the bottom of the Laser Pickup. Refer to Fig. 2.8.2.
NOTE: Use the soldering iron whose metal part is grounded or a ceramic soldering iron.
(3) Insert the PU Guide Shaft SL into the Laser Pickup.
(4) Assemble F04 (Laser Pickup Block) with F03 (4 pcs.) by tightening screws F02 (2 pcs.) with a torque of 3.0 kg-cm.
(5) Assemble F04 (Laser Pickup Block) with screws F01 (2 pcs.) with a torque of 1.2 kg-cm. Refer to Fig. 2.8.1.

2.9. PU Guide Plate H SL

2.9.1. Removing the PU Guide Plate H SL

Refer to Fig. 2.9.

(1) Remove the Laser Pickup Block. Refer to item 2.8.
(2) Remove screws F01 (3 pcs.) and disassemble F02 (PU Guide Plate H SL).

2.9.2. Installing the PU Guide Plate H SL

Refer to Fig. 2.9.

(1) Assemble F02 (PU Guide Plate H SL) with screws F01 (3 pcs.) with a torque of 1.2 kg-cm.
NOTE: Tighten screws F01 in the order of ① to ③.

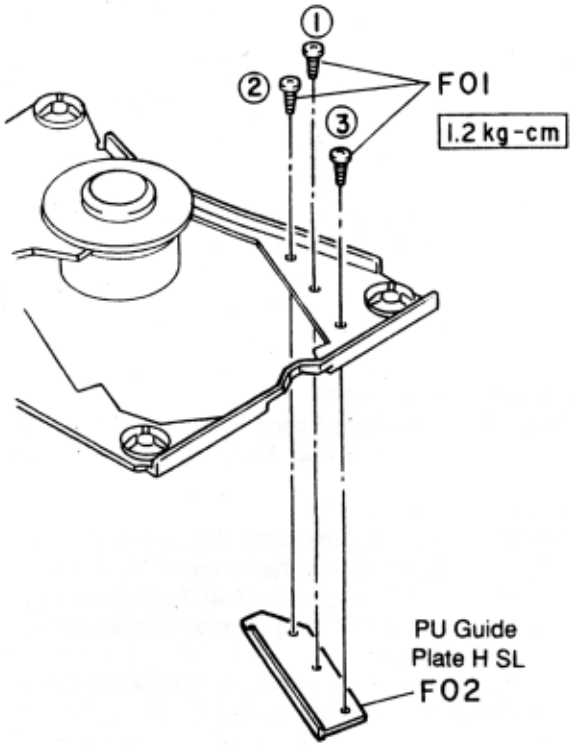


Fig. 2.9

2.10. Mecha Flexible P.C.B. Ass'y

Refer to Figs. 2.10.1 and 2.10.2.

(1) Remove the Main P.C.B. Ass'y. Refer to item 2.4.
(2) Unsolder the four motor lead wires (red , black, yellow, and gray) from F01 (Mecha Flexible P.C.B. Ass'y) and remove one screw F02. Refer to Fig. 2.10.1.
(3) Unsolder F03 (Flexible ST Motor P.C.B.) from F01 (Mecha Flexible P.C.B. Ass'y) and remove screws F04 (2 pcs.). Refer to Fig. 2.10.2.
(4) Carefully remove F01 (Mecha Flexible P.C.B. Ass'y).

NOTE: When reassembling F01 (Mecha Flexible P.C.B. Ass'y), tighten the screws F04 and F02 with a torque of 2.0 kg-cm.
2. When reassembling, tighten the screw F01 with a torque of 2.0 kg-cm.

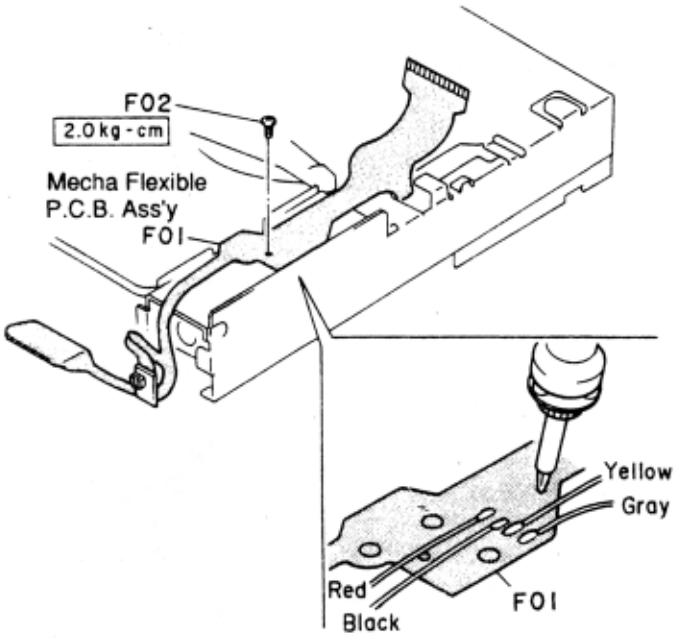


Fig. 2.10.1 Bottom View

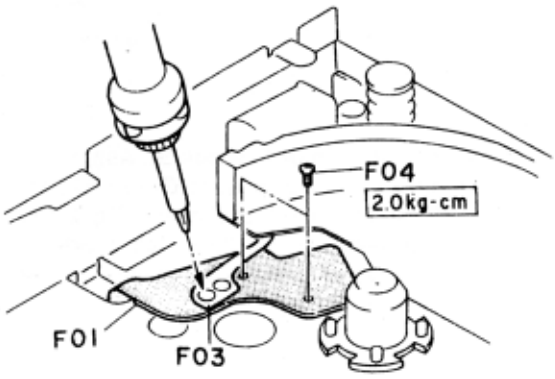


Fig. 2.10.2 Bottom View

2.11. UD Link Arm SL

Refer to Fig. 2.11.

(1) Remove the Main P.C.B. Ass'y. Refer to item 2.4.
(2) Remove one cut washer F01 and detach F02 (UD Link Arm SL).

2.12. Motor Chassis SL Ass'y

2.12.1. Removing the Motor Chassis SL Ass'y

Refer to Fig. 2.12.1.

(1) Remove the Mecha Flexible P.C.B. Ass'y. Refer to item 2.10.
(2) Remove the UD Link Arm SL. Refer to item 2.11.
(3) Unhook F01 (Anti Rattle Spring SL) from F03 (Motor Chassis SL Ass'y).
(4) Remove screws F02 (3 pcs.) and detach F03 (Motor Chassis SL Ass'y).
(5) Remove washers F04 (2 pcs.), F05 (SUS Base X Sub Ass'y), and washers F06 (2 pcs.).
(6) Remove F07 (Mecha UD Sub Cam SL) and F08 (UD S Cam Guide SL).

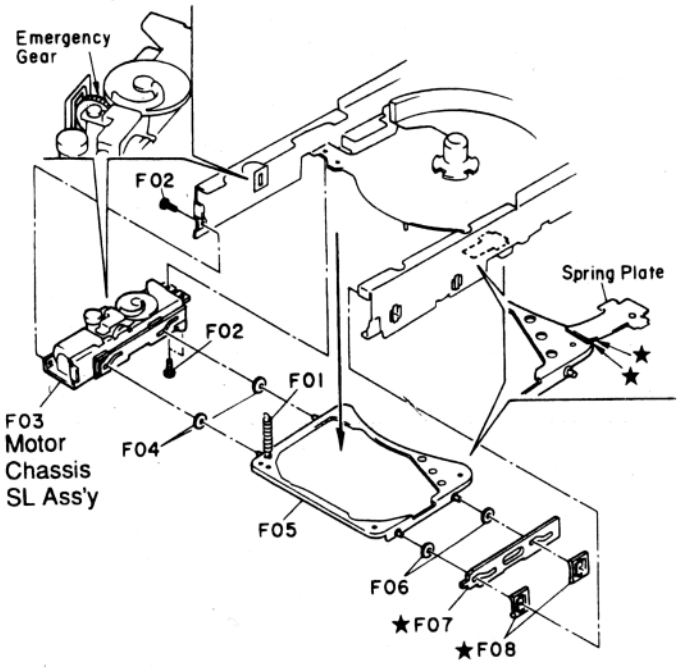


Fig. 2.12.1

2.12.2. Installing the Motor Chassis SL Ass'y

(1) Reassemble F08 (UD S Cam Guide SL) to F07 (Mecha UD Sub Cam SL) as shown in Fig. 2.12.2.
NOTE: Reassemble F08 (UD S Cam Guide SL) so that their wider sides come upper as shown in Fig. 2.12.2.

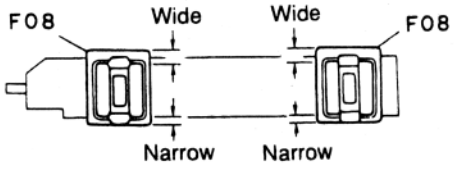


Fig. 2.12.2

★: Apply FL-955.

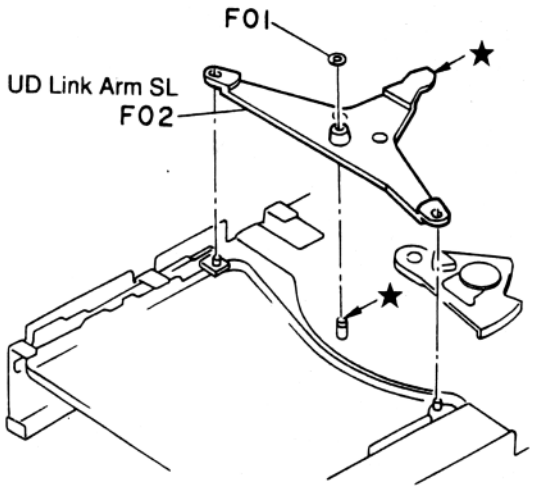


Fig. 2.11 Bottom View

(2) Reassemble F06 and F05.
NOTE: Be sure that the Spring Plate SL is put on F05 (SUS Base X Sub Ass'y) as shown in Fig. 2.12.1.
(3) Reassemble F04 and F03.
CAUTION: *When reassembling F03 (Motor Chassis SL Ass'y) with the screws F02,* ***DO NOT*** *let its* ***Emergency Gear Teeth touch*** *the edge of the Main Chassis as they can be broken.*
(4) Hook F01 (Anti Rattle Spring SL) on F03 (Motor Chassis SL Ass'y) as shown in Fig. 2.12.3.

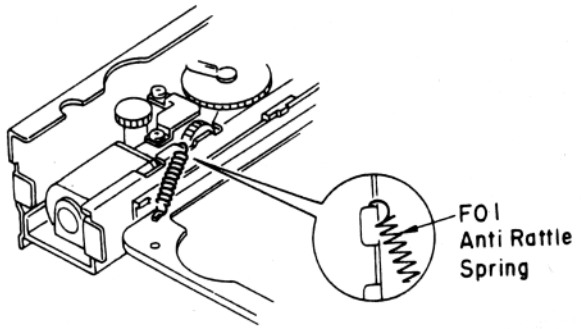


Fig. 2.12.3

2.13. Disc Lock Arm SL

2.13.1. Removing the Disc Lock Arm SL

Refer to Figs. 2.13.1 and 2.13.2.

(1) Remove the UD Link Arm SL. Refer to item 2.11.
(2) Remove the two screws and lift the edge of the Mecha Flexible P.C.B. Ass'y to remove the Photointerrupter from the chassis. Refer to Fig. 2.13.1.
(3) Apply Sellotape to the Disc Lock SL Ass'y as shown in Fig. 2.13.1 to prevent the Disc Lock from falling off while removing the Disc Lock Arm SL.
(4) Remove a cut washer F01 and detach F02 (Disc Lock Arm SL) and F03 (Disc Lock Spring SL). Refer to Fig. 2.13.2.

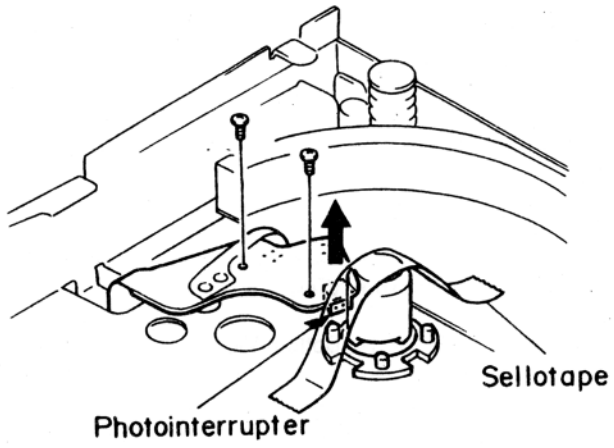


Fig. 2.13.1

★: Apply FL-955.

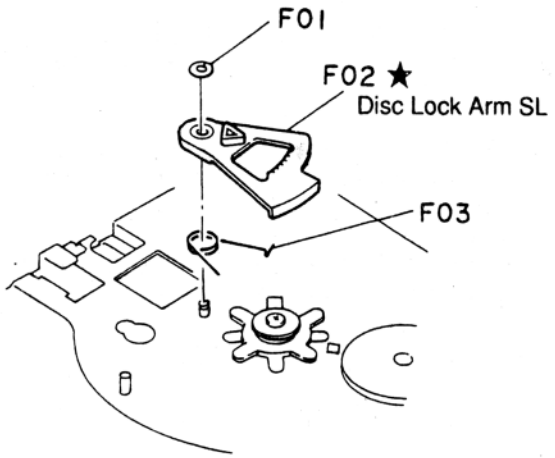


Fig. 2.13.2 Bottom View

2.13.2. Installing the Disc Lock Arm SL

NOTE: Positioning of the Disc Lock Arm SL is required. Refer to Fig. 2.13.3.

(1) Place the Disc Lock Spring SL as shown in the figure.
(2) Insert the Disc Lock Pinion into the hole of the Disc Lock Arm SL.
(3) Adjust the position of the Disc Lock Arm SL until its mark meets the V-cut of the Disc Lock Pinion as shown in the figure.
(4) Insert the shaft hole of the Disc Lock Arm SL into the shaft.
(5) Hook the end of the Disc Lock Spring SL on the chassis hole as shown in the figure.
(6) Reassemble the cut washer F01 in place.
(7) Peel off the Sellotape and fasten the screws to seat the photointerrupter. Refer to Fig. 2.13.1.

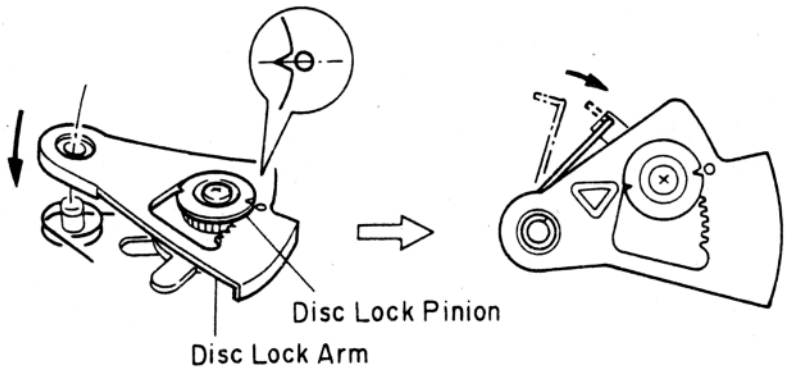


Fig. 2.13.3 Bottom View

2.14. Stocker Position Gear SL

2.14.1. Removing the Stocker Position Gear SL

Refer to Fig. 2.14.

(1) Remove the Main P.C.B. Ass'y. Refer to item 2.4.

(2) Remove a cut washer F01 and detach F02 (Stocker Position Gear SL).

CAUTION: DO NOT remove the Stocker Position Gear SL together with the Stocker Motor SL Ass'y (Ref. No. 06 in Fig. 5.1), always replace it alone.
If they are removed at the same time and the gear in the stocker lift mechanism is turned, the stocker height becomes out of position.

2.14.2. Installing the Stocker Position Gear SL

NOTE: Positioning of the Stocker Position Gear SL is required.

Refer to Fig. 2.14.

(1) Assemble the Stocker Position Gear SL so that the mark on the Stocker Position Gear SL meets the mark on the Main Chassis.

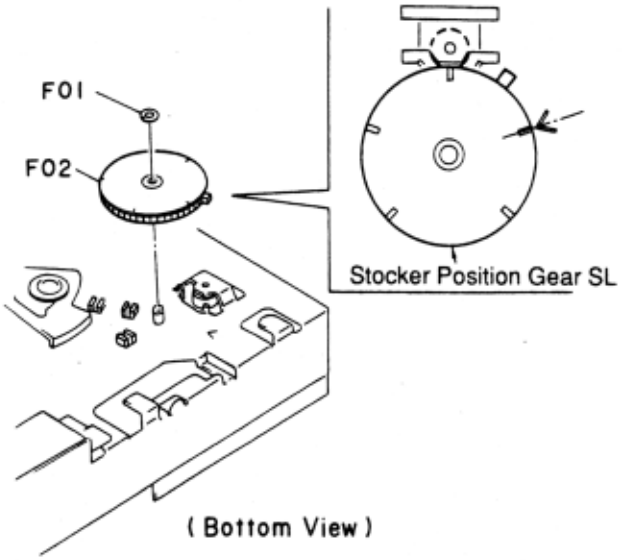


Fig. 2.14 Bottom View

2.15. Loading Plate Cam SL

2.15.1. Removing the Loading Plate Cam SL

Refer to Fig. 2.15.1.

(1) Remove the Loading MF Ass'y. Refer to item 2.5.

(2) Remove a cut washer F01 and pull out F02 (Loading Plate Cam SL).

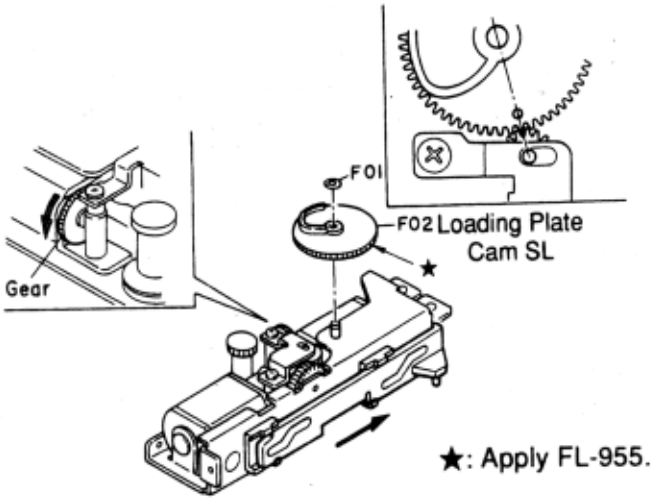


Fig. 2.15.1

2.15.2. Installing the Loading Plate Cam SL

NOTE: Positioning of the Loading Plate Cam SL is required.

Refer to Figs. 2.15.1 and 2.15.2.

(1) Turn the Emergency Gear in the direction of the arrow as shown in Fig. 2.15.1 until it stops.

(2) Assemble F02 (Loading Plate Cam SL) so that the center of the Loading Plate Cam SL, mark on the Loading Plate Cam SL, and the center of the shaft are aligned on one line as shown in Fig. 2.15.1.

(3) Turn the Emergency Gear in reverse until the marks on F02 (Loading Plate Cam SL) are almost aligned as shown in Fig. 2.15.2. (This operation is required to return to the mechanism in Standby state.)

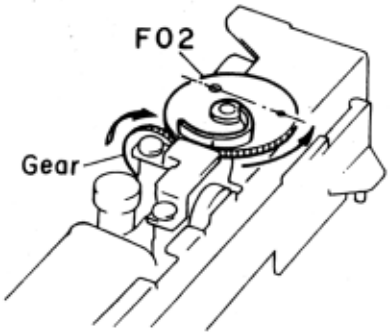


Fig. 2.15.2

Disc Ejection in Emergency

In case of emergency, remove the discs inside the unit as follows:

(1) Disconnect the DC power.

(2) Remove the Mechanism Synthesis Ass'y. Refer to item 2.2.

(3) Remove two top cover fastening screws at the rear of the unit, and take off the Top Cover SL S Ass'y. Refer to Fig. A.

(4) Remove the left side adhesive label (Dust Seal Emergency SL) on the left side of the unit. Refer to Fig. A.
NOTE: Carefully remove it since it will be used again later.

(5) Turn the Emergency Gear up or down until the disc lock pin is pushed down as shown in Fig. B.
CAUTION: ***Never use nail*** *when turning the Emergency Gear. Otherwise, the* ***gear tooth may be broken.***

(6) Raise the front section of the unit as illustrated in Fig. B. Then, carefully spread the left and right disc guide plates so that the disc drops into the Stocker.

(7) While keeping the left and right disc guide plates spread, remove the discs.
NOTE: When removing the discs, take care not to scrape them against other parts, to prevent damage.

(8) Replace the removed parts by reversing the above procedure.
NOTE: To prevent dust from entering the unit, reattach the adhesive label on the opening for the Emergency Gear.

(9) While pressing and holding down the **DISC1** and **DISC5** buttons simultaneously, turn power ON.
Then, the initialization is performed and the disc information stored in the unit is cleared.

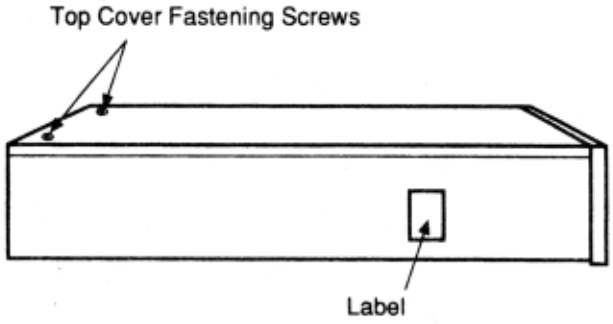
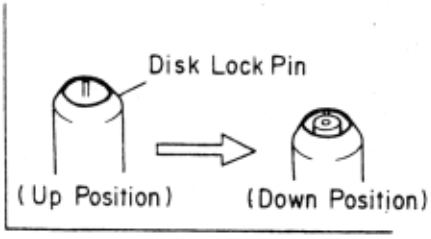


Fig. A



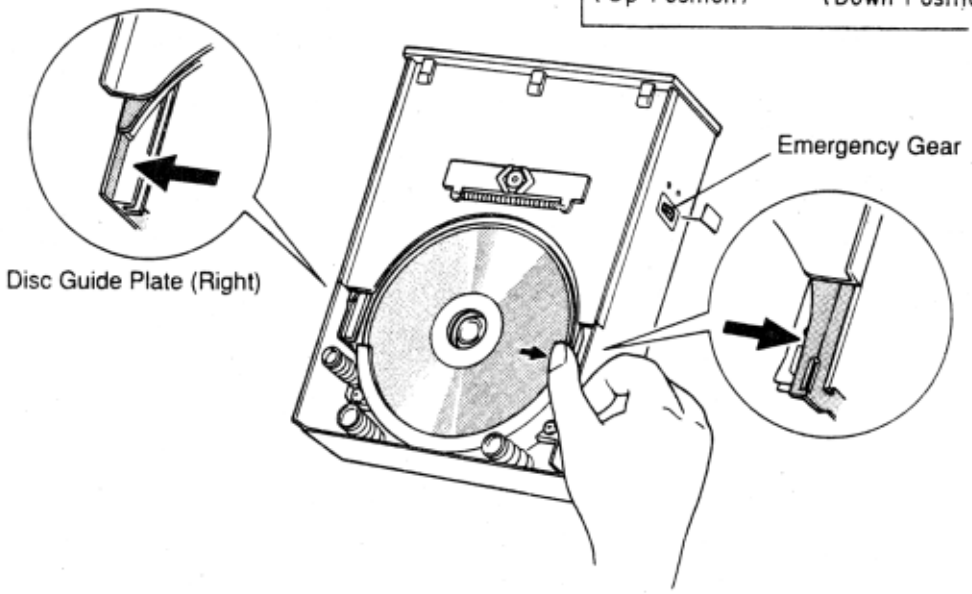


Fig. B

3. ELECTRICAL ADJUSTMENTS

3-1-1 FM Tuner Section

1) FM RF Adjustment

Signal Source	FM SG. (1 kHz, ±75 kHz dev.)		Alignment Indicator	Frequency Setting	Adjustment	Remarks
	Frequency (MHz)	Level (dBf)				
FM signal generator connected to antenna terminal. Matching network used.	No Input	—	—	87.5 MHz	Check	Display indicator as 87.5MHz
	No Input	—		107.9 MHz	Check	Display indicator as 107.9MHz
	Repeat adjustments as necessary to obtain frequency range.					
	90	26 (75 ohm RF In)	VTVM & scope across sp. jack (Using 8 ohm resistive load)	90 MHz	Check	Check for maximum output waveform
	106	26 (75 ohm RF In)		106 MHz	Check	
	Repeat adjustments as necessary to minimize tracking error.					

FM Tuning Rang:
*USA/CAN/DA.....87.5 - 107.9 MHz in 200 kHz steps.
*JPN.....76.0 - 90.0 MHz in 100 kHz steps.
*OTHERS.....87.5 - 108.0 MHz in 50 kHz steps.

2) FM Lock Sensitivity Adjustment

Signal Source	Signal Generator Frequency	Alignment Indicator	Adjustment	Remarks
FM signal generator connected to Ext. Ant. terminal. Matching network used.	1. 98 MHz MOD. 75 KHz,48 dBf. 2. 83 MHz MOD. 75 KHz,48 dBf. (for JPN only)	VTVM connected to speaker terminals.	Check	1. Set in auto mode. 2. Check the sensitivity.

3) RDS Adjustment (for UK/EP)

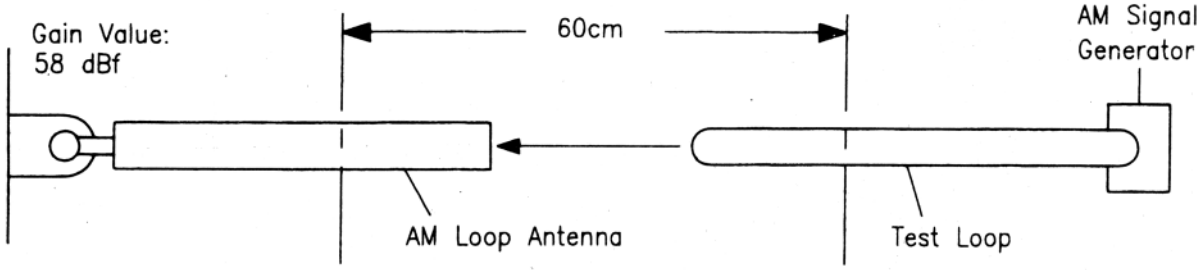
Signal Source	Signal Generator Frequency	Alignment Indicator	Adjustment	Remarks
RDS encoder (VP-7662A) FM signal generator connected to Ext. Ant. terminal. Matching network used.	99 MHz, MOD. 75 KHz, 65 dBf.	—	Check	Check LCD display show "Capetronic".

3-1-2. AM Tuner Section

1) AM RF Adjustment

Signal Source	AM SG. 400 Hz 30% MOD.		Alignment Indicator	Frequency Setting (kHz)	Adjustment	Remarks
	Frequency (kHz)	Level (dBf)				
AM signal generator connected to a standard radiating loop	No Input	—	—	530	Check	Display indicator as 530 kHz
	No Input	—		1710	Check	Display indicator as 1710 kHz
	Repeat adjustments as necessary to obtain frequency range.					
	600	94	VTVM & scope across sp. jack (Using 8 ohm resistive load)	600	Check	Check for maximum output waveform
	1400	94		1400	Check	
	Repeat adjustments as necessary to minimize tracking error.					

AM Tuning Range:
*USA/CAN/DA.....530 - 1,710 kHz in 10 kHz steps.
*JPN.....522 - 1,629 kHz in 9 kHz steps.
*UK/EP.....522 - 1,611 kHz in 9 kHz steps.
*OTHERS.....531 - 1,602 kHz in 9 kHz steps.



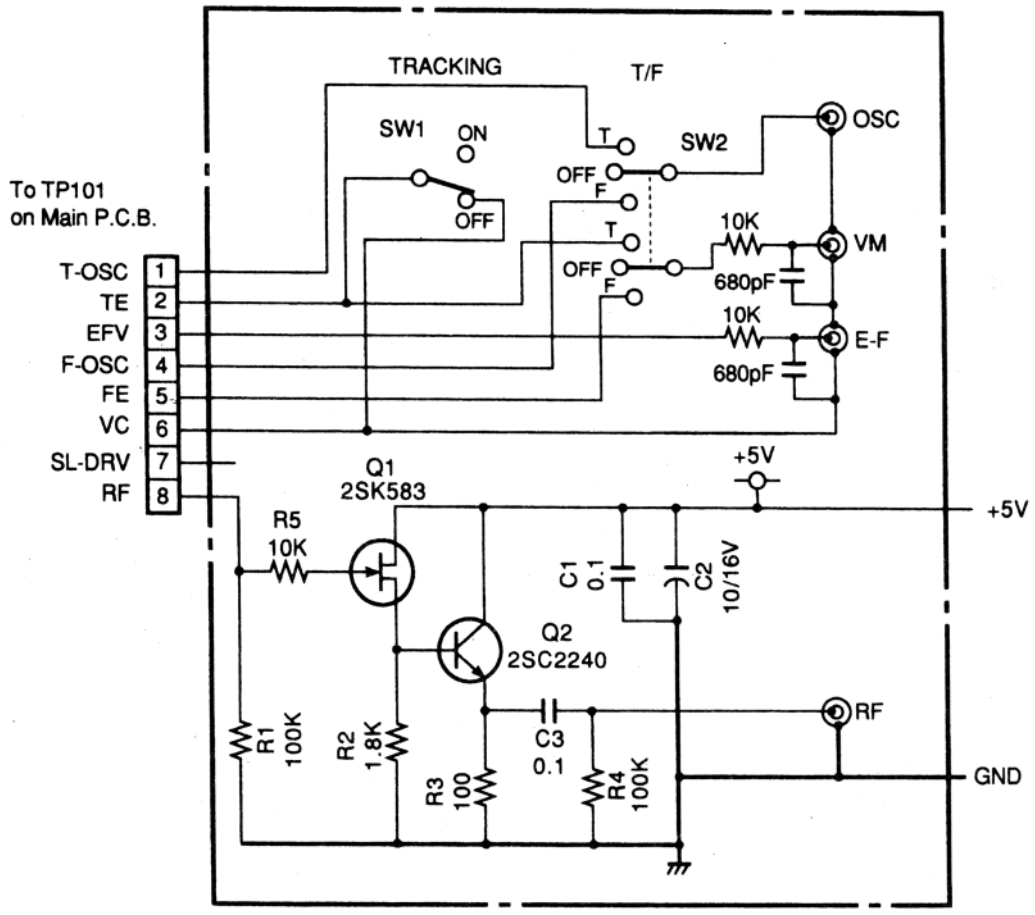
AM Measuring Diagram

2) AM Lock Sensitivity Adjustment

Signal Source	Signal Generator Frequency	Alignment Indicator	Adjustment	Remarks
AM signal generator connected to Ext. Ant. terminal. Matching network used.	1. 1000 kHz, 75 dBu.	VTVM connected to speaker terminals.	Check	1. Set in auto mode. 2. Check the sensitivity as ≦75 dBu.

3-2-1. CD Measurement Instruments and Jigs

(1) Oscilloscope (40 MHz or more)
(2) Oscillator
(3) DC Voltmeter
(4) AC Voltmeter (Input impedance: 1 MΩ or more)
(5) DC Power Supply Unit (+14.4V DC)
(6) ABEX Test Disc TCD-726 (DA09204A)
(7) ABEX Test Disc TCD-784 (DA09195A)
(8) CD-ROM Test Unit (DA09190A)
(9) Extension Cable (DA09196A)
(10) Tracking Offset Meter LTM-9055 (Leader Electronics Corp.)



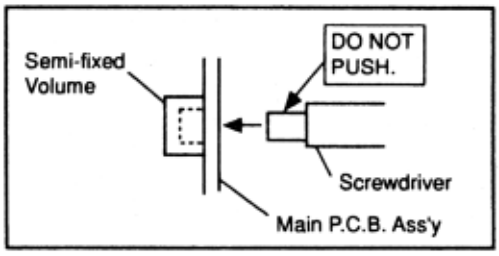
CD-ROM Test Unit

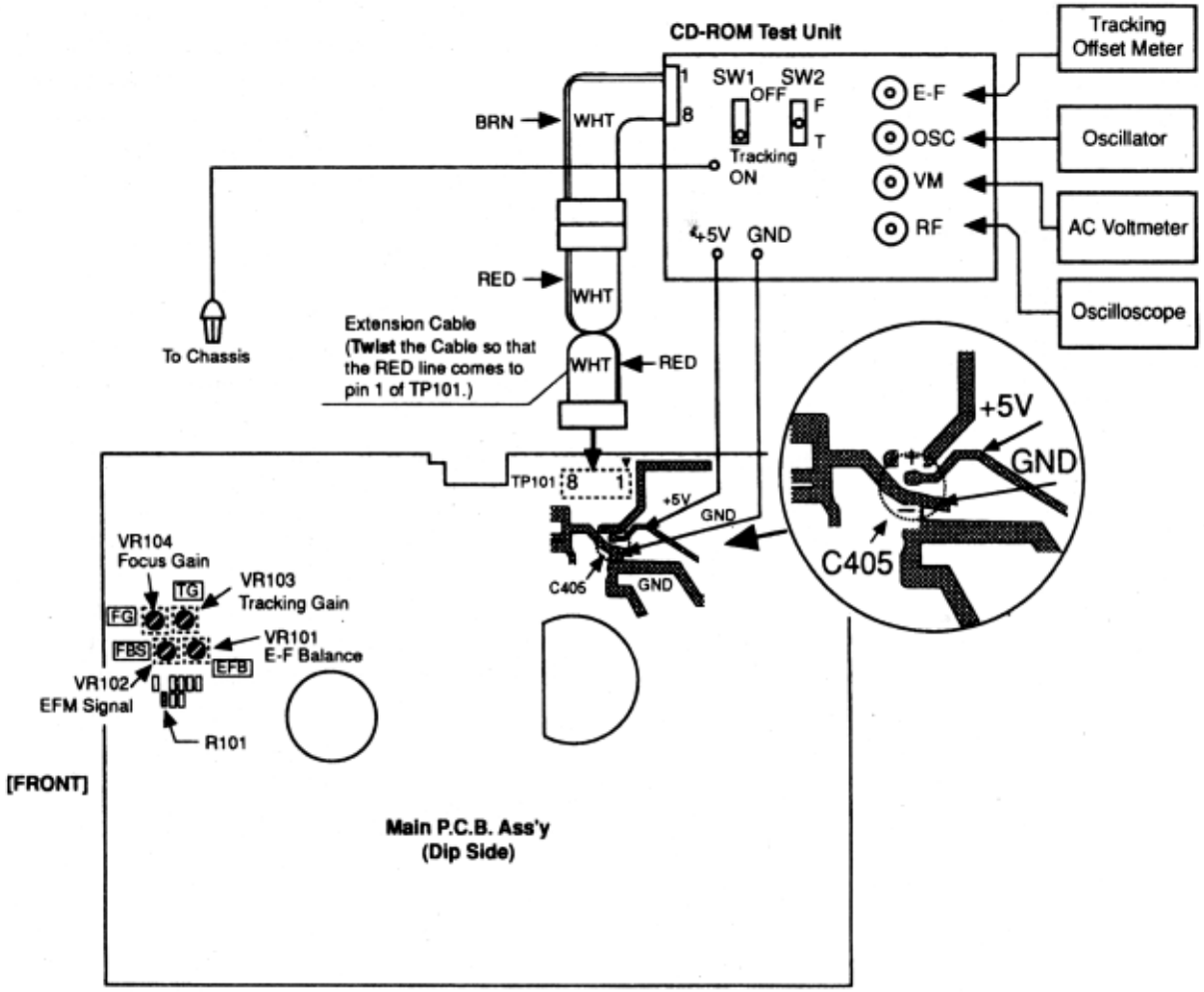
NOTES:

1. Preset position of the semi-fixed volumes:
   When the Main P.C.B. Ass'y or semi-fixed volume VR101, VR102, VR103, or VR104 is replaced with new one, preset the semi-fixed volumes to their mechanical center positions before starting adjustment.

2. Connecting Measurement Instruments:
   Connect measurement instruments to the Main P.C.B. Ass'y as shown in Fig. 3.1. Fig. 3.1 also indicates the parts location for adjustment.

3. When adjusting the semi-fixed volume, **DO NOT** push it with the screwdriver. The semi-fixed volumes mounted on the component side of the Main P.C.B. Ass'y **can be easily detached** from the P.C.B. Ass'y.
   Also, use the suitable insulating type screwdriver whose tip fits the groove of the semi-fixed volume.

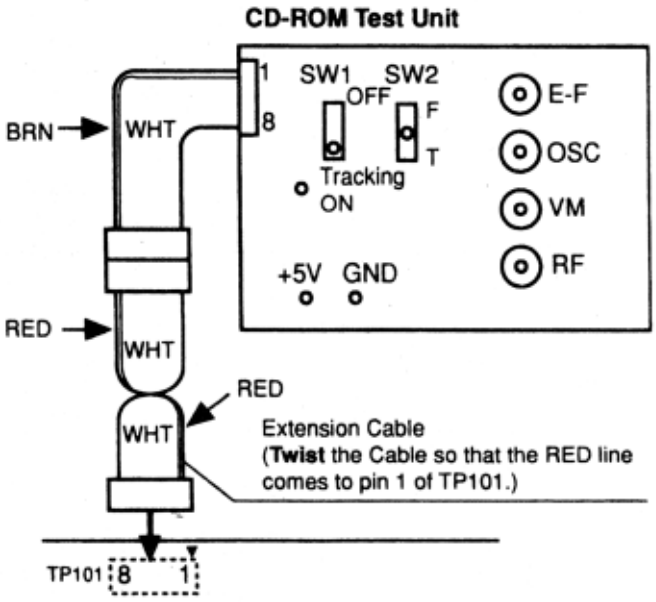




(Main P.C.B. Ass'y indicated same as HMB-5 P.C.B. Ass'y)

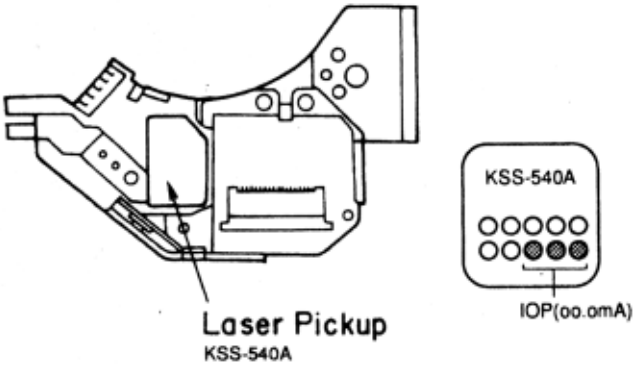
Fig. 3.1 Measurement Instrument Connecting Diagram

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-MENT	REMARKS
1	Preparation		See Fig. 3.1.		1. Remove the Mechanism Synthesis Ass'y. (See item 2.2.) 2. Remove the Bottom Cover SL S Ass'y. (See item 2.3.) 3. Connect the Connector P.C.B. Ass'y to the Main P.C.B. Ass'y. 4. Attach the Front Panel Ass'y and fix it to the Mechanism Synthesis Ass'y using tape or a rubber band. **NOTE:** If it floats, the Mechanism Synthesis Ass'y does not work. 5. Connect one end of the additional extension cable to the 8P cable of the CD-ROM Test Unit. 6. Connect the other end of the additional extension cable to TP101 of the Main P.C.B. Ass'y. ***CAUTION: Pay attention to its direction. The RED color side of the cable must be set as shown in the figure. Otherwise, circuit will be damaged.*** 7. Connect the Ground Wire with Clip of the CD-ROM Test Unit to the chassis. 8. Connect the CD control cable of the Nakamichi Head Unit or CD Changer Controller to the DIN socket of the Connector P.C.B. Ass'y. 9. Solder +5V and GND wires of the CD-ROM Test Unit to the Main P.C.B. Ass'y (across C405) as shown in Fig. 3.1. 10. Supply +14.4V DC to ACC and BATT lines of the Head Unit or CD Changer Controller.



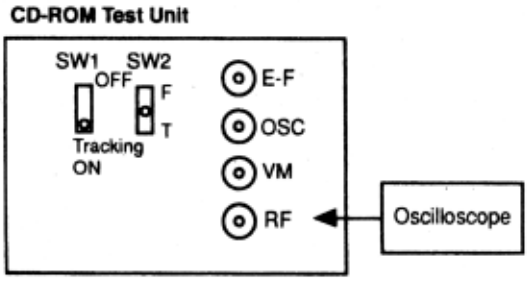
(Main P.C.B. Ass'y indicated same as HMB-5 P.C.B. Ass'y)

2	Laser Current Check	ABEX Test Disc TCD-784	DC Voltmeter across R101 on Main P.C.B.		1. Press the **DISC1** button to open the Front Door. (The LED of **DISC1** button flashes.) 2. Load the test disc and play back the test disc. (Press the **CDC** button of the Head Unit, or press the **Play** button of the CD Changer Controller.) 3. Calculate the current flowing into **R101** on the Main P.C.B. Ass'y from the following formula. $I(\text{Measured}) = \frac{\text{Voltmeter Value}}{\text{R101 (10 Ohms)}} = \text{oo.o mA}$ Example) • I(Measured) $I(\text{Measured}) = \frac{510.3\ (\text{mV})}{10\ (\text{ohms})} = 51.03\ \text{mA}$ (to be continued on the next page)



STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-MENT	REMARKS
					4. Check that the I(Measured) obtained in 3 and the rated current value (IOP) shown on the label are almost the same. Example) • Rated current value (IOP) on the label of the laser pickup: 47.5mA (How to read the IOP is shown on the left figure.) **NOTE**: The calculated current (I(Measured)) will be in a range of 30 to 60 mA. If its value doubles, pickup will be defective.
3	EFM Signal Adjustment	ABEX Test Disc TCD-784	Oscilloscope to RF Connector of the CD-ROM Test Unit	Main P.C.B. VR102	1. Set **SW1** of the CD-ROM Test Unit to **Tracking ON** position and **SW2** to **OFF (center)** position. 2. Slant the drive unit to the right by **26 degrees** viewing from the bottom. (See **Fig. 3.2**.) In this position, the pickup can move horizontally. 3. Play back the first track of the test disc. 4. Adjust **VR102** until waveform amplitude becomes maximum and the waveform becomes clear (not thick) as shown below:

SW1: TRACKING ON
SW2: OFF



Connecting Diagram

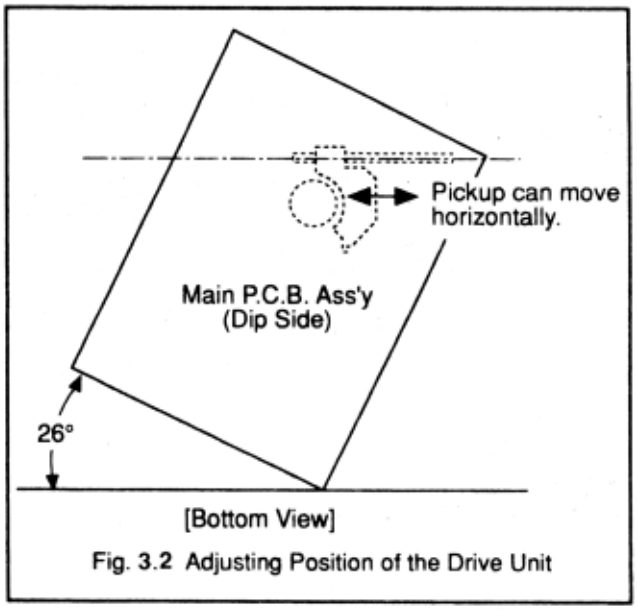
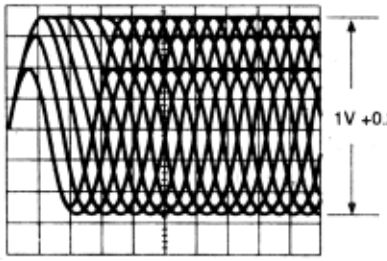
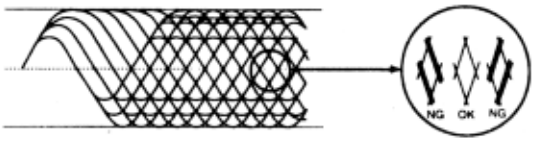


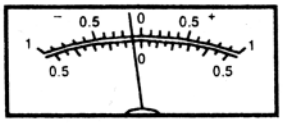
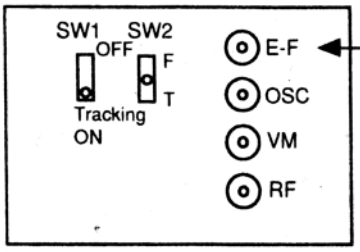
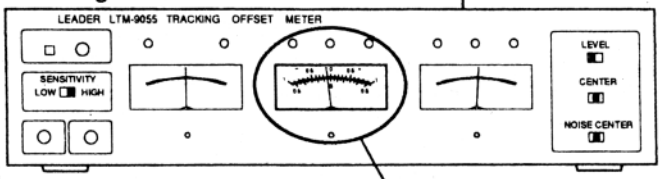
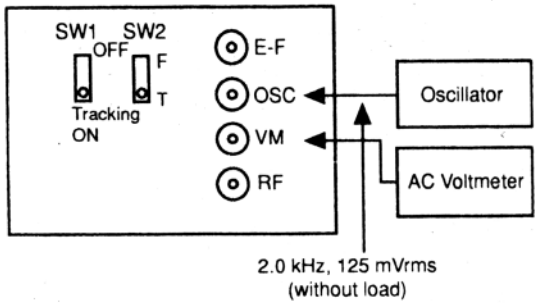
Fig. 3.2 Adjusting Position of the Drive Unit



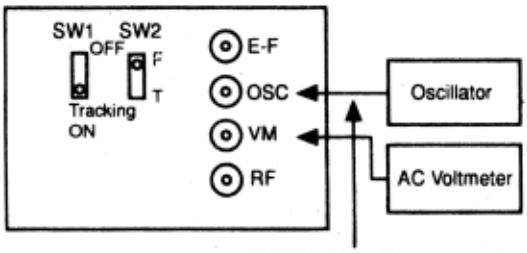
Oscilloscope Setting:
AC Mode, 0.2 V/div, 0.5 µs/div



5. Stop the test disc.

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-MENT	REMARKS
4	E-F Balance Adjustment	ABEX Test Disc TCD-784	Tracking Offset Meter to E-F Connector of the CD-ROM Test Unit	Main P.C.B. VR101	1. Set **SW1** of the CD-ROM Test Unit to **Tracking ON** position and **SW2** to **OFF (center)** position. 2. Connect a tracking offset meter to the E-F connector of the CD-ROM Test Unit, and set the Sensitivity switch of the meter to HIGH (right side), the Level switch to MEASURE (left side), and the Center switch to MEASURE (center position). 3. Slant the drive unit to the right by **26 degrees** viewing from the bottom. (See **Fig. 4.2**.) In this position, the pickup can move horizontally. 4. Play back the first track of the test disc. 5. Set **SW1** of the CD-ROM Test Unit to **OFF** position. 6. Adjust **VR101** to obtain **-50mV DC** on meter located in the center of the Tracking Offset Meter.  7. Set **SW1** of the CD-ROM Test Unit to **Tracking ON** position. 8. Stop the test disc.
	SW1: TRACKING ON SW2: OFF **CD-ROM Test Unit**  **Tracking Offset Meter LTM-9055**  Connecting Diagram				
5	Tracking Gain Adjustment	ABEX Test Disc TCD-784	Oscillator to OSC Connector of CD-ROM Test Unit AC Voltmeter to VM Connector of CD-ROM Test Unit	Main P.C.B. VR103	1. Set **SW1** of the CD-ROM Test Unit to **Tracking ON** position. 2. Set the output of oscillator to 2.0 kHz, 125 mVrms without connecting it to the CD-ROM Test Unit. 3. Connect the oscillator output to OSC connector of the CD-ROM Test Unit. 4. Set **SW2** of the CD-ROM Test Unit to **T (Tracking)** position. 5. Slant the drive unit to the right by **26 degrees** viewing from the bottom. (See **Fig. 4.2**.) In this position, the pickup can move horizontally. 6. Play back the first track of the test disc. 7. Adjust **VR103** so that the reading on the AC voltmeter is **13 mV**. 8. Set **SW2** to **OFF (center)** position. 9. Stop the test disc.
	SW1: TRACKING ON SW2: T (TRACKING) **CD-ROM Test Unit**  Connecting Diagram				

<table>
<tr><th>STEP</th><th>ITEM</th><th>SIGNAL SOURCE</th><th>OUTPUT CONNECTION</th><th>ADJUST-MENT</th><th>REMARKS</th></tr>
<tr><td rowspan="2">6</td><td>Focus Gain Adjustment</td><td>ABEX Test Disc TCD-784</td><td>Oscillator to OSC Connector of CD-ROM Test Unit

AC Voltmeter to VM Connector of CD-ROM Test Unit</td><td>Main P.C.B. VR104</td><td rowspan="2">1. Set SW1 of the CD-ROM Test Unit to Tracking ON position.
2. Set the output of oscillator to 2.0 kHz, 125 mVrms without connecting it to the CD-ROM Test Unit.
3. Connect the oscillator output to OSC connector of the CD-ROM Test Unit.
4. Set SW2 of the CD-ROM Test Unit to F (Focus) position.
5. Slant the drive unit to the right by 26 degrees viewing from the bottom. (See Fig. 3.2.)
In this position, the pickup can move horizontally.
6. Play back the first track of the test disc.
7. Adjust VR104 so that the reading on the AC voltmeter is 7 mV.
8. Set SW2 to OFF (center) position.
9. Stop the test disc.
10. After adjustment, perform "EFM Signal Adjustment" in Step 3.</td></tr>
<tr><td colspan="4">SW1: TRACKING ON
SW2: F (FOCUS)
CD-ROM Test Unit
 

Connecting Diagram</td></tr>
<tr><td>7</td><td>Operation Check</td><td>ABEX Test Disc TCD-726</td><td></td><td></td><td>Make sure that no noise nor track-jumping is found in the following programs of the test disc.
To select the desired program, press FWD. Skip (>>) button or REV. Skip (<<) button of the Control Button Unit.
• Interruption 1.0 mm: 6 th program
• Black dot 1.0 mm: 10 th program
• Simulated fingerprint: 15 th program</td></tr>
<tr><td>8</td><td>Termination</td><td></td><td></td><td></td><td>1. Press the DISC1 button to eject the disc. (DISC1 LED will flash.)
2. Remove the test disc.</td></tr>
</table>

Maintenance Operation (Mechanism Initialization)

1. Depress the Power button on the Front Panel until the Main Unit enters Standby mode. (The Standby indicator lights in green on the Front Panel.)
2. Press the **DISC2** button while pressing the **Select** button. (Hold 2 second) Mechanism initialization operation begins and disc change operation starts. After that, the Unit enters Standby mode.

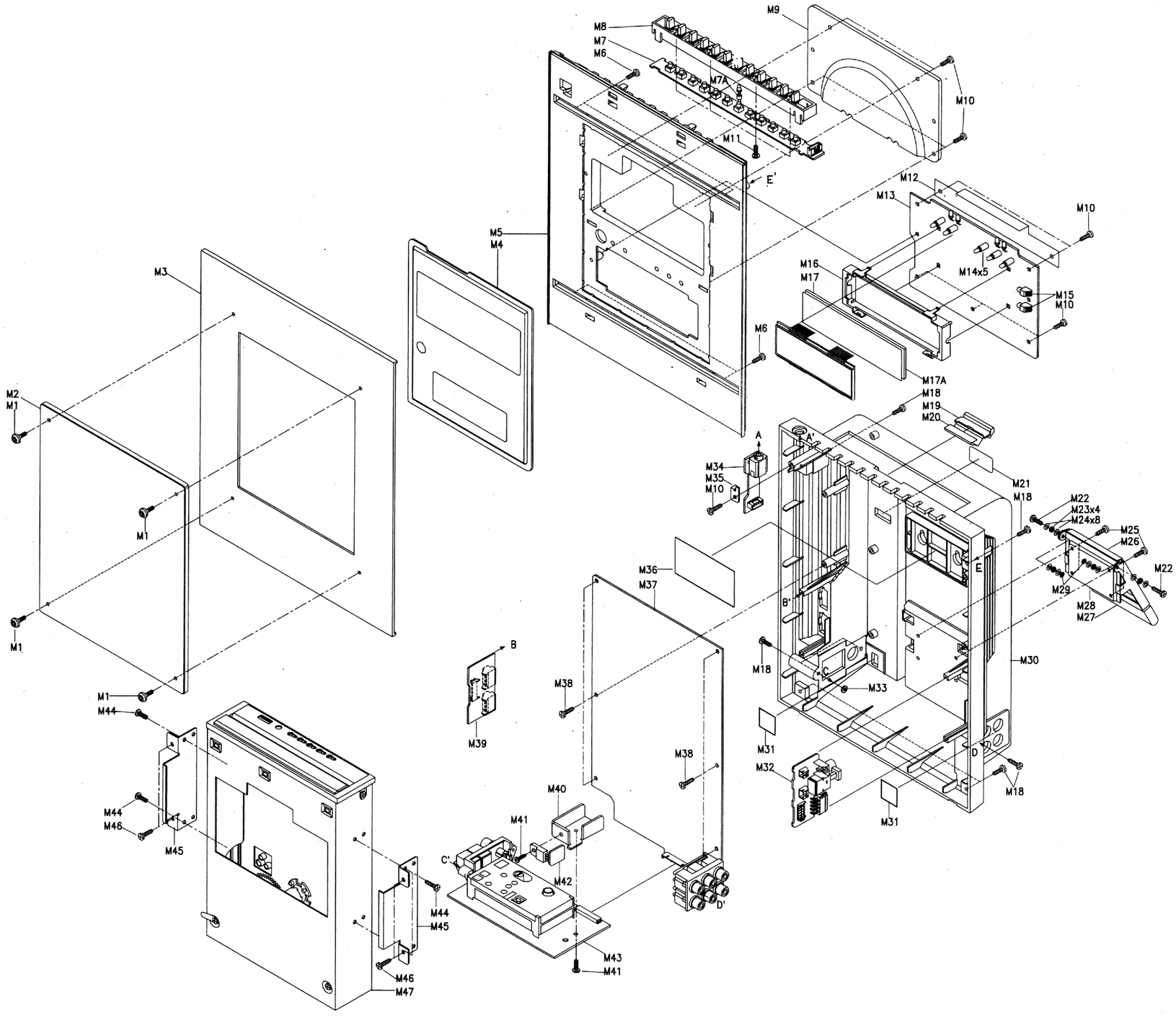
Select + **DISC2**

You can check the operation of the mechanism. Also you can see if any CD is left inside the Mechanism Ass'y before returning the System to the customer.

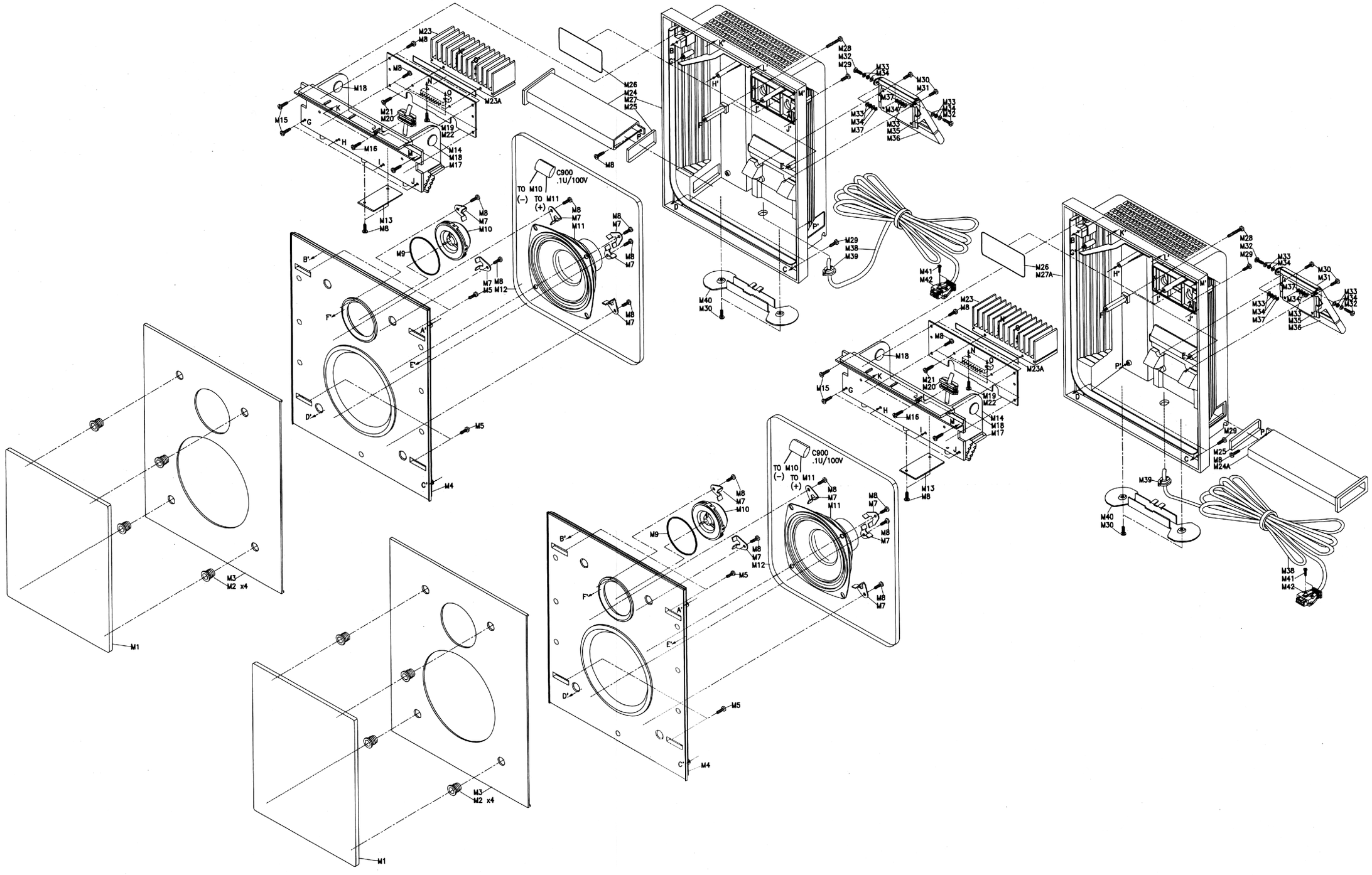
4-1. Front Panel Ass'y

Ref. No.	Part Number	Description	Q'ty
M1	10160799S5	Front screw	1
M2	10140799S5	Front window	1
M3	10040799S5	Front grille	1
M4	10030799S5	Display window (A) (for USA/CAN/KR/MA/ TW/CH/JPN/HK/OTR/DA)	1
	10230799S5	Display window (B) (for EP/UK)	1
M5	10010799S5	Front panel	1
M6	8941300600	9 (Taptite-B) BID3006 ZN3A	4
M7	C146277200	Key PCB ass'y	1
M7A	20210799S5	LED holder	1
M8	10080799S5	Function button	1
M9	10050799S5	CD lens	1
M10	8741300800	7 (Taptite-P) BID3008 ZN3A	10
M11	8741260800	7 (Taptite-P) BID2608 ZN3A	4
M12	10250799S5	LED filter	1
M13	C145276710	Display PCB ass'y	1
M14	201707995S	LED holder	5
M15	2MSS100010	LED housing	2
M16	20010799S5	Display holder	1
M17	10180799S5	Display plate	1
M17A	10060799S5	Display lens	1
M18	8742301000	7 (Taptite-P) BID3010 ZN3K	7
M19	10070799S5	CD LED lens	1
M20	10270799S5	LED lens filter (for USA/CAN/JPN/TW/ OTR/DA)	1
M21	10170799S5	Switch cover	1
M22	10690799S5	Stand holder screw	2
M23	3022220003	W Spring-A-3-MS-ZN3K	4
M24	3021220003	W FLT-A-3-MS-ZN3K	8
M25	8742300800	7 (Taptite-P) BID3008 ZN3K	4
M26	10090799S5	Support plate	1
M27	10110799S5	Stand plate	1
M28	10100799S5	Support holder	1
M29	3032200030	Nut 30 MS ZN3K	2
M30	10020799S5	Back cabinet	1
M31	10240799S5	Hook PVC cover (C)	2
M32	C145276750	SCP PCB ass'y	1
M33	2015091560	Fiber washer 8Qx3.2Qx1T	1
M34	C145276730	H/P PCB ass'y	1
M35	20030799S5	Headphone holder	1
M36	10210799S5	Hook PVC cover (B)	1
M37	C142276510	Main PCB ass'y (for USA/CAN/TW/OTR/ DA)	1
	C142276511	Main PCB ass'y (for UK/EP)	1
	C142276512	Main PCB ass'y (for JPN)	1
	C142276513	Main PCB ass'y (for KR/MA/CH/HK)	1
M38	8741260600	7 (Taptite-P) BID2606 ZN3A	6
M39	C145276740	Speaker jack PCB ass'y	1
M40	20080799S5	Heat sink (A)	1
M41	8941300800	9 (Taptite-B) BID3008 ZN3A	2
M42	C042276520	TR. PCB ass'y	1
M43	C145276720	Tuner PCB ass'y	1
M44	8241300400	2 (Machine-ISO) BID3004 ZN3A	4
M45	20020799S5	CD deck bracket	2
M46	8641301000	6 (Taptite-S) BID3010 ZN3A	4
M47	C486040448	SS-5 Mechanism ass'y	1

4-1. Front Panel Ass'y



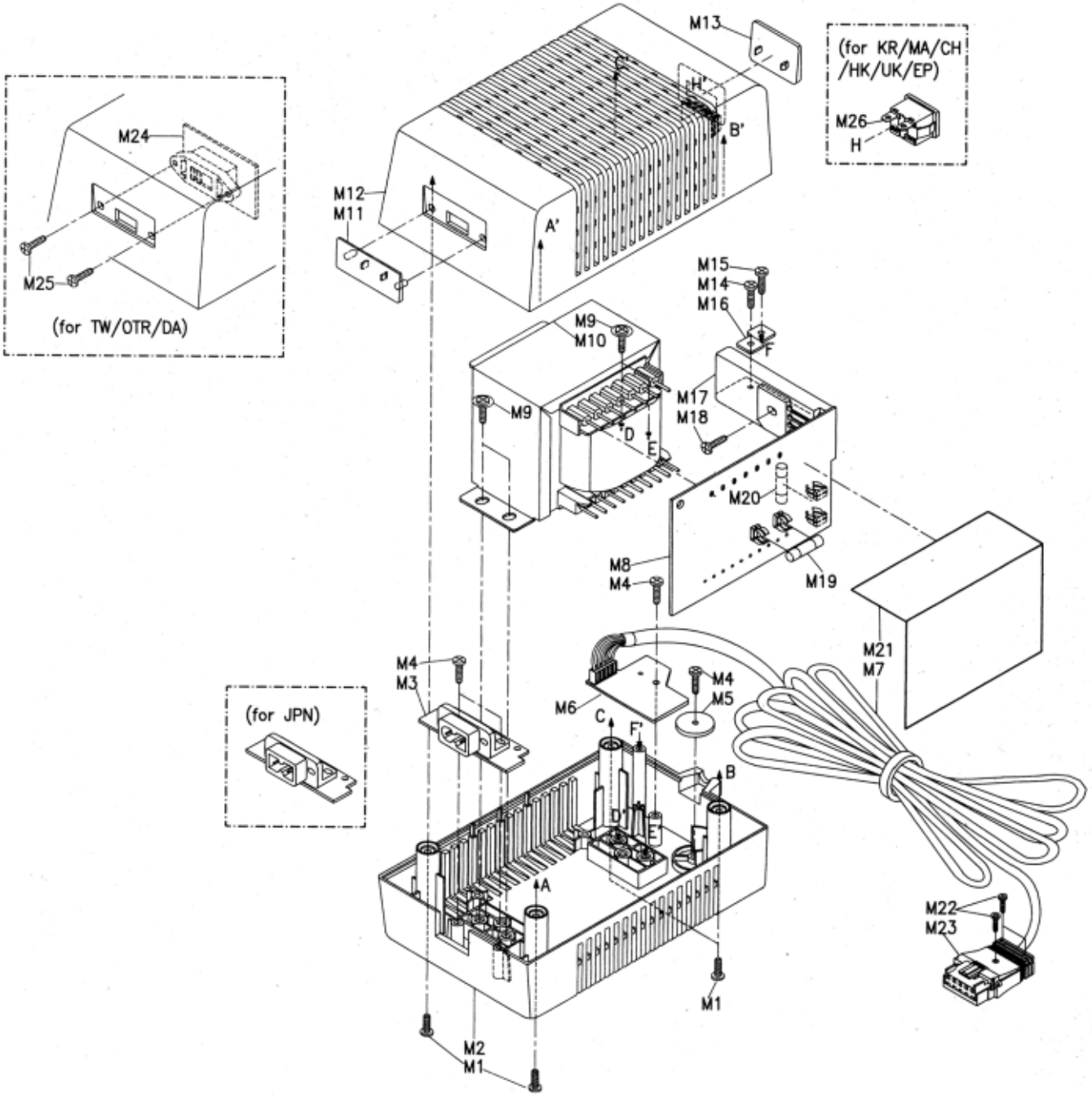
4-2. Speaker Ass'y



4-2. Speaker Ass'y (B99S581003)

Ref. No.	Part Number	Description	Q'ty
M1	00020799S5	Speaker grille (gray)	2
M2	20070799S5	Speaker grille bush	8
M3	10550799S5	Speaker overlay	2
M4	10510799S5	Speaker front panel	2
M5	8941300600	9 (Taptite-B) BID3006 ZN3A	8
M7	20130799S5	Speaker holder	12
M8	8741300800	7 (Taptite-P) BID3008 ZN3A	26
M9	20100799S5	Speaker spacer	2
M10	4001000286	Tweeter VC-9905001	2
M11	4001000290	VEC/Subwoofer (4OHM/20W)	2
M12	20150799S5	Speaker sponge (A)	2
M13	C048276420	Connector PCB ass'y (for MA/CH/HK/USA/CAN /JPN/UK/EP)	1
	C048278620	Connector PCB ass'y (for KR/TW/OTR/DA)	1
M14	20050799S5	Heat sink cover	2
M15	8741301000	7 (Taptote-P) BID3010 ZN3A	12
M16	8741302000	7 (Taptite-P) BID3020 ZN3A	4
M17	20260799S5	Speaker sponge (C)	4
M18	20160799S5	Speaker sponge (B)	4
M19	8941301200	9 (Taptite-B) BID3012 ZN3A	2
M20	20060799S5	Speaker wire bushing	2
M21	8941300800	9 (Taptite-B) BID3008 ZN3A	2
M22	C148276410	Amp. IC PCB ass'y (for MA/CH/HK/EP /USA/CAN/JPN/UK)	2
	C148278610	Amp. IC PCB ass'y (for KR/TW/OTR/DA)	2
M23	20040799S5	Sink heat	1
M23A	20280799S5	Speaker sponge (D)	2
M24	00540799S5	Speaker duct (L)	1
M24A	00490799S5	Speaker duct (R)	1
M25	20110799S5	Speaker duct spacer	2
M26	10150799S5	Hook PVC cover (A)	2
M27	10520799S5	Speaker cabinet (L)	1
M27A	10530799S5	Speaker cabinet (R)	1
M28	8742304800	7 (Taptite-P) BID3048 ZN3K	4
M29	8742301000	7 (Taptite-P) BID3010 ZN3K	8
M30	8742300800	7 (Taptite-P) BID3008 ZN3K	12
M31	10110799S5	Support plate	2
M32	10690799S5	Stand holder screw	4
M33	3022220003	W spring-A-3-MS-ZN3K	8
M34	3021220003	W FLT-A-3-MS-ZN3K	16
M35	10100799S5	Support holder	2
M36	10090799S5	Stand plate	2
M37	3032200030	Nut 30 MS ZN3K	4
M38	C488051887	5P XA connector ass'y 2300(SAN)	2
M39	10570799S5	Speaker cord bushing	2
M40	10560799S5	Speaker wire holder	2
M41	8732200800	7 (Taptite-P) FLT2008 ZN3K	4
M42	10220799S5	Speaker wire clipper BID3008 ZN3A	2
C900	0B42862A	1U/100V Mylar	1

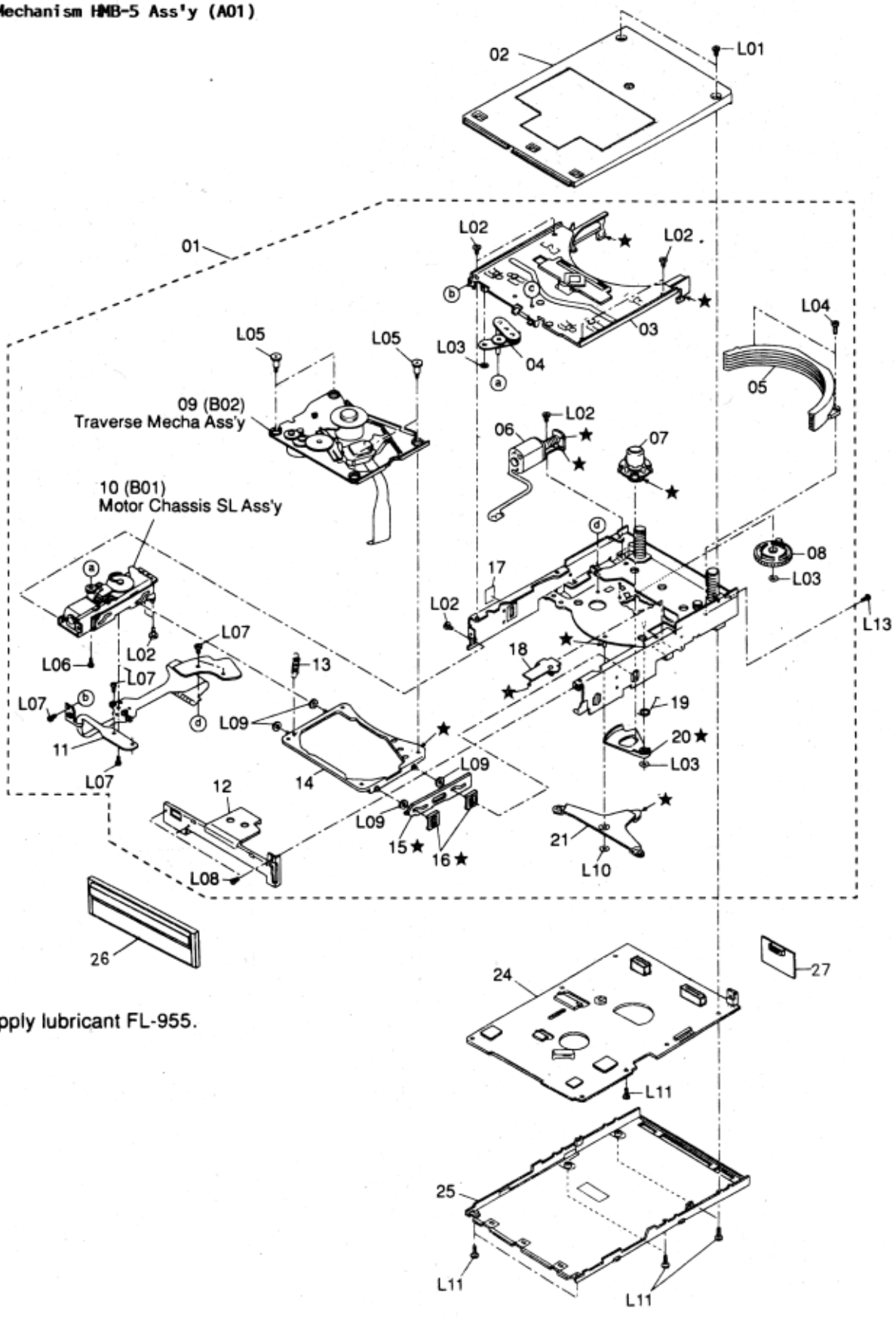
4-3. Trans. Case Ass'y



4-3. Trans. Case Ass'y

Ref. No.	Part Number	Description	Q'ty
M1	8742301000	7 (Taptite-P) BID3010 ZN3K	4
M2	10020099S3	Trans. bottom cabinet	1
M3	C048276440	AC socket PCB ass'y (for USA/CAN)	1
	C048276441	AC socket PCB ass'y (for MA/CH/HK/UK/EP)	1
	C048276442	AC socket PCB ass'y (for JPN)	1
	C048278640	AC socket PCB ass'y (for KR/TW/OTR/DA)	1
M4	8741301000	7 (Taptite-P) BID3010 ZN3A	4
M5	20010099S3	Line cord washer	1
M6	C148276450	DC out PCB ass'y (for MA/CH/HK/USA /CAN/JPN/UK/EP)	1
	C148278650	DC out PCB ass'y (for KR/TW/OTR/DA)	1
M7	C488051857	5P connector ass'y BLK 2600MM (VH)	1
M8	C148276430	Power trans. PCB ass'y (for USA/CAN)	1
	C148276431	Power trans. PCB ass'y (for MA/CH/HK /UK/EP)	1
	C148276432	Power trans. PCB ass'y (for JPN)	1
	C148278630	Power trans. PCB ass'y (for TW/OTR/DA)	1
	C148278631	Power trans. PCB ass'y (for KR)	1
M9	8741400800	7 (Taptite-P) BID4008 ZN3A	4
M10	420F762143	Power trans. EI-76 (for USA/CAN)	1
	420F764147	Power trans. EI-76 (for KR/MA/CH /HK/UK/EP)	1
	420F769145	Power trans. EI-76 (for JPN)	1
	420F769146	Power trans. EI-76 (for TW/OTR/DA)	1
M11	10050099S3	Voltage switch cover (S) (for USA/CAN/JPN/UK)	1
	10030099S3	Voltage switch cover (for KR/MA/CH/HK/EP)	1
M12	10010099S3	Trans. top cabinet	1
M13	20020099S3	Power switch cover (for TW/USA/CAN/JPN /OTR/DA)	1
M14	8941300600	9 (Taptite-B) BID3006 ZN3A	1
M15	8741300800	7 (Taptite-P) BID3008 ZN3A	1
M16	20120799S5	Heat sink bracket	1
M17	20090799S5	Heat sink (B)	1
M18	8941300800	9 (Taptite-B) BID3008 ZN3A	1
M19	52661A0L20	Fuse UL/CSA 10A/125V -- F702 (for USA/CAN/JPN)	1
	5267630B62	Fuse BS T6.3AL250V -- F702 (for KR/MA/CH /TW/HK/UK/EP/OTR/DA)	1
M20	5266200B20	Fuse UL/CSA 2A/125V -- F701 (for USA/CAN/JPN)	1
	5267200B62	Fuse BS T2AL250V -- F701 (for KR/MA/CH /TW/HK/UK/EP/OTR/DA)	1
M21	20190799S5	Trans. PCB cover	1
M22	8732200500	7 (Taptite-P) FLT2005 ZN3K	3
M23	10020699S3	Wire clipper	1
M24	C148878660	AC selector PCB ass'y (for TW/OTR/DA)	1
M25	8242300600	2 (Machine-ISO) BID3006 ZN3K (for TW/OTR/DA)	2
M26	4430102711	Power switch (for KR/MA/CH /HK/UK/EP)	1
D702	41300GBU6D	BD GBU6D	1

4-4. CD Mechanism HMB-5 Ass'y (A01)



★: Apply lubricant FL-955.

4-4. CD Mechanism HMB-5 Ass'y (A01)

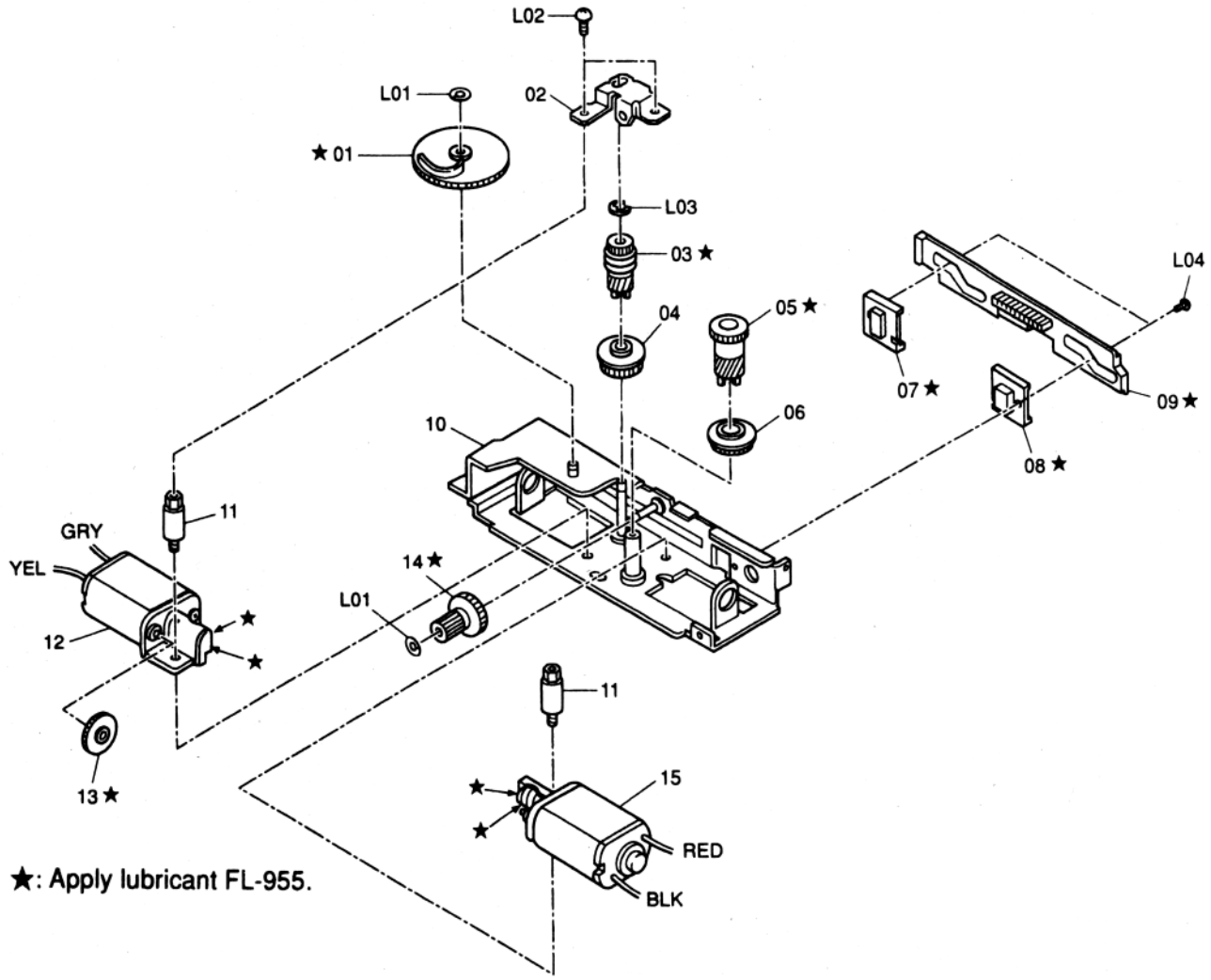
Ref. No.	Part Number	Description	Q'ty	Ref. No.	Part Number	Description	Q'ty
01	B0CG09383A	Mechanism deck HS assembly R237	1	17	0J08004A	Dust seal emergency SL	1
02	B0CA09382A	Top cover HS assembly	1	18	0C10211B	Plate spring SL	1
				19	0C10184A	Disc lock spring SL	1
03	B0CA09384A	Loading HS assembly R237	1	20	0C10183A	Disc lock arm SL	1
				21	0C10187A	UD link arm SL	1
04	B0CA09354A	Loading link SL assembly	1	24	C1BA09911A	HMB-5 PCB assembly	1
				25	B0CA09362A	Bottom cover MF assembly	1
05	0C10172A	Stocker CD SL	1				
06	B0CA09351A	Stocker motor SL assembly	1	26	HA08129A	Front panel assembly	1
				27	C1BA10059A	Coil PCB assembly (for MA/UK/AU/SP)	1
07	B0CA09344A	Disc lock SL assembly	1				
				L01	0E00120A	M2.6x3 + PAN	
08	0C10175A	Stocker position gear SL	1	L02	0E03964A	ST2.6x3 + PAN (#0 type 3)	
09	B0CA09363A	Traverse mechanical assembly	1	L03	0E03955A	Cut washer 2.2x4.2x0.2	
10	B0CA09345A	Motor chassis SL assembly	1	L04	0E03457A	M2.6x4.5 + PAN (Black chromate)	
11	B0BA09736A	Mechanical flexible PCB assembly	1	L05	0C10287A	Damper screw SL	
				L06	0E03845A	M1.7x2.5 + PAN (#0 type 3 black)	
12	B0CA09352B	Front chassis SL assembly	1	L07	0E03945A	M2x2 + PAN (#0 type 3 black)	
13	0C10286A	Anti rattle spring SL	1	L08	0E03953A	M2x2 + PAN	
14	B0CA09325C	SUS base X sub assembly	1	L09	0E03971A	Pet washer	
				L10	0E03956A	Cut washer 3.2x5.2x0.2	
15	0C10185B	Mechanism UD sub cam SL	1	L11	0E04032A	M2.6x5 + PAN (#0 type 3)	
16	0C10186A	UD S cam guide SL	2	L13	0E04036A	M2.6x8 + PAN	

Apply **FL-955** (grease) to the following places when parts are replaced.

Ref No.	Location	Remarks
03	Loading MF assembly Edges which are inserted into the chassis plate	
06	Stocker motor SL assembly * Motor shaft worm gear * Motor shaft end	
07	Disc lock SL assembly * Disc lock pinion	
14	SUS base X sub assembly * Contact part with the plate spring SL (Ref. No. 18)	
15	Mechanical UD sub cam SL	Whole surface
16	UD S cam guide SL (2 pcs.)	whole surface
18	Plate spring SL Contact part (Bottom end) with the SUS base X sub assembly (Ref. No. 14)	
20	Disc lock arm SL	Whole surface
21	UD link arm SL * Around the top end Shaft for UD link arm SL (Ref. No. 21)	

Lubricant:
We suggest that you use grease FL-955/G-4270 or equivalent type.
The company dealing FL-955/G-4270 is as follows:
* FL-955/G-4270
Kanto Chemicals Co. Ltd., 2-7 Kanda Sakuma-cho, Chiyoda-Ku, Tokyo, Japan

4-5. Motor Chassis SL Ass'y (B01)



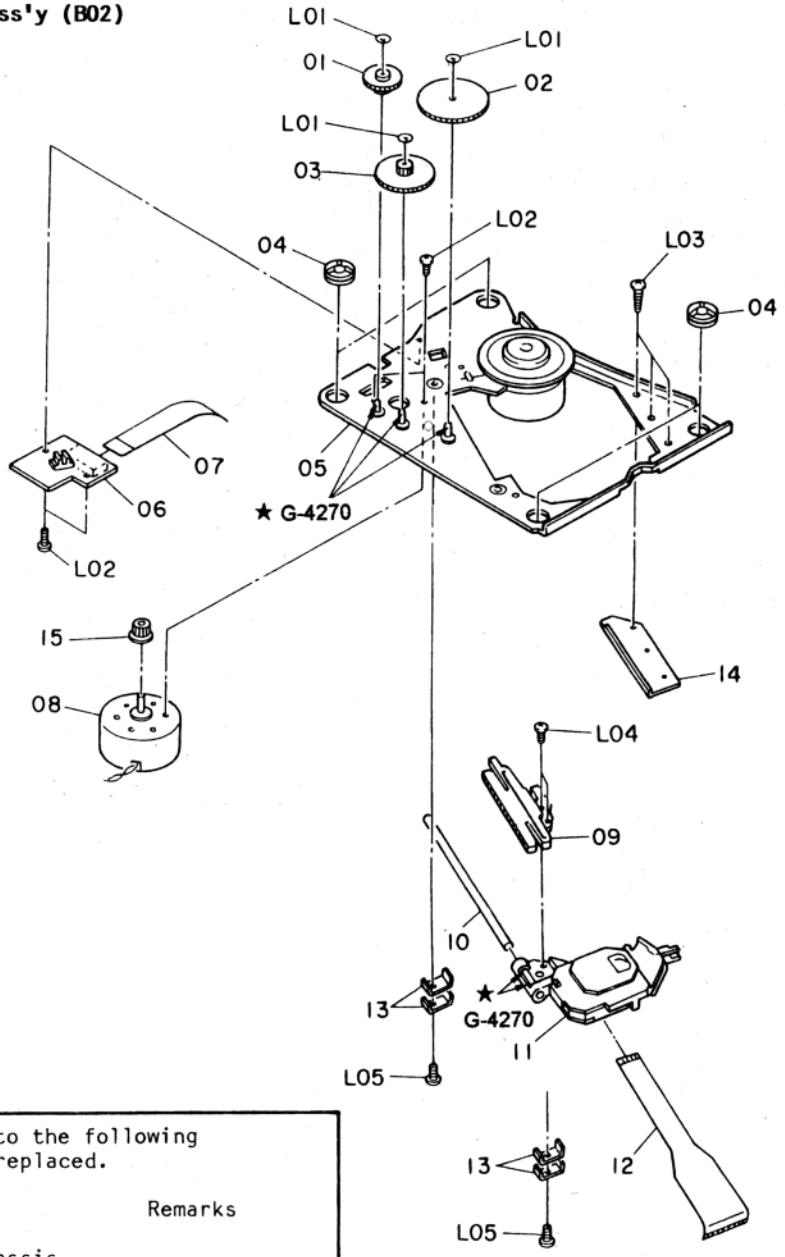
4-5. Motor Chassis SL Ass'y (B01)

Ref. No.	Part Number	Description	Q'ty
01	0C10238A	Loading plate cam SL	1
02	0C10240A	UD worm plate SL	1
03	0C10233A	UD worm gear SL	1
04	0C10235A	Mechanical sensor ring SL	1
05	0C10236A	Loading worm gear SL	1
06	0C10237A	Loading sensor ring SL	1
07	0C10208A	UD cam guide SL	1
08	0C10242A	UD cam guide W SL	1
09	0C10232A	UD cam SL	1
10	CA09338A	Motor chassis SL S assembly	1
11	0C10241A	Bracket screw SL	2
12	CA09350A	UD motor SL assembly	1
13	0C10239A	Emergency gear SL	1
14	0C10234A	Mechanical UD gear SL	1
15	B0CA09349A	Loading motor SL assembly	1
L01	0E03955A	Cut washer 2.2x4.2x0.2	
L02	0E03947A	M2.6x3.5 + PAN (#0 type 3)	
L03	0E00222A	E-ring 2.0mm	
L04	0E03967A	M1.4x2 + PAN (#0 type 1 black)	

Apply **FL-955** (grease) to the following places when parts are replaced.

Ref. No.	Location	Remarks
01	Loading plate cam SL	Whole surface
03	UD worm gear SL	Whole surface
05	Loading worm gear SL	Whole surface
07	UD cam guide SL	Whole surface
08	UD cam guide W SL	Whole surface
09	UD cam SL	Whole surface
12	UD motor SL assembly	
	* Motor shaft worm gear	
	* Motor shaft end	
13	Emergency gear SL	Whole surface
14	Mechanical UD gear SL	Whole surface
15	Loading motor SL assembly	
	* Motor shaft worm gear	
	* Motor shaft end	

4-6. Traverse Mecha Ass'y (B02)



Apply **FL-955** (grease) to the following places when parts are replaced.		
Ref. No.	Location	Remarks
05	Disc motor chassis assembly * Shaft for second gear * Shaft for third gear * Shaft for power gear	
11	Pickup KSS-540A	PU guide shaft SL contacting surface

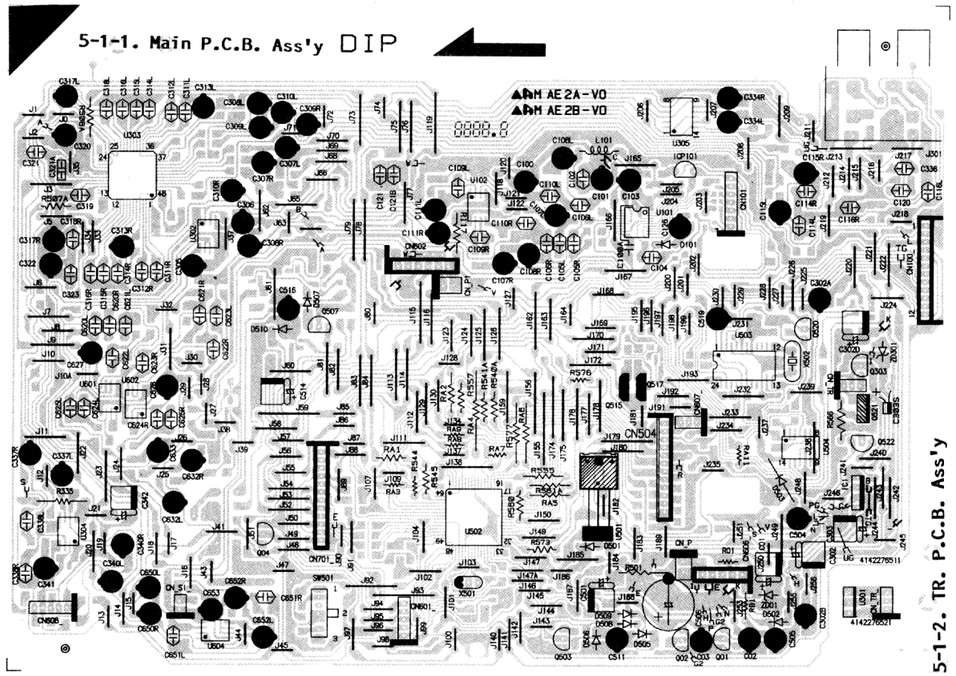
★: Apply lubricant G-4270

4-6. Traverse Mecha Ass'y (B02)

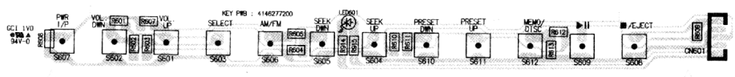
Ref. No.	Part Number	Description	Q'ty	Ref. No.	Part Number	Description	Q'ty
01	0C10139A	Second gear	1	11	0B90741A	Pickup KSS-540A	1
02	0C09923B	Power gear	1	12	0B61355A	Pick up flexible PCB	1
03	0C10140A	Third gear	1	13	0C10278A	Shaft lock plate SL	4
04	0C10279A	Damper S SL	4	14	0C10282A	PU guide plate H SL	1
05	B0CA09364A	Disc motor chassis assembly	1	15	0C10138A	First gear	1
			1	L01	0E03954A	Cut washer 1.6x3.2x0.2	
06	B0BA09777A	Traverse PCB assembly	1	L02	0E03845A	M1.7x2.5 + PAN (#0 type 3 black)	
07	0B84608A	8P flexible wire	1	L03	0E00955A	BT2x4 + Binding	
08	B03B90704A	Sled motor	1	L04	0E00887A	M1.7x4 + PAN	
09	0C10141B	Rack CA	1	L05	0E03947A	M2.6x3.5 + PAN (#0 type 3)	
10	0C10277A	PU guide shaft SL	1				

5-1. P C Boards – Component Side

5-1-1. Main P.C.B. Ass'y DIP



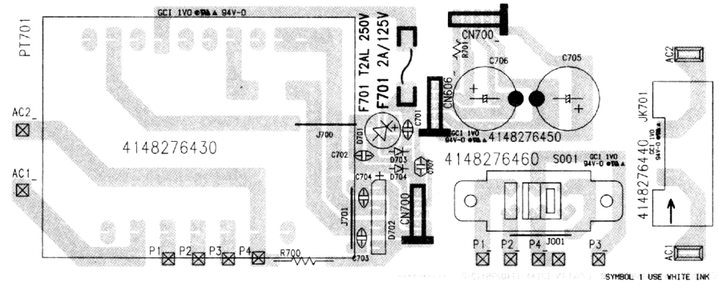
5-1-2. TR. P.C.B. Ass'y



5-3-2. Travers P.C.B. Ass'y

5-1-6. Power Trans. P.C.B. Ass'y

5-1-5. DC Out P.C.B. Ass'y



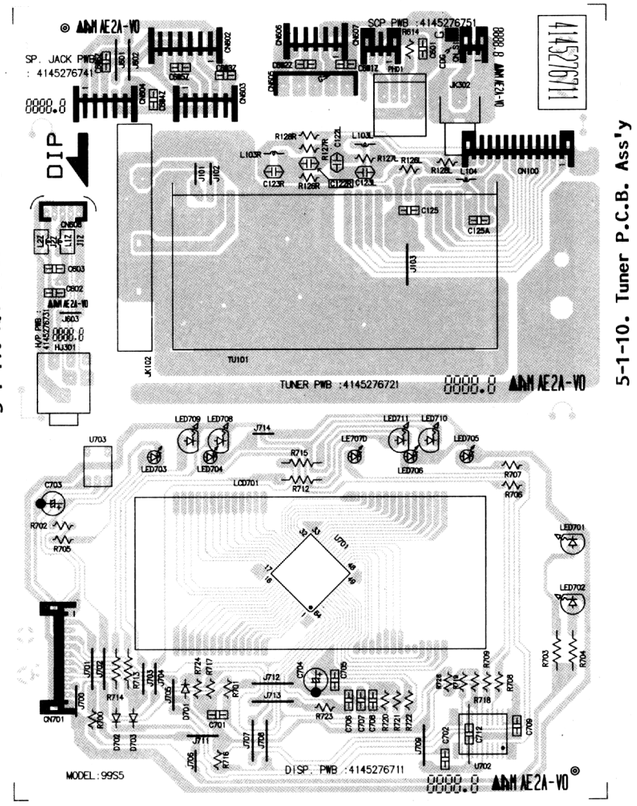
5-1-4. AC Socket P.C.B. Ass'y

5-1-7. AC Selector P.C.B. Ass'y
(for TW/OTR/DA)

5-1-8. SP. Jack P.C.B. Ass'y

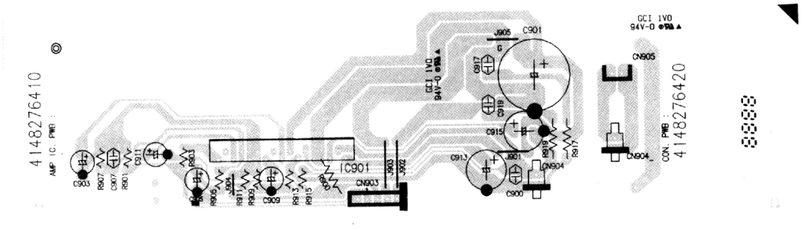
5-1-9. SCP P.C.B. Ass'y

5-1-11. H/P P.C.B. Ass'y



5-1-10. Tuner P.C.B. Ass'y

5-1-12. Display P.C.B. Ass'y



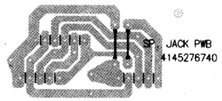
5-1-13. Amp. IC P.C.B. Ass'y

5-1-14. Connector P.C.B. Ass'y

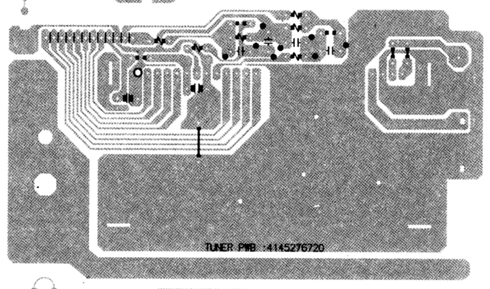
5-2. P C Board-Solder Side

5-2-1. SCP P.C.B. Ass'y

5-2-2. SP. Jack P.C.B. Ass'y

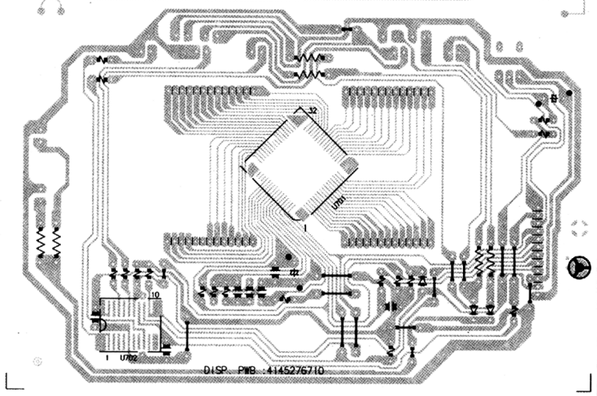


5-2-4. Tuner P.C.B. Ass'y

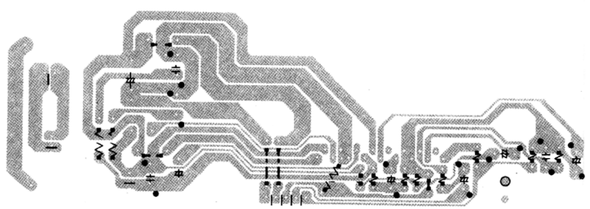


5-2-3. H/P P.C.B. Ass'y

5-2-5. Display P.C.B. Ass'y

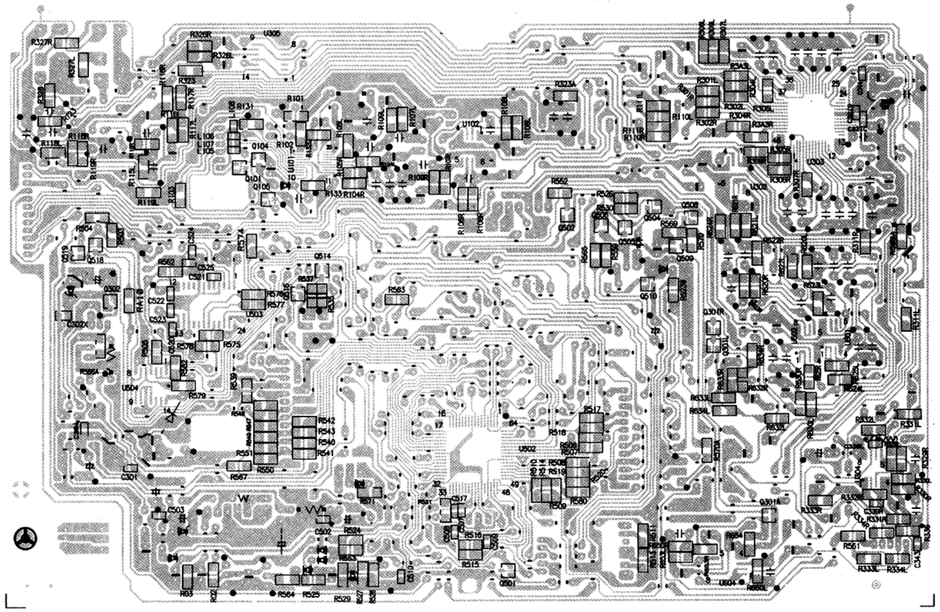


5-2-6. Connector P.C.B. Ass'y



5-2-7. Amp. IC P.C.B. Ass'y

5-2-8. Main P.C.B. Ass'y



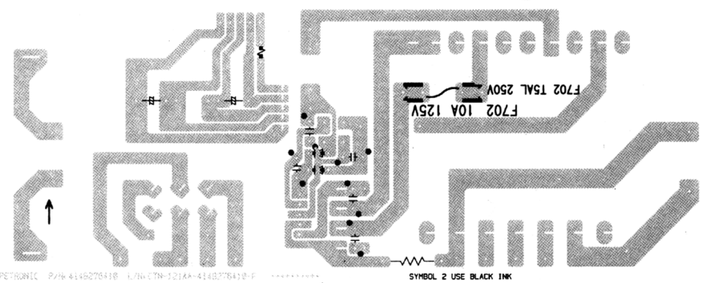
5-2-9. TR. P.C.B. Ass'y

5-2-10. Key P.C.B. Ass'y

5-2-11. AC Socket P.C.B. Ass'y

5-2-12. DC Out P.C.B. Ass'y

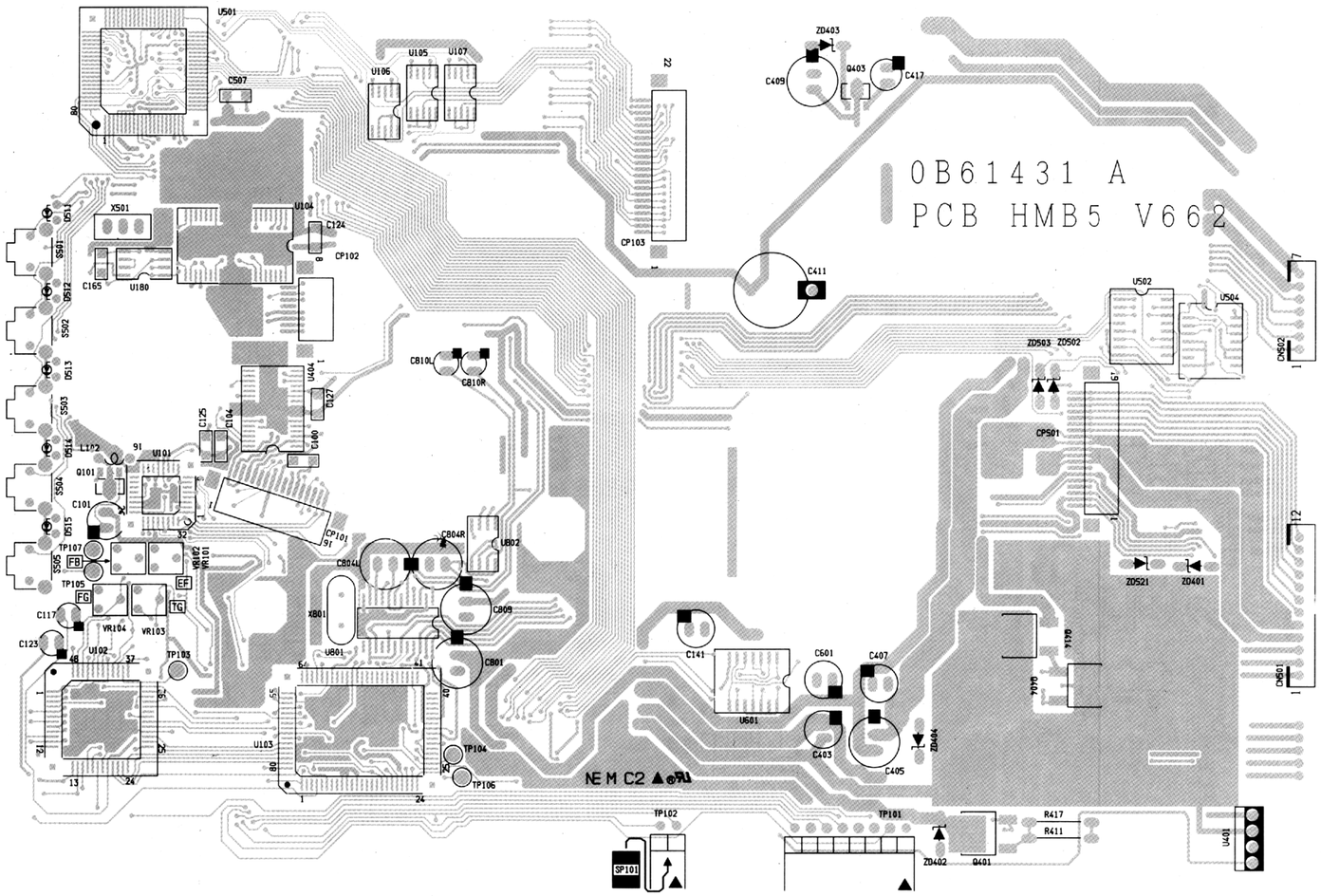
5-2-13. Power Trans. P.C.B. Ass'y

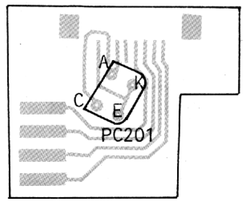


5-2-14. AC Selector P.C.B. Ass'y
(for TW/OTR/DA)

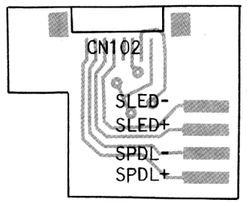
5-3. P C Boards – Component Side

5-3-1. HMB-5 P.C.B. Ass'y



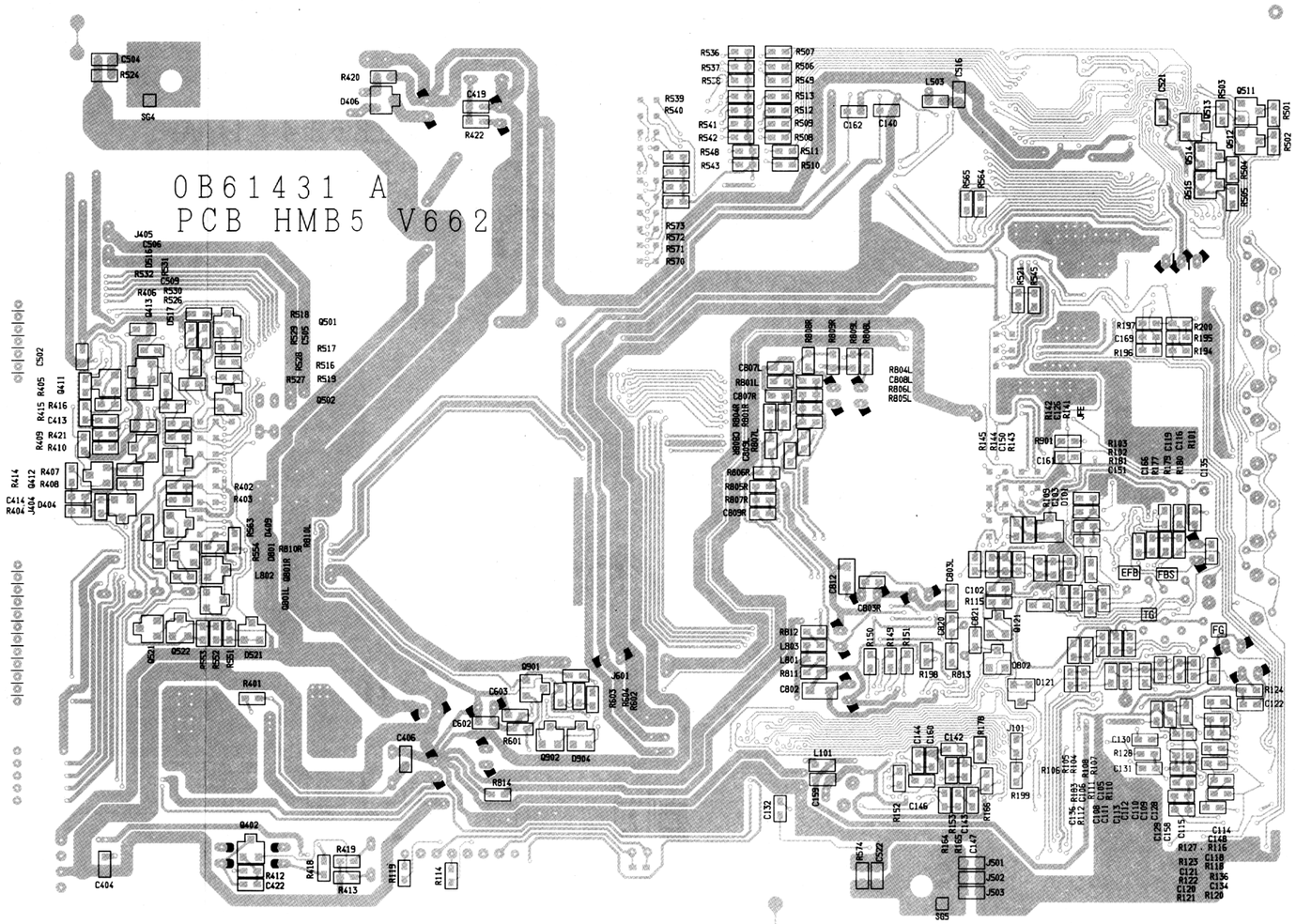


5-3-2. Travers P.C.B. Ass'y



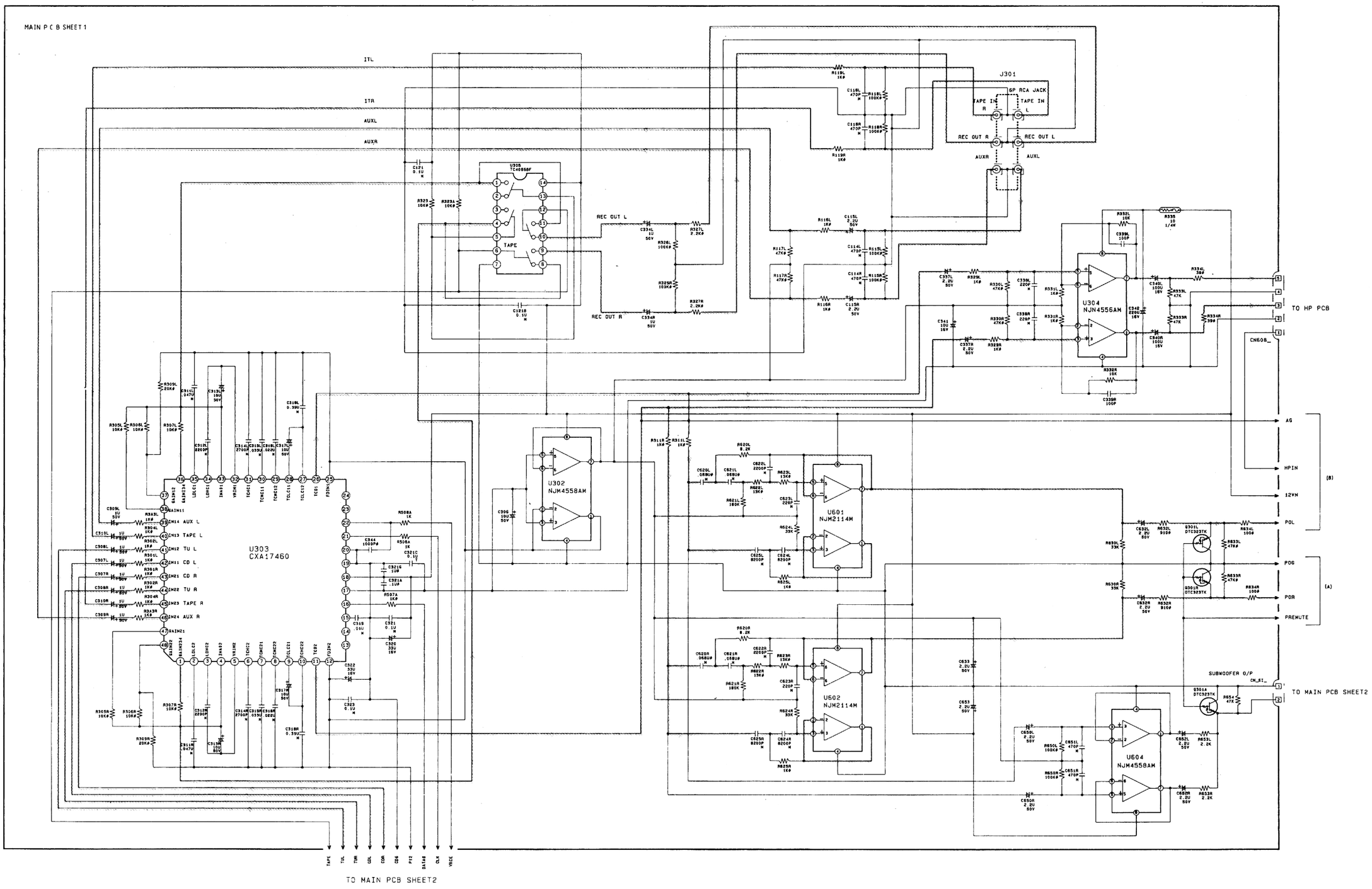
5-4-1. Travers P.C.B. Ass'y

5-4-2. HMB-5 P.C.B. Ass'y

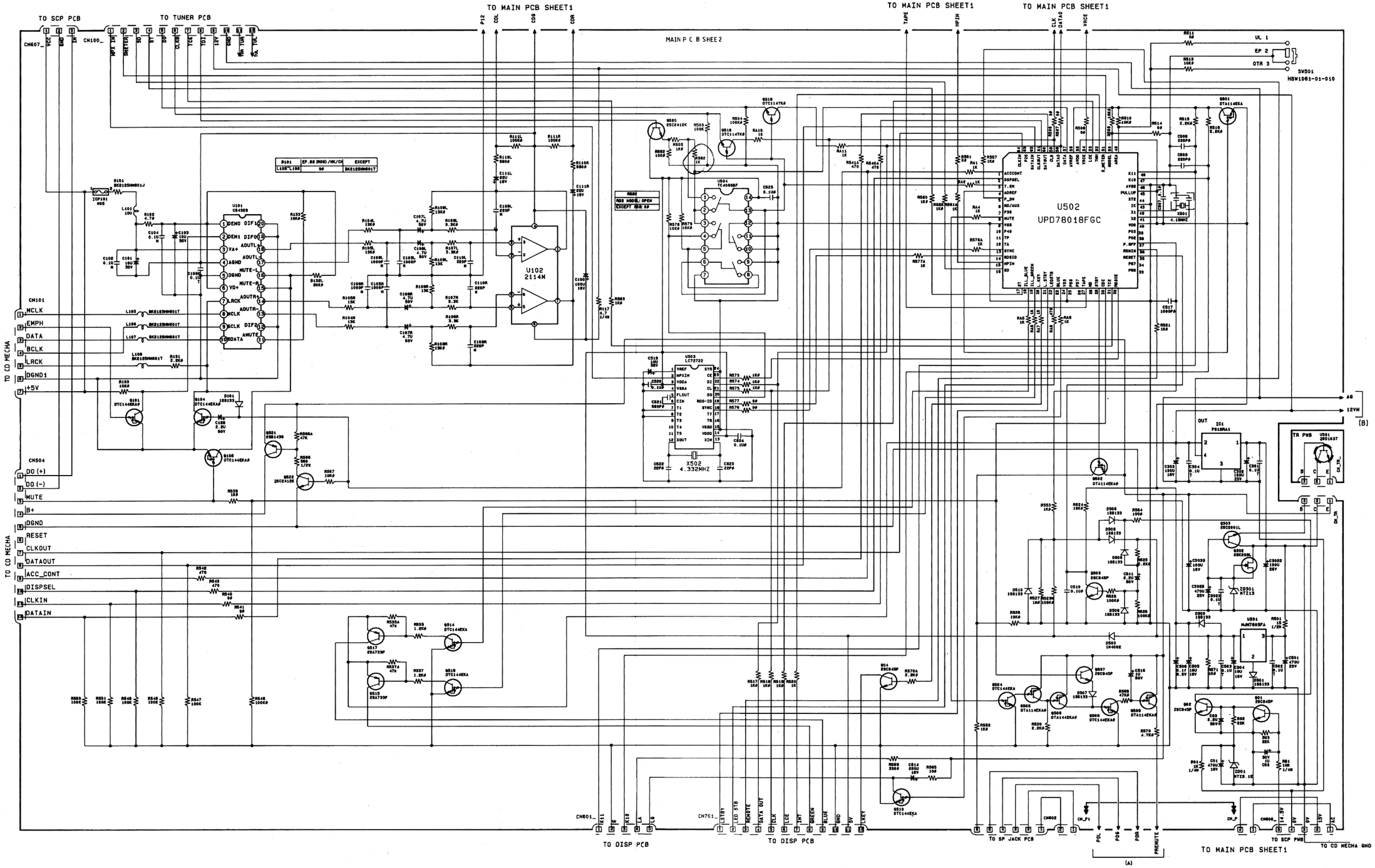


0B61431 A PCB HMB5 V662

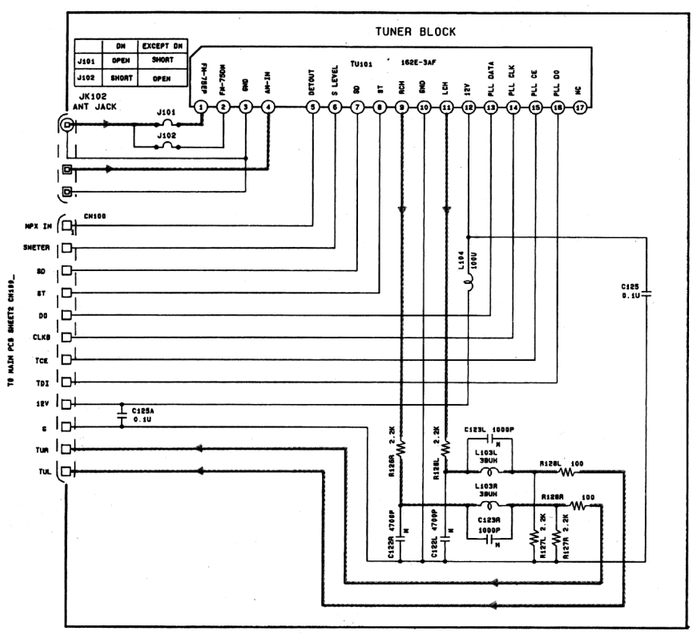
Schematic Diagram – Main Sheet 1

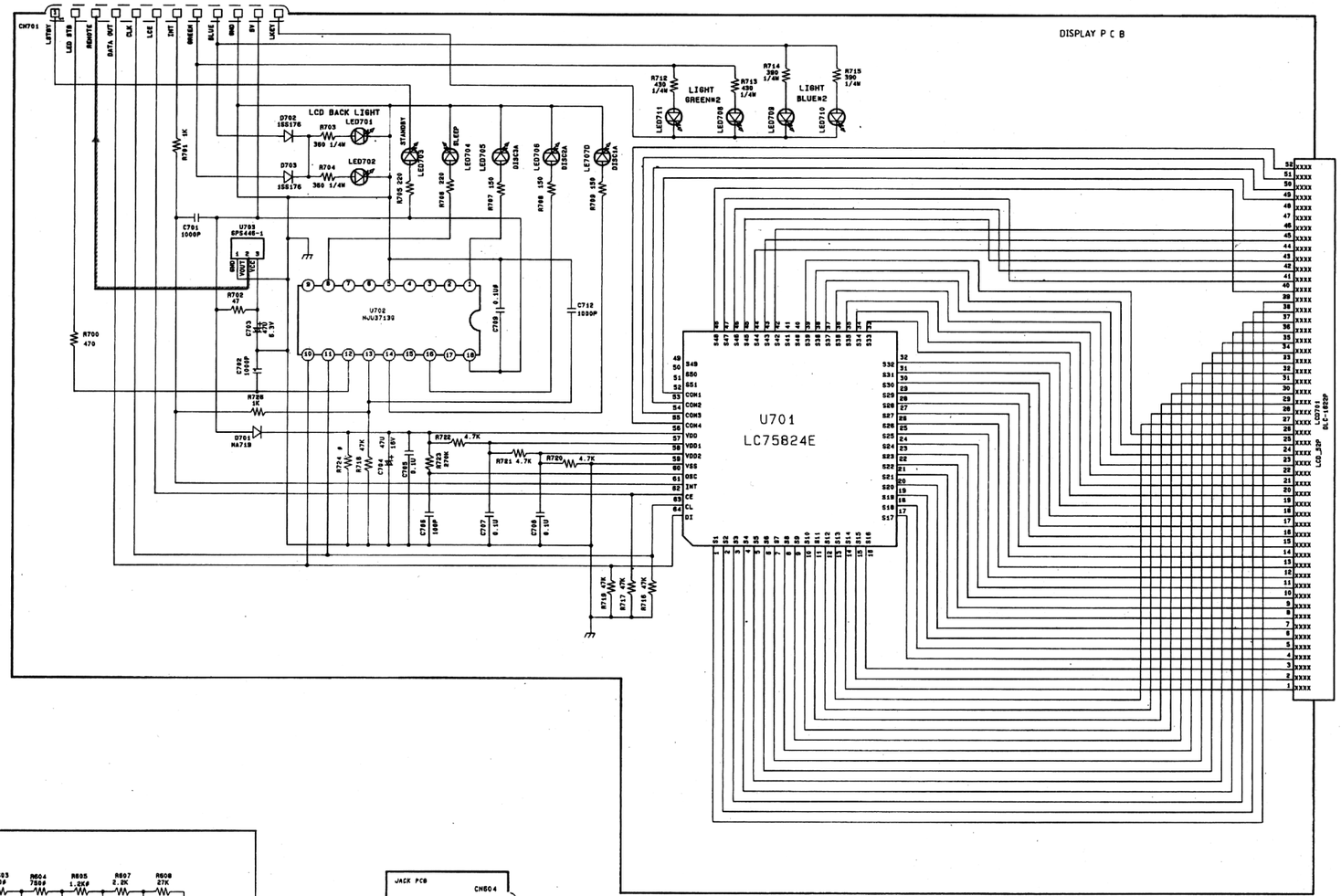


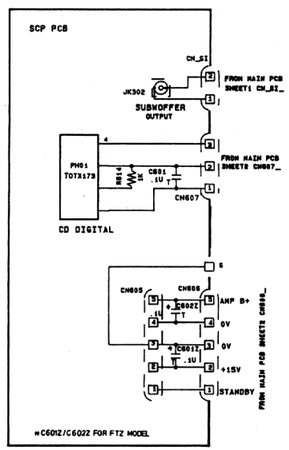
Schematic Diagram – Main Sheet 2

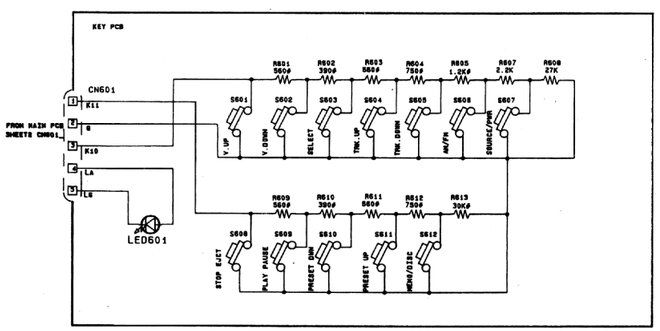


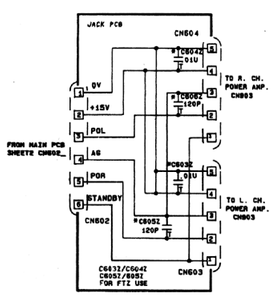
Schematic Diagram – Tuner/Display/SCP/Key/Jack/Headphone

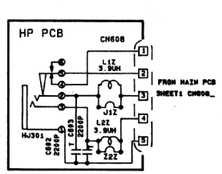




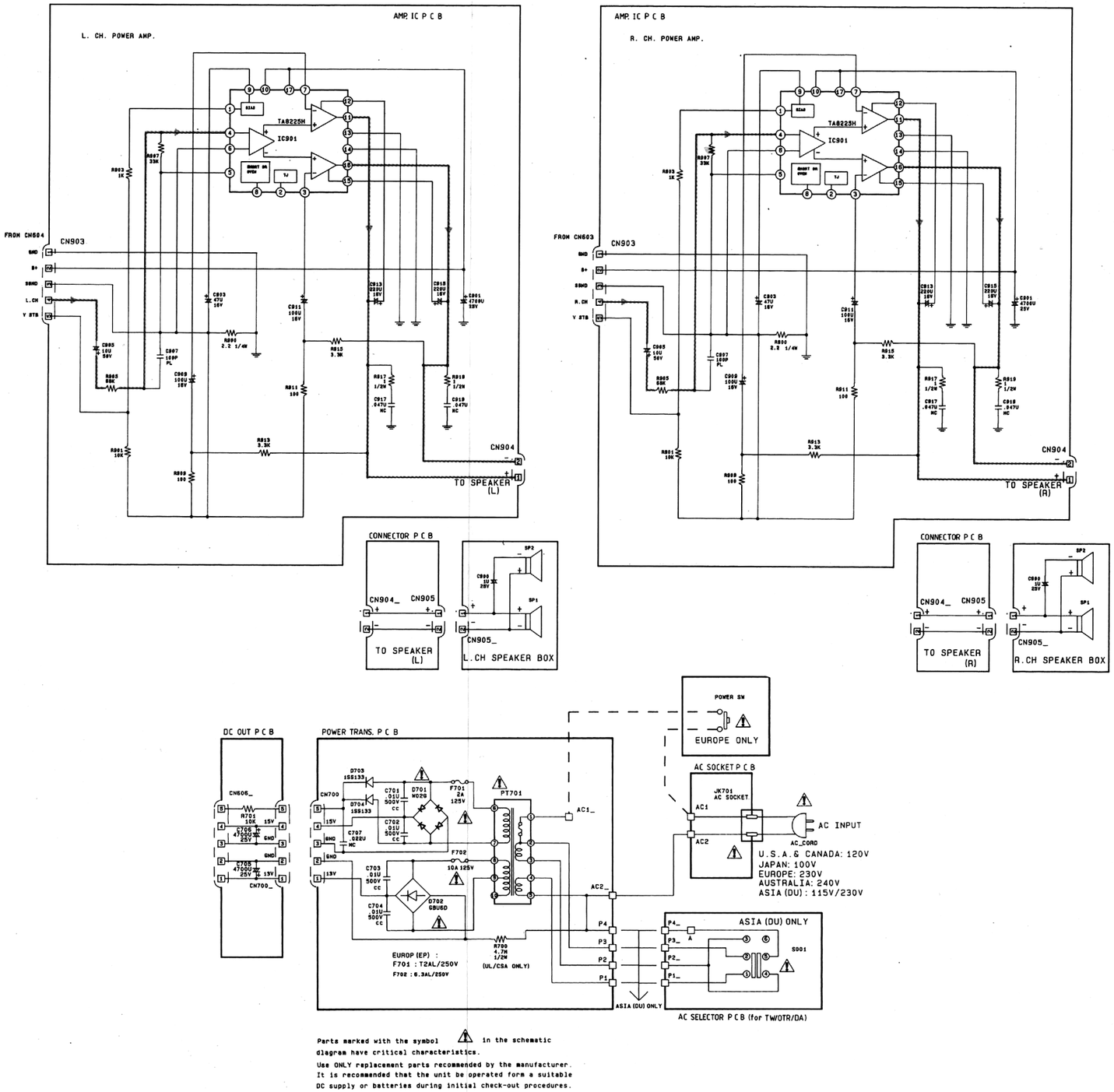






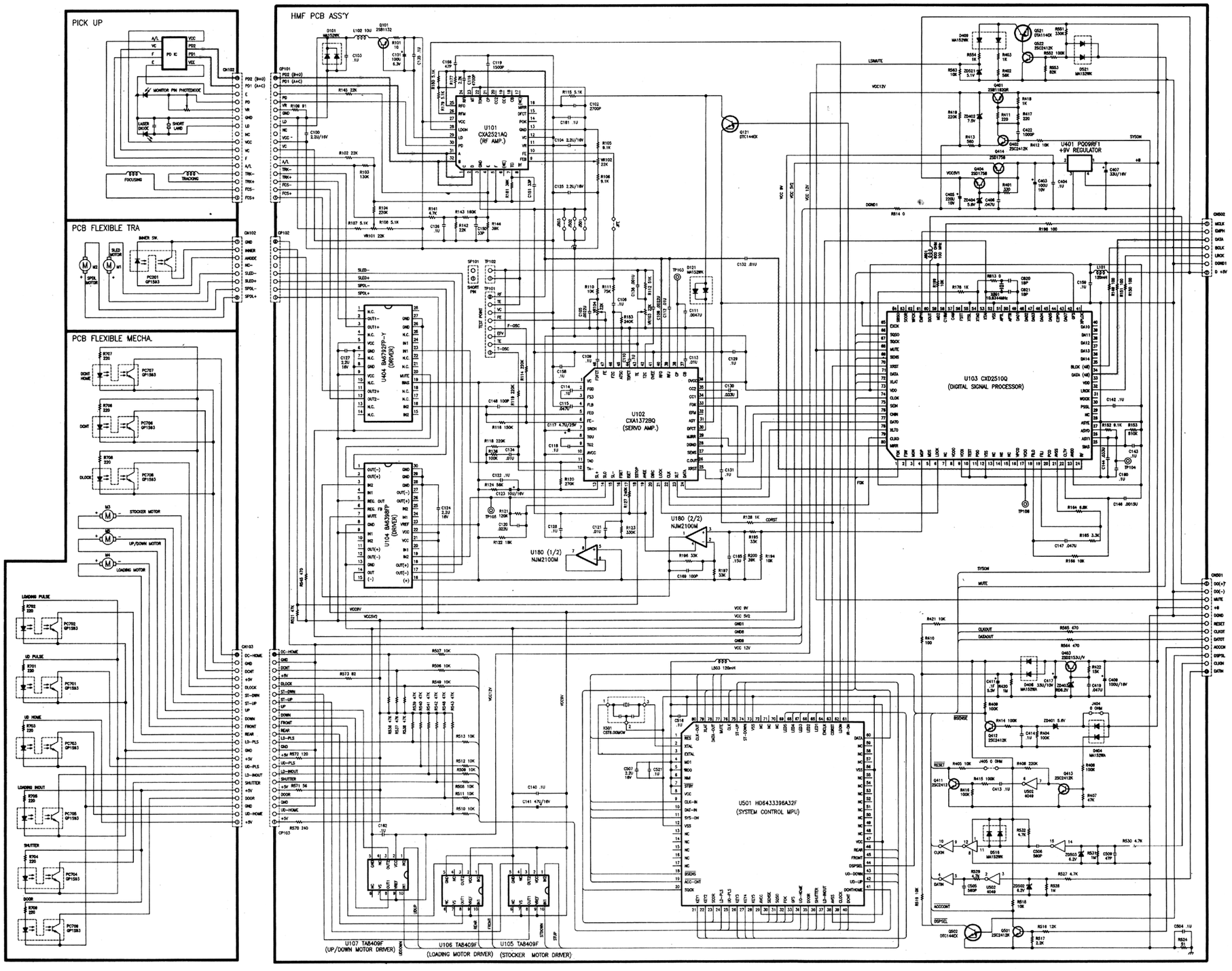


Schematic Diagram – Amp. IC/Power



Parts marked with the symbol ⚠ in the schematic diagram have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.
It is recommended that the unit be operated form a suitable DC supply or batteries during initial check-out procedures.

Schematic Diagram – HMB-5



Schematic Ref. No.	Part No.	Description
CN607	4490301005	PH 3P Side Bsse
SN-SI	4490201005	PH 2P Sise Base
G	2000000478	Terminal Pin "K" (for KR/MA/CH/HK/UK/EP)

SP. Jack P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C145276740	SP. Jack P.C.B. Ass'y (for TW/USA/CAN/JPN/OTR/DA)
	C145276741	SP. Jack P.C.B. Ass'y (for KR/MA/CH/HK/UK/EP)
	4145276740	SP. Jack P.C.B.
C603Z,604Z	7306510315	CML 0.01u 50V K (for KR/MA/CH/HK/UK/EP)
C605Z,606Z	7306512115	CML 120p 50V K (for KR/MA/CH/HK/UK/EP)
CN603	4490500357	XA 5P Side Base
CN602	4490601003	EH 6P Side Base
CN604	4490500357	XA 5P Side Base

HMB-5 P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C1BA09911A	HMB-5 P.C.B. Ass'y
	0B61431A	HMB-5 P.C.B.
U101	415C2521AQ	IC CXA2521AQ
U102	415C1372BQ	IC CXA1372BQ
U103	415C02510Q	IC CXD2510Q
U104	41596398FP	IC BA6398FP
U105-107	415308409F	IC TA8409F
U180	415902100M	IC NJM2100M-T1
U401	4159009RF1	IC PQ09RF1
U404	41596792FP	IC BA6792FP-Y
U501	0B12785V	IC HD6433396
U502	41534049BF	IC TC4049BF
D101	412MA152WK	SID MA152WK*
D121	412MA152WK	SID MA152WK*
D404	412MA152WA	SID MA152WA*
D406	412MA152WA	SID MA152WA*
D409	412MA152WA	SID MA152WA*
D516	412MA152WK	SID MA152WK*
D521	412MA152WK	SID MA152WK*
ZD401	412152056J	ZD RD5.6JSB2
ZD402	412153075J	ZD RD7.5JSB3
ZD403	412152062J	ZD RD6.2JSB2
ZD404	412152056J	ZD RD5.6JSB2
ZD502,503	41215J062B	ZD MTZJ6.2B
ZD521	412152051J	ZD RD5.1JSB2
L101	4320121147	Peaking Coil 120uH*
L102	4325010094	Peaking Coil 10uH
L503	4320121147	Peaking Coil 120uH*
Q101	SA10011320	TR 2SB1132-P,Q,R*
Q121	SA50144EKA	TR DTC144EKA*
Q401	SA11182TLQ	TR 2SB1182TLQR*
Q402	SA2002412K	TR 2SC2412K-Q,R,S*
Q403	SA32153TLV	TR 2SD2153TLVW*
Q404	SA31758F5Q	TR 2SD1758F5-Q*
Q411-413	SA2002412K	TR 2SC2412K-Q,R,S*
Q414	SA31758F5Q	TR 2SD1758F5-Q*
Q501	SA2002412K	TR 2SC2412K-Q,R,S*
Q502	SA50144EKA	TR DTC144EKA*
Q521	SA40114EKA	TR DTA114EKA*

Schematic Ref. No.	Part No.	Description
Q522	SA2002412K	TR 2SC2412K-Q,R,S*
VR101-104	0B32186A	SVR 22K RH0411CJ4J
X501	416090600M	Resonator CST-6.00MGW
X801	0B92063A	X'tal 16.9344M AT-51
JFE	4050A0000D	RK 0 1/10W J*
J404,405	4050A0000D	RK 0 1/10W J*
J601	4050A0000D	RK 0 1/10W J*
R101	407A11005Q	RN 10 1/10W J*
R102	4050A2235D	RK 22K 1/10W J*
R103	4050A1345D	RK 130K 1/10W J*
R104	4050A2245D	RK 220K 1/10W J*
R105,106	4050A9125D	RK 9.1K 1/10W J*
R107,108	4050A5125D	RK 5.1K 1/10W J*
R109	4050A9105D	RK 91 1/10W J*
R110	4050A1035D	RK 10K 1/10W J*
R111	4050A7535D	RK 75K 1/10W J*
R112	4050A5135D	RK 51K 1/10W J*
R114	4050A2245D	RK 220K 1/10W J*
R115	4050A5125D	RK 5.1K 1/10W J*
R116	4050A1545D	RK 150K 1/10W J*
R118,119	4050A2245D	RK 220K 1/10W J*
R120	4050A2745D	RK 270K 1/10W J*
R121	407A11245R	RN 120K 1/10W J*
R122	4050A1835D	RK 18K 1/10W J*
R123	4050A3345D	RK 330K 1/10W J*
R124	4050A5635D	RK 56K 1/10W J*
R127	4050A2445D	RK 240K 1/10W J*
R128	4050A1025D	RK 1K 1/10W J*
R136	4050A1045D	RK 100K 1/10W J*
R141	4050A4725D	RK 4.7K 1/10W J*
R142	4050A2235D	RK 22K 1/10W J*
R143	4050A1645D	RK 160K 1/10W J*
R144	4050A3935D	RK 39K 1/10W J*
R145	4050A2235D	RK 22K 1/10W J*
R149-151	4050A1015D	RK 100 1/10W J*
R152	4050A9125D	RK 9.1K 1/10W J*
R153	4050A5145D	RK 510K 1/10W J*
R164	4050A6825D	RK 6.8K 1/10W J*
R165	4050A3325D	RK 3.3K 1/10W J*
R166	4050A1035D	RK 10K 1/10W J*
R177	4050A2225D	RK 2.2K 1/10W J*
R178	4050A1025D	RK 1K 1/10W J*
R179,180	4050A5125D	RK 5.1K 1/10W J*
R181	4050A3935D	RK 39K 1/10W J*
R183	4050A2445D	RK 240K 1/10W J*
R194	4050A1035D	RK 10K 1/10W J*
R195-197	4050A3335D	RK 33K 1/10W J*
R198	4050A1015D	RK 100 1/10W J*
R199	4050A1035D	RK 10K 1/10W J*
R200	4050A3935D	RK 39K 1/10W J*
R401	4050A3315D	RK 330 1/10W J*
R402	4050A5635D	RK 56K 1/10W J*
R403	4050A1025D	RK 1K 1/10W J*
R404	4050A1045D	RK 100K 1/10W J*
R405	4050A1035D	RK 10K 1/10W J*
R406	4050A2245D	RK 220K 1/10W J*
R407	4050A4735D	RK 47K 1/10W J*
R408,409	4050A1045D	RK 100K 1/10W J*
R410	4050A1015D	RK 100 1/10W J*
R411	0B20068Y	RK 220 1/2W J
R412	4050A1035D	RK 10K 1/10W J*
R413	4050A5615D	RK 560 1/10W J*
R414-416	4050A1045D	RK 100K 1/10W J*
R417	0B20068Y	RK 220 1/2W J
R418	4050A1025D	RK 1K 1/10W J*
R419	4050A2245D	RK 220K 1/10W J*
R420	4050A1055D	RK 1M 1/10W J*
R421	4050A1035D	RK 10K 1/10W J*
R422	4050A1535D	RK 15K 1/10W J*
R506-513	4050A1035D	RK 10K 1/10W J*
R516	4050A1235D	RK 12K 1/10W J*

NOTES: Abbreviations
TR-Transistor, SID-Silicon Diode, ZD-Zener Diode, BD-Bridge Diode
RK-Carbon Resistor, RSS-Metal Film Resistor, RC-Cement Resistor
CE-Electrolytic Capacitor, CM-Mylar Capacitor, CG-Gold Capacitor
CML-Multi-layer Ceramic Capacitor, CC-Ceramic Capacitor,
CSP-Polystyrene Capacitor, C-Mica Capacitor, CMEM-Metalized Polyester Capacitor
Parts Marked With * Show Chip Parts.

Key P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C146277200	Key P.C.B. Ass'y
	4146277200	Key P.C.B.
S601-612	4400000160	Tact Switch SKHVBL3720-CP
LED601	0B12900A	LED Blue SELU2E 10C
R601	405045615E	RK 560 1/4W J*
R602	405043915E	RK 390 1/4W J*
R603	405045615E	RK 560 1/4W J*
R604	405047515E	RK 750 1/4W J*
R605	405041225E	RK 1.2K 1/4W J*
R607	405042225E	RK 2.2K 1/4W J*
R608	405042735E	RK 27K 1/4W J*
R609	405045615E	RK 560 1/4W J*
R610	405043915E	RK 390 1/4W J*
R611	405045615E	RK 560 1/4W J*
R612	405047515E	RK 750 1/4W J*
R613	405043035E	RK 30K 1/4W J*
R914,915	405040005E	RK 0 1/4W J*
CN601	4490501004	PH 5P Top Base

Display P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C145276710	Display P.C.B. Ass'y
	4145276710	Display P.C.B.
U701	415275824E	IC LC75824E
U702	0B10961Y	IC# NJU3713G E8-L
U703	714SPS4461	Remote Sersor SPS-446-1
D701	0B12745Y	DI MA719 Taping
D702,703	4121901330	SID 1SS133
LCD701	4110540270	LCD Display DLC-1622P
LED701,702	41206310B9	LED 3Q NSPW310BS (White)
LED703-707	0B12806A	LED Green GL3RG43
LED708	0B12913A	LED NSPG320BS G/RST
LED709,710	0B12807A	LED Blue SEL2E10C
LED711	0B12913A	LED NSPG320BS G/RST
R700	4050147155	RK 470 1/6W J
R700,701	4050110255	RK 1K 1/6W J
R702	4050147055	RK 47 1/6W J
R703,704	4050436155	RK 360 1/4W J
R705,706	4050122155	RK 220 1/6W J
R707-709	4050115155	RK 150 1/6W J
R712,713	4050443155	RK 430 1/4W J
R714,715	4050439155	RK 390 1/4W J
R716-719	4050147355	RK 47K 1/6W J
R720-722	4050147255	RK 4.7K 1/6W J
R723	4050127455	RK 270K 1/6W J
C701,702	7306510215	CML 0.001u 50V K
C703,704	5153470216	CE 47u 16V M
C705	7306610445	CML 0.1u 50V Z
C706	7306510115	CML 100p 50V K
C707-709	7306610445	CML 0.1u 50V Z
C712	7306510215	CML 0.001u 50V K
CN701	4491201005	PH 12P Side Base

Tuner P.C.B Ass'y

Schematic Ref. No.	Part No.	Description
	C145276720	Tuner P.C.B. Ass'y (for KR/MA/CH/TW/HK /USA/CAN/UK/EP/OTR/DA)
	C145276721	Tuner P.C.B. Ass'y (for JPN)
	4145276720	Tuner P.C.B.
L103L,R	4325039093	P. Coil 39uH
L104	4325010093	P. Coil 10uH
JK102	4560002065	2P Antenna Terminal
TU101	BG09946A	Tuner Pack EP 162E-3AF(E) (for KR/MA/CH/TW/HK /USA/CAN/UK/EP/OTR/DA)
	BG09939A	Tuner Pack DM 162E-3AF(J) (for JPN)
R126L,R	4050122255	RK 2.2K 1/6W J
R127L,R	4050133255	RK 3.3K 1/6W J
R128L,R	4050110155	RK 100 1/6W J
C122L,R	511M472550	CM 0.0047u 50V J
C123L,R	511M102550	CM 0.001u 50V J
C125,125A	7306610445	CML 0.1u 50V Z
CN100	4491200317	12P Socket IMSA-9115S-12L

H/P P.C.B Ass'y

Schematic Ref. No.	Part No.	Description
	C145276730	H/P P.C.B. Ass'y (for TW /USA/CAN/JPN/OTR/DA)
	C145276731	H/P P.C.B. Ass'y (for KR/MA/CH/HK/UK/EP)
	4145276730	H/P P.C.B.
C602,603	7306522215	CML 0.0022u 50V K
L1Z,L2Z	4325039993	P. coil 3.9uH (for KR/MA/CH/HK/UK/EP)
HJ301	4500100427	H/P Jack HTJ-035-10FB
CN608	4490501004	PH 5P Top Base

SCP P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C145276750	SCP P.C.B. Ass'y (for TW /USA/CAN/JPN/OTR/DA)
	C145276752	SCP P.C.B. Ass'y (for KR/MA/CH/HK/UK/EP)
	4145276750	SCP P.C.B.
R614	4050110255	RK 1K 1/6W J
C601	7306610445	CML 0.1u 50V Z
C601Z,602Z	7306610445	CML 0.1u 50V Z (for KR/MA/CH/HK/UK/EP)
PH01	71499S5001	Fiber Odtic Trans. TOTX173
JK302	4500800487	1P RCA Jack
CN605	4490501003	EH 5P Side Base
CN606	4490500192	VH 5P Side Base

Schematic Ref. No.	Part No.	Description
R517	4050A2225D	RK 2.2K 1/10W J*
R518	4050A1045D	RK 100K 1/10W J*
R519	4050A1035D	RK 10K 1/10W J*
R521	4050A4735D	RK 47K 1/10W J*
R524	4050A5105D	RK 51 1/10W J*
R527	4050A4725D	RK 4.7K 1/10W J*
R528	4050A1055D	RK 1M 1/10W J*
R529,530	4050A4725D	RK 4.7K 1/10W J*
R531	4050A1055D	RK 1M 1/10W J*
R532	4050A4725D	RK 4.7K 1/10W J*
R536	4050A4735D	RK 47K 1/10W J*
R537-543	4050A4735D	RK 47K 1/10W J*
R545	4050A4715D	RK 470 1/10W J*
R548	4050A4735D	RK 47K 1/10W J*
R549	4050A1035D	RK 10K 1/10W J*
R551	4050A3345D	RK 330K 1/10W J*
R552	4050A1045D	RK 100K 1/10W J*
R553	4050A8235D	RK 82K 1/10W J*
R554	4050A1025D	RK 1K 1/10W J*
R563	4050A1035D	RK 10K 1/10W J*
R564,565	4050A4715D	RK 470 1/10W J*
R570	4050A2415D	RK 240 1/10W J*
R571	4050A5605D	RK 56 1/10W J*
R572	4050A1215D	RK 120 1/10W J*
R573	4050A8205D	RK 82 1/10W J*
R813,814	4050A0000D	RK 0 1/10W J*
C100	MU22250224	CC Multi 2.2u 16V Z*
C101	5158101M06	CE 100u 6.3V M (MINI)
C102	510127215D	CC 0.0027u 50V K*
C103	510410442D	CC 0.1u 25V Z*
C104	MU42250251	CC Multi 2.2u 16V K*
C105	510122215D	CC 0.0022u 50V K*
C106	510410442D	CC 0.1u 25V Z*
C108	510122215D	CC 0.0022u 50V K*
C109,110	510410442D	CC 0.1u 25V Z*
C111	510147215D	CC 0.0047u 50V K*
C112,113	510110315D	CC 0.01u 50V K*
C114	510410442D	CC 0.1u 25V Z*
C115	510147312D	CC 0.047u 25V K*
C116	510147215D	CC 0.0047u 50V K*
C117	5158479M25	CE 4.7u 25V M (MINI)
C118	510410442D	CC 0.1u 25V Z*
C119	510115215D	CC 0.0015u 50V K*
C120	510122315D	CC 0.022u 50V K*
C121	510110315D	CC 0.01u 50V K*
C122	510410442D	CC 0.1u 25V Z*
C123	5158100M16	CE 10u 16V M (MINI)
C124	MU22250224	CC Multi 2.2u 16V Z*
C125	MU42250251	CC Multi 2.2u 16V K*
C126	510410442D	CC 0.1u 25V Z*
C127	MU22250224	CC Multi 2.2u 16V Z*
C128,129	510410442D	CC 0.1u 25V Z*
C130	510133315D	CC 0.033u 50V K*
C131	510410442D	CC 0.1u 25V Z*
C132	510110315D	CC 0.01u 50V K*
C134	510110315D	CC 0.01u 50V K*
C135	510410442D	CC 0.1u 25V Z*
C136	512B10255D	CC 0.001u 50V J* (CH)
C140	510410442D	CC 0.1u 25V Z*
C141	5158470M16	CE 47u 16V M (MINI)
C142,143	510410442D	CC 0.1u 25V Z*
C144	510133315D	CC 0.033u 50V K*
C146	510115215D	CC 0.0015u 50V K*
C147	510147312D	CC 0.047u 25V K*
C148	512B10155D	CC 100p 50V J* (CH)
C150,151	512B33055D	CC 33p 50V J* (CH)
C158-162	510410442D	CC 0.1u 25V Z*
C165	510115412E	CC 0.15u 25V K*
C166	512B47055D	CC 47p 50V J* (CH)
C169	512B10155D	CC 100p 50V J* (CH)
C403	5158101M10	CE 100u 10V M (MINI)
C404	510410442D	CC 0.1u 25V Z*
C405	5158221M10	CE 220u 10V M (MINI)
C406	510147312D	CC 0.047u 25V K*
C407	5158330M16	CE 33u 16V M (MINI)
C409	5158101M16	CE 100u 16V M (MINI)
C411	2000001134	CG 0.1F 5.5V Z (Gold)
C413,414	510410442D	CC 0.1u 25V Z*
C417	5158330M10	CE 33u 10V M (MINI)
C419	510147312D	CC 0.047u 25V K*
C422	512B10255D	CC 0.001u 50V J* (CH)
C504	510410442D	CC 0.1u 25V Z*
C505,506	512B56155D	CC 560p 50V J* (CH)
C507	MU22250224	CC Multi 2.2u 16V Z*
C509	512B47055D	CC 47p 50V J* (CH)
C516	510410442D	CC 0.1u 25V Z*
C521	510410442D	CC 0.1u 25V Z*
C820,821	512B18055D	CC 18p 50V J* (CH)
TP101	4490800328	8P CON. Header Base
TP102	0B84894A	CON. Header 2P RE-H022SD-1190
SP101	0B80998A	CON. Short Socket JM-2BK-61
CN501	4491201004	PH 12P Top Base
CN502	4490701004	PH 7P Top Base
CP101	4491600302	Molex-Smt 16P Top Base
CP102	4490800301	Molex-Smt 8P Side Base
CP103	4492200301	Molex-Smt 22P Side Base

Main P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C142276510	Main P.C.B. Ass'y (for TW/USA/CAN/OTR/DA)
	C142276511	Main P.C.B. Ass'y (for UK/EP)
	C142276512	Main P.C.B. Ass'y (for JPN)
	C142276513	Main P.C.B. Ass'y (for KR/MA/CH/HK)
	4142276510	Main P.C.B.
IC1	0B12812A	IC PQ12RA11
ICP101	4159ICPN05	IC ICP-NS-T104
U101	4159043290	IC CS4329
U102	415902114M	IC# NJM2114M
U302	0B11001Y	IC# NJM4558M
U303	0B10936V	IC# CXA1746Q
U304	41594556AM	IC NJM4556AM
U305	41534066BF	IC TC4066BF(W)
U501	41597805FA	IC NJM7805FA
U502	41517816FX	IC UPD78P016FGC-XXX
U503	0B12841Y	IC# LC72722PM (for UK/EP)
U504	41534066BF	IC TC4066BF(N) (for UK/EP)
U601,602	415902114M	IC# NJM2114M
U604	0B11001Y	IC# NJM4558M
D101	4121901330	SID 1SS133
D501,502	4121901330	SID 1SS133
D503	4130104002	SID 1N4002
D505-510	4121901330	SID 1SS133
ZD01	41215J091B	ZD MTZJ9.1B
ZD301	41215J130B	ZD MTZJ13B
L101	4325010092	P. Coil 10uH
L105-108	MF1360111D	MUL F. Bead HM601*
Q01,02	410520945P,Q	TR 2SC945P,Q
Q04	410520945P,Q	TR 2SC945P,Q
Q101	SA50144EKA	TR DTC144EKA*
Q104,105	SA50144EKA	TR DTC144EKA*

Schematic Ref. No.	Part No.	Description
Q301A,L,R	SA500323TK	TR DTC323TK*
Q302	SA700209XL	FET 2SK209X-L TE85L
Q303	410522001L	TR 2SC2001L
Q501,502	SA40114EKA	TR DTA114EKA*
Q503	410520945P,Q	TR 2SC945P,Q
Q504	SA50144EKA	TR DTC144EKA*
Q505	SA40114EKA	TR DTA114EKA*
Q506	SA40144EKA	TR DTA144EKA*
Q507	410520945P,Q	TR 2SC945P,Q
Q508	SA50144EKA	TR DTC144EKA*
Q509	SA40114EKA	TR DTA114EKA*
Q510	SA50144EKA	TR DTC144EKA*
Q514	SA50144EKA	TR DTC144EKA*
Q515	410500733P	TR 2SA733P
Q516	SA50144EKA	TR DTC144EKA*
Q517	410500733P	TR 2SA733P
Q518,519	SA50114TKA	TR DTC114TKA*
Q520	410520945P,Q	TR 2SC945P,Q
Q521	0B12916A	TR 2SB1436
Q522	410520945P,Q	TR 2SC945P,Q
SW501	4410103212	Slide Switch HSW2061-010010 1P-3T (for KR/MA/CH/TW/HK /USA/CAN/OTR/DA)
X501	41609419MG	Resonator CST4.19MGW
X502	0B90889A	X'tal 4.3320MHz (for UK/EP)
JK301	4500800489	6P RCA Jack
R01	4050110255	RK 1K 1/6W J
R02,03	405042235E	RK 22K 1/4W J*
RA1-A7	4050110255	RK 1K 1/6W J
RA8	4050147155	RK 470 1/6W J
RA9	4050110255	RK 1K 1/6W J
RA10	405041025E	RK 1K 1/4W J*
RA11	4050110255	RK 1K 1/6W J
R101	405040005E	RK 0 1/4W J*
R102	405044795E	RK 4.7 1/4W J*
R103	405041035E	RK 10K 1/4W J*
R104L,R	405041335E	RK 13K 1/4W J*
R105L,R	405041335E	RK 13K 1/4W J*
R106L,R	405043325E	RK 3.3K 1/4W J*
R107L,R	405043325E	RK 3.3K 1/4W J*
R108L,R	405041335E	RK 13K 1/4W J*
R109L,R	405041335E	RK 13K 1/4W J*
R110L,R	405044725E	RK 4.7K 1/4W J*
R111L,R	405041045E	RK 100K 1/4W J*
R115L,R	405041045E	RK 100K 1/4W J*
R116L,R	405041025E	RK 1K 1/4W J*
R117	4050447955	RK 4.7 1/4W J
R117L,R	405044735E	RK 47K 1/4W J*
R118L,R	405041045E	RK 100K 1/4W J*
R119L,R	405041025E	RK 1K 1/4W J*
R131	405042225E	RK 2.2K 1/4W J*
R132L	405042035E	RK 20K 1/4W J*
R133	405041035E	RK 10K 1/4W J*
R3A3L,R	405041025E	RK 1K 1/4W J*
R301L,R	405041025E	RK 1K 1/4W J*
R302L,R	405041025E	RK 1K 1/4W J*
R304L,R	405041025E	RK 1K 1/4W J*
R305L,R	405041035E	RK 10K 1/4W J*
R306L,R	405041035E	RK 10K 1/4W J*
R307L,R	405041035E	RK 10K 1/4W J*
R309L,R	405042035E	RK 20K 1/4W J*
R311L,R	405041025E	RK 1K 1/4W J*
R323,323A	405041035E	RK 10K 1/4W J*
R326L,R	405041045E	RK 100K 1/4W J*
R327L,R	405042225E	RK 2.2K 1/4W J*
R329L,R	405041025E	RK 1K 1/4W J*
R330L,R	405044735E	RK 47K 1/4W J*
R331L,R	405041025E	RK 1K 1/4W J*
R332L,R	405041035E	RK 10K 1/4W J*
R333L,R	405044735E	RK 47K 1/4W J*

Schematic Ref. No.	Part No.	Description
R334L,R	405043905E	RK 39 1/4W J*
R335	4270210054	RSS 10 1/2W J
R501	4180215055	Fuse Resistor 15 1/2W
R503,504	405041045E	RK 100K 1/4W J*
R505	405041025E	RK 1K 1/4W J*
R506,507	405040005E	RK 0 1/4W J*
R506A,507A	4050110255	RK 1K 1/6W J
R508	405040005E	RK 0 1/4W J*
R508A	405041025E	RK 1K 1/4W J*
R509,510	405041035E	RK 10K 1/4W J*
R511	405040005E	RK 0 1/4W J* (for KR/MA /CH/TW/HK/USA/CAN/OTR/DA)
R513	405041035E	RK 10K 1/4W J* (for KR/MA /CH/TW/HK/USA/CAN/OTR/DA)
R514	405040005E	RK 0 1/4W J* (for JPN)
Q515	4050147355	RK 47K 1/6W J
R515,516	405042225E	RK 2.2K 1/4W J*
Q517(B,C)	4050147355	RK 47K 1/6W J
R517-521	405041025E	RK 1K 1/4W J*
R523W	405041045E	RK 100K 1/4W J*
R524	405041035E	RK 10K 1/4W J*
R525	405042225E	RK 2.2K 1/4W J*
R526	405041035E	RK 10K 1/4W J*
R527	405041055E	RK 1M 1/4W J*
R528,529	405041045E	RK 100K 1/4W J*
R530	405042225E	RK 2.2K 1/4W J*
R535,537	405041225E	RK 1.2K 1/4W J*
R539	405041025E	RK 1K 1/4W J*
R540,541	405040005E	RK 0 1/4W J*
R540A,541A	4050147155	RK 470 1/6W J
R542,543	405044715E	RK 470 1/4W J*
R544	4050110255	RK 1K 1/6W J
R545	4050147155	RK 470 1/6W J
R546-551	405041045E	RK 100K 1/4W J*
R552,553	405041025E	RK 1K 1/4W J*
R555,557	4050110255	RK 1K 1/6W J
R559	405043315E	RK 330 1/4W J*
R560	4050110255	RK 1K 1/6W J
R561	405040005E	RK 0 1/4W J*
R561A	4050110255	RK 1K 1/6W J
R562	405041035E	RK 10K 1/4W J*
R563	405041025E	RK 1K 1/4W J*
R564	405041015E	RK 100 1/4W J*
R565	405041005E	RK 10 1/4W J*
R566	4270256154	RSS 560 1/2W J
R566A	405044735E	RK 47K 1/4W J*
R567	405041035E	RK 10K 1/4W J*
R569	405044735E	RK 47K 1/4W J*
R570	405044725E	RK 4.7K 1/4W J*
R570A	405042225E	RK 2.2K 1/4W J*
R571	405041025E	RK 1K 1/4W J*
R573	4050110255	RK 1K 1/6W J
R574,575	405041025E	RK 1K 1/4W J* (for UK/EP)
R576,577	4050110255	RK 1K 1/6W J
	405040005E	RK 0 1/4W J* (for UK/EP)
R577	405040005E	RK 0 1/4W J*
R578,579	405041035E	RK 10K 1/4W J* (for UK/EP)
R582	405040005E	RK 0 1/4W J* (for KR/MA/CH/TW/HK /USA/CAN/JPN/OTR/DA)
R620L,R	405048225E	RK 8.2K 1/4W J*
R621L,R	405041845E	RK 180K 1/4W J*
R622L,R	405041335E	RK 13K 1/4W J*
R623L,R	405041335E	RK 13K 1/4W J*
R624L,R	405043335E	RK 33K 1/4W J*
R625L,R	405041025E	RK 1K 1/4W J*
R630L,R	405043335E	RK 33K 1/4W J*
R632L,R	405049115E	RK 910 1/4W J*
R633L,R	405044735E	RK 47K 1/4W J*
R634L,R	405041015E	RK 100 1/4W J*
R653L,R	405041025E	RK 1K 1/4W J*
R650L,R	405041045E	RK 100K 1/4W J*

Schematic Ref. No.	Part No.	Description
R654	405044735E	RK 47K 1/4W J*
C01	5158471216	CE 470u 16V M
C02	5158109M50	CE 1u 50V M (Mini)
C03	5158229M50	CE 2.2u 50V M (Mini)
C100	5158101M16	CE 100u 16V M (Mini)
C101	5158100M50	CE 10u 50V M (Mini)
C102	511H104550	CM 0.1u 50V J
C103	5158100M50	CE 10u 50V M (Mini)
C104	511H104550	CM 0.1u 50V J
C105L,R	511M102550	CM 0.001u 50V J
C106L,R	511M102550	CM 0.001u 50V J
C107L,R	5158479M50	CE 4.7u 50V M (Mini)
C108L,R	5158479M50	CE 4.7u 50V M (Mini)
C109L,R	511M221150	CM 220p 50V K
C110L,R	511M221150	CM 220p 50V K
C111L,R	5158220M16	CE 22u 16V M (Mini)
C114L,R	511M471550	CM 470p 50V J
C115L,R	5158229M50	CE 2.2u 50V M (Mini)
C116L,R	511M471550	CM 470p 50V J
C121,121B	511H104550	CM 0.1u 50V J
C126	5158229M50	CE 2.2u 50V M (Mini)
C301	MU61044511	CC 0.1u 50V Z*
C302	5158101225	CE 100u 25V M
C302B	5158471225	CE 470u 25V M
C302D	5158101225	CE 100u 25V M
C302X	MU61044511	CC 0.1u 50V Z*
C303	5153101216	CE 100u 16V M
C303S	5158101M16	CE 100u 16V M (Mini)
C304	MU61044511	CC 0.1u 50V Z*
C305,306	5158100M50	CE 10u 50V M (Mini)
C307L,R	5158109M50	CE 1u 50V M (Mini)
C308L,R	5158109M50	CE 1u 50V M (Mini)
C309L,R	5158109M50	CE 1u 50V M (Mini)
C310L,R	5158109M50	CE 1u 50V M (Mini)
C311L,R	511H473550	CM 0.047u 50V J
C312L,R	511M222550	CM 0.0022u 50V J
C313L,R	5158100M50	CE 10u 50V M (Mini)
C314L,R	511M272550	CM 0.0027u 50V J
C315L,R	511H333550	CM 0.033u 50V J
C316L,R	511H223550	CM 0.022u 50V J
C317L,R	5158100M50	CE 10u 50V M (Mini)
C318L,R	511H394550	CM 0.39u 50V J
C319	511H103550	CM 0.01u 50V J
C320	5158330M16	CE 33u 16V M (Mini)
C321	511H104550	CM 0.1u 50V J
C321A	7306610445	CML 0.1u 50V Z
C321C,G	MU61044511	CC 0.1u 50V Z*
C322	5158330M16	CE 33u 16V M (Mini)
C323	511H104550	CM 0.1u 50V J
C334L,R	5158109M50	CE 1u 50V M (Mini)
C338L,R	511M221150	CM 220p 50V K
C337L,R	5158229M50	CE 2.2u 50V M (Mini)
C339L,R	MU81015517	CC 100p 50V J*
C340L,R	5158101M16	CE 100u 16V M (Mini)
C341	5158100M50	CE 10u 50V M (Mini)
C342	5158221216	CE 220u 16V M
C344	MU41021517	CC 0.001u 50V K*
C501	5158471225	CE 470u 25V M
C502,503	MU61044511	CC 0.1u 50V Z*
C504,505	5158100M50	CE 10u 50V M (Mini)
C506	2000001134	CG 0.1F 5.5V (Gold)
C507	MU61044511	CC 0.1u 50V Z*
C508,509	MU82215517	CC 220p 50V J*
C510	MU61044511	CC 0.1u 50V Z*
C511	5158229M50	CE 2.2u 50V M (Mini)
C514	5158221216	CE 220u 16V M
C516	5158109M50	CE 1u 50V M (Mini)
C517	MU41021517	CC 0.001u 50V K*
C519	5158100M50	CE 10u 50V M (Mini) (for UK/EP)
C520	MU61044511	CC 0.1u 50V Z (for UK/EP)
C521	512B56155D	CC 560p 50V J (CH) (for UK/EP)
C522,523	512B22055D	CC 22p 50V J (CH) (for UK/EP)
C524	MU61044511	CC 0.1u 50V Z (for UK/EP)
C525	MU61044511	CC 0.1u 50V Z*
C620L,R	511H683550	CM 0.068u 50V J
C621L,R	511H683550	CM 0.068u 50V J
C622L,R	511M222550	CM 0.0022u 50V J
C623L,R	511M221150	CM 220p 50V K
C624L,R	511M822550	CM 0.0082u 50V J
C625L,R	511M822550	CM 0.0082u 50V J
C632L,R	5158229M50	CE 2.2u 50V M (Mini)
C633	5158229M50	CE 2.2u 50V M (Mini)
C650L,R	5158229M50	CE 2.2u 50V M (Mini)
C651L,R	511M471550	CM 470p 50V J
C652L,R	5158229M50	CE 2.2u 50V M (Mini)
C653	5158229M50	CE 2.2u 50V M (Mini)
CN100	4491200316	12P Header IMSA-9115B-12

Power Trans. P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C148276430	Power Trans. P.C.B. Ass'y
	4148276430	Power Trans. P.C.B.
D701	413022W02G	BD 2W02G
D703,704	4121901330	SID 1SS133
F701,702	4692000034	Fuse Holder PFC5000-0202T
R700	405024755T	RK 4.7M 1/2W J (for USA/CAN)
C701-704	5104103412	CC 0.01u 100V Z
C707	5116223511	CM 0.022u 100V J

AC Socket P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C048276440	AC Socket P.C.B. Ass'y (for USA/CAN)
	C048276442	AC Socket P.C.B. Ass'y (for JPN)
	C048278640	AC Socket P.C.B. Ass'y (for KR/MA/CH/TW/HK /UK/EP/OTR/DA)
	4148276440	AC Socket P.C.B.
AC1,2	2000000843	Terminal Pin "L"
JK701	4570701970	AC Socket JT-0474A-001 (GRY) (for USA/CAN)
	4570701980	AC Socket JT-0474B-001 (GRY) (for KR/MA/CH/TW /HK/JPN/UK/EP/OTR/DA)

Amp. IC P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C148276410	Amp. IC P.C.B. Ass'y (for USA/CAN/JPN)
	C148278610	Amp. IC P.C.B. Ass'y (for TW/OTR/DA)
	C148278611	Amp. IC P.C.B. Ass'y (for KR/MA/CH/HK/UK/EP)
	4148276410	Amp. IC P.C.B.

Schematic Ref. No.	Part No.	Description
IC901	415308225H	IC TA8225H
R900	4050422954	RK 2.2 1/4W J
R901	4050110355	RK 10K 1/6W J
R903	4050110255	RK 1K 1/6W J
R905	4050168355	RK 68K 1/6W J
R907	4050133355	RK 33K 1/6W J
R909,911	4050110155	RK 100 1/6W J
R913,915	4050133255	RK 3.3K 1/6W J
R917,919	4270210955	RSS 1 1/2W J
C901	5154472225	CE 4700u 25V M
C903	5153470216	CE 47u 16V M
C905	5153100250	CE 10u 50V M
C907	5091101513	CPL 100p 100V J
C909,911	5153101216	CE 100u 16V M
C913,915	5153221216	CE 220u 16V M
C917,919	5116473511	CM 0.047u 100V J
CN903(1&2) (T.UP)	MU41031517	CC 0.01u 50V K* (for KR/MA/CH/HK/UK/EP)
CN903 (3&4) (T.UP)	0B43130Y	CC 120p 50V (CH) (for KR/MA/CH/HK/UK/EP)

Connector P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C048276420	Connector P.C.B. Ass'y
	4148276420	Connector P.C.B.
CN905	4490201002	EH 2P Top Base
	2000000478	Terminal Pin "K"

TR. P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C042276520	TR. P.C.B. Ass'y
	4142276520	TR. P.C.B.
Q301	0B12808A	TR 2SD1897

DC Out P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	C148276450	DC Out P.C.B. Ass'y
	4148276450	DC Out P.C.B.
R701	4050122355	RK 22K 1/6W J
C705,706	5154472325	CE 4700u 25V M
CN706(+)-CN606(4) (T.UP)	4159ICPN25	IC ICP-N25-T104 (for KR/MA/CH/HK)

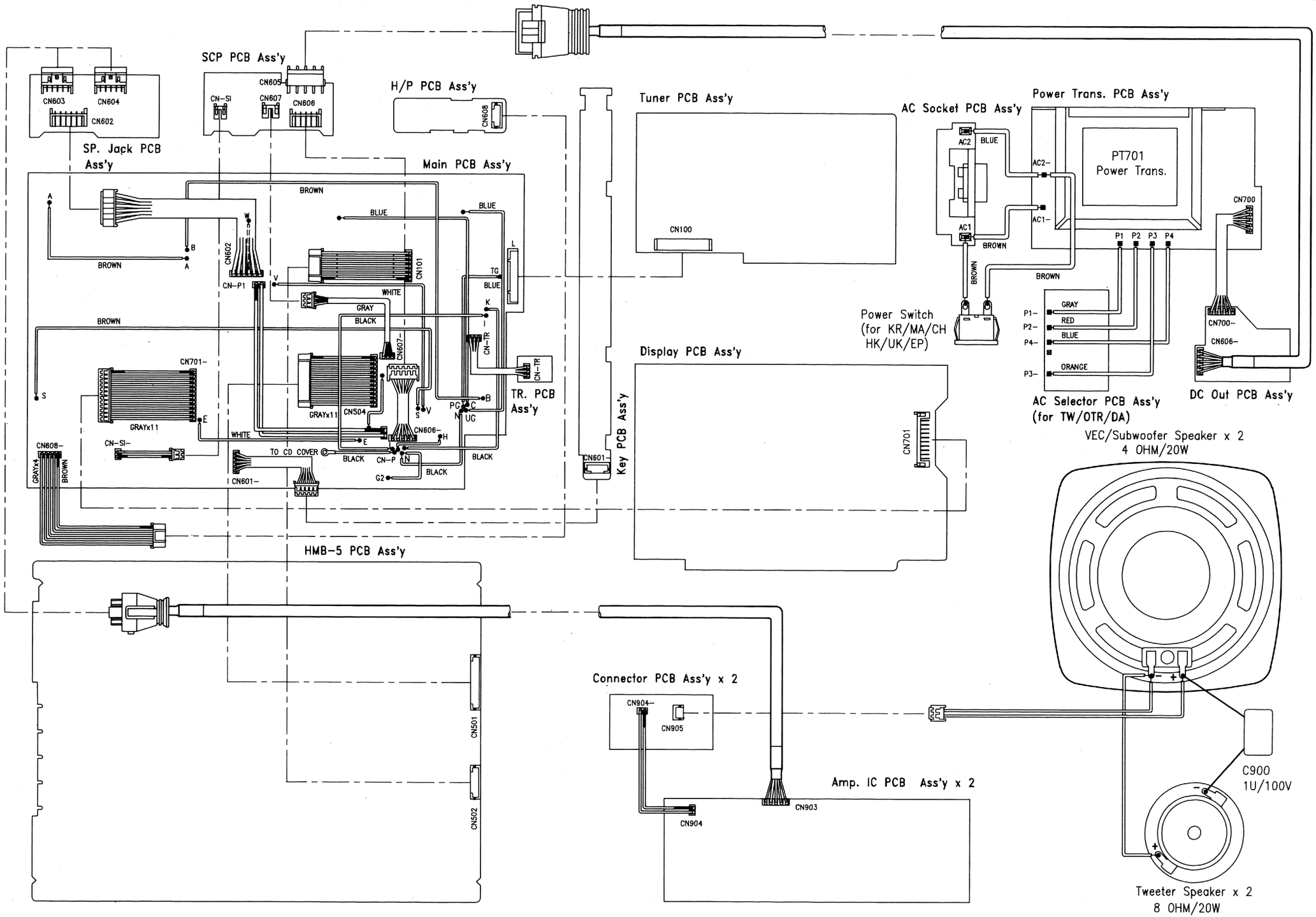
AC Selector P.C.B. Ass'y (for TW/OTR/DA)

Schematic Ref. No.	Part No.	Description
	C048278660	AC Selector P.C.B. Ass'y
	4148278660	AC Selector P.C.B.
S001	4410206199	Slide Switch L21-22A2

Traverse P.C.B. Ass'y V619

Schematic Ref. No.	Part No.	Description
	C0BA09777A	Traverse P.C.B. Ass'y V619
	0B61296A	Traverse P.C.B. V384
CN102	4490800301	Molex-SMT 8P Side Base
PC201	4120GP1S93	Photo Interlapt GP1S93 SHARP

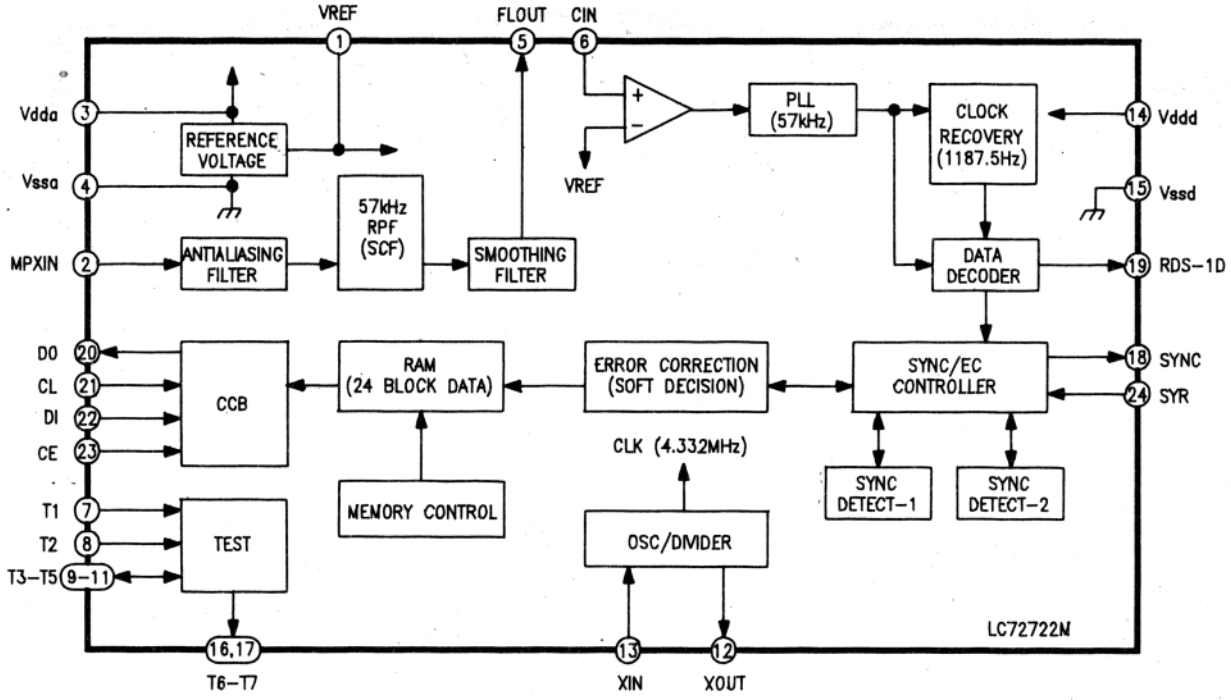
6. WIRING DIAGRAM



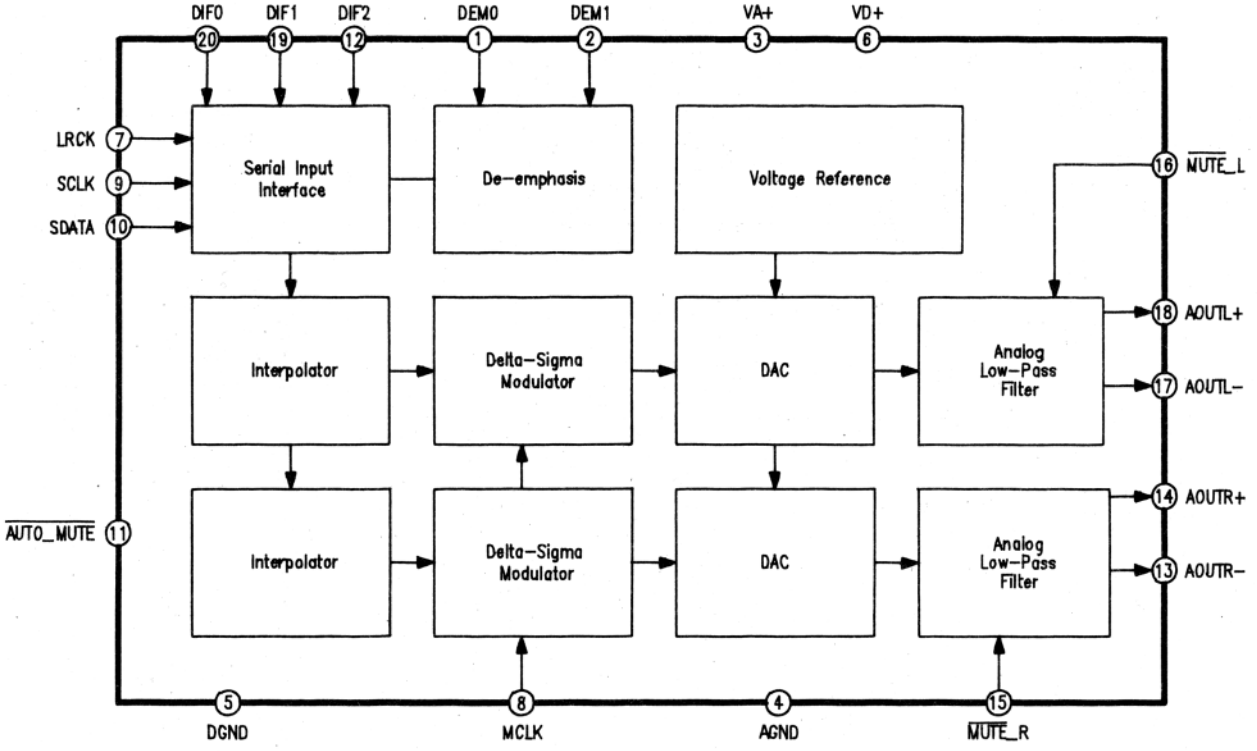
7. IC BLOCK DIAGRAMS

U502 UPD78P016FGC

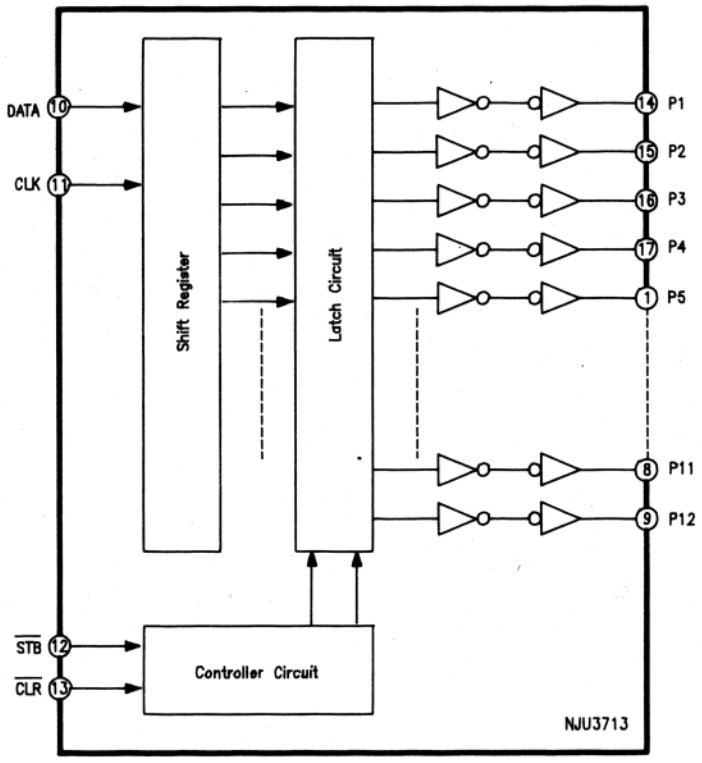
Pin No.	Pin Name	Signal Name	I/O	Function
1	P30/TO0	ACC CONT	OUT	CD changer standard control output
2	P31/TO1	DSPSEL	OUT	CD changer digital signal process
3	P32/TO2	T.EN	OUT	PLL encode
4	P33/TI1	ADREF-	OUT	A/D +5V ON/OFF output
5	P34/TI2	PON	OUT	Amp. power control output
6	P35/PCL	MD/AUX-	OUT	MD/AUX audio signal select
7	P36/BUZ		OUT	
8	P37	MUTE-	OUT	Mute output
9	VSS		PWR	
10	P40/AD0		IN	
11	P41/AD1		IN	
12	P42/AD2		IN	
13	P43/AD3	RDSID	IN	RDS ID input
14	P44/AD4	SYNC	IN	RDS sync. input
15	P45/AD5	H.PIN	IN	Headphone switch input
16	P46/AD6	SD-	IN	Tuner-SD input
17	P47/AD7	ST-	IN	Tuner-Stereo input
18	P50/A8	ILL-BLU	OUT	Key-ILL. control (Blue)
19	P51/A9	ILL-GRN	OUT	Key-ILL. control (Green)
20	P52/A10	L.KEY	OUT	Key-ILL. power control
21	P53/A11	L.STBY-	OUT	POFF LED control output
22	P54/A12	LEDSTB	OUT	LED IC start-up output
23	P55/A13	BLUE	OUT	LED control output
24	VSS	VSS		
25	P56/A14		OUT	
26	P57/A15		OUT	
27	P60	TAPE	OUT	Tape select output
28	P61	MD-	OUT	MD select output
29	P62	STBY	OUT	Stand-By output
30	P63	CDC	OUT	CDC select output
31	P64/RD-	TCE	OUT	PLL IC chip enable output
32	P65/WR-	RDSCE	OUT	RDS IC chip enable output
33	P66/WAIT-		OUT	
34	P67/ASTB		OUT	
35	RESET-			
36	P00/INTP0/TI0	REM IN	IN	Remote control signal input
37	P01/INTP1	P.OFF-	IN	Power off input
38	P02/INTP2		OUT	
39	P03/INTP3		OUT	
40	VDD		PWR	
41	X2			
42	X1			
43	VPP		PWR	
44	XT2			
45	P04/XT1		IN	
46	AVSS		PWR	
47	P10/ANI0	KI0	IN	Key input analog signal
48	P11/ANI1	KI1	IN	Key input analog signal
49	P12/ANI2	AREA	IN	Area input
50	P13/ANI3	MODEL	IN	Model input
51	P14/ANI4		OUT	
52	P15/ANI5	INH-	OUT	LCD and LED indicator output
53	P16/ANI6	LCE	OUT	LCD driver chip enable output
54	P17/ANI7	VRCE	OUT	Volume IC chip enable output
55	AVDD		PWR	
56	AVREF		PWR	
57	P20-SI1	DATAI	IN	PLL IC chip enable input
58	P21/SO1	DATAO	OUT	PLL/LCD/Volume/LED IC serial data output
59	P22/SCK1	CLK	OUT	PLL/LCD/Volume/LED IC serial clock output
60	P23/STB	DATA OUT	OUT	CD changer serial data output
61	P24/BUSY	CLK OUT	OUT	CD changer serial clock output
62	P25/SI0/SB0	DATA IN	IN	CD changer data input
63	P26/SO0/SB1		OUT	
64	P27/SCK0-	CLK IN	IN	CD changer clock input



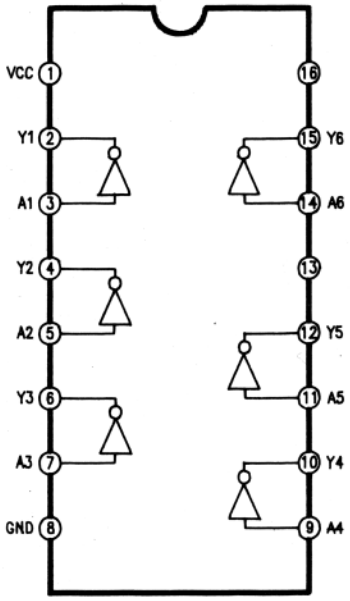
U503 LC72722M RDS Decorder (for UK/EP)



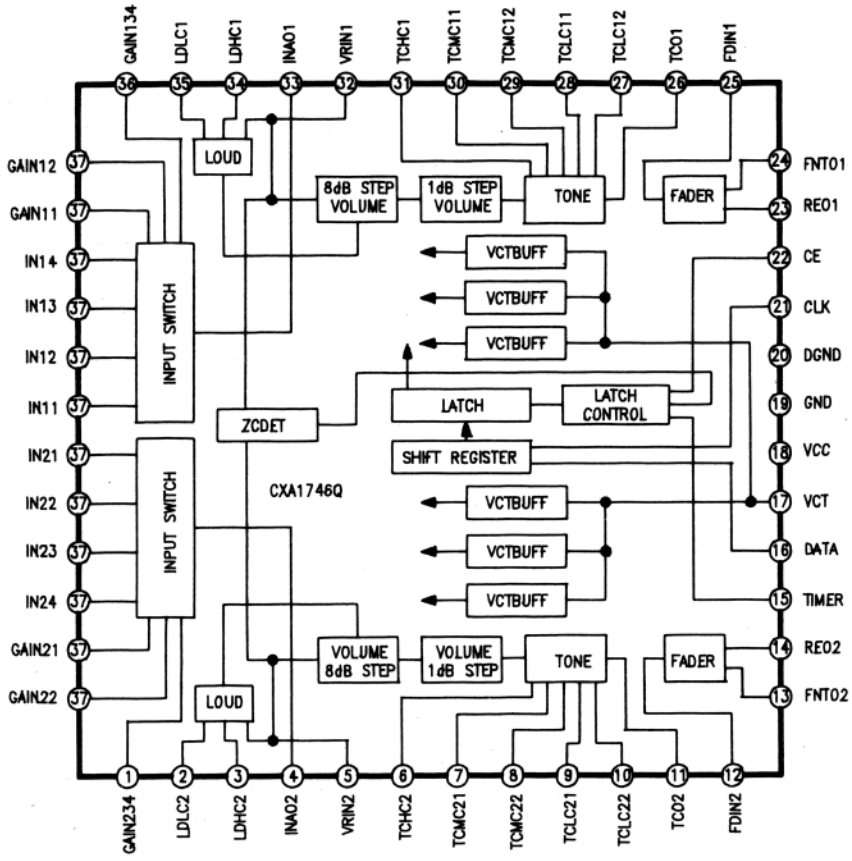
U101 CS4329 D/A Converter



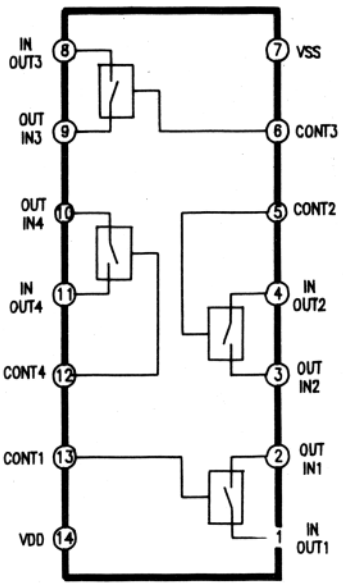
U702 NJU3713G E8-L Expender IC



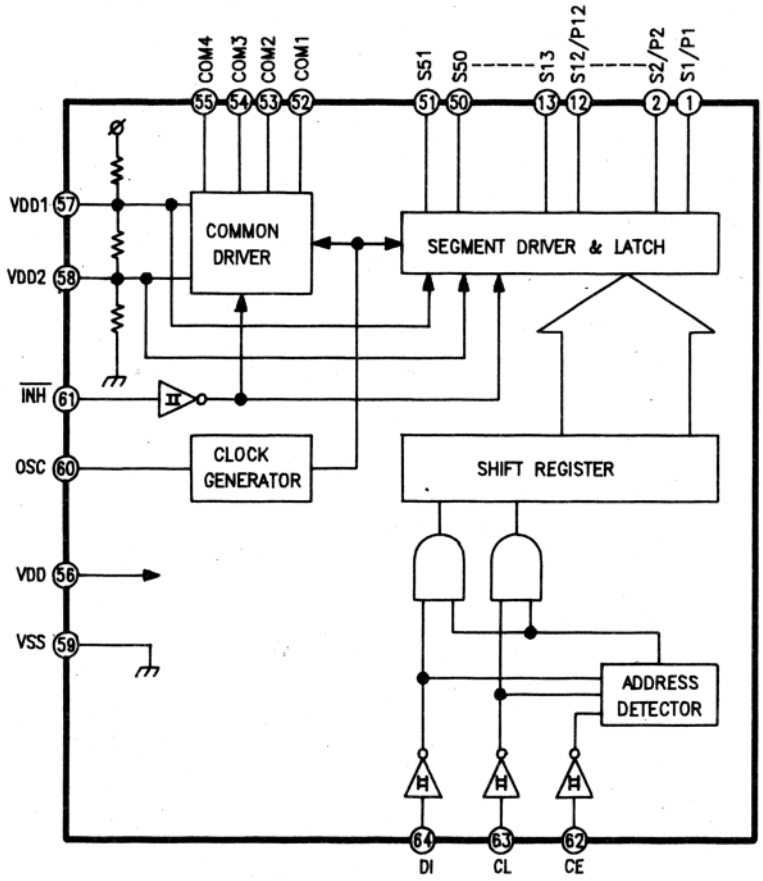
U502 TC4049BF Inverter

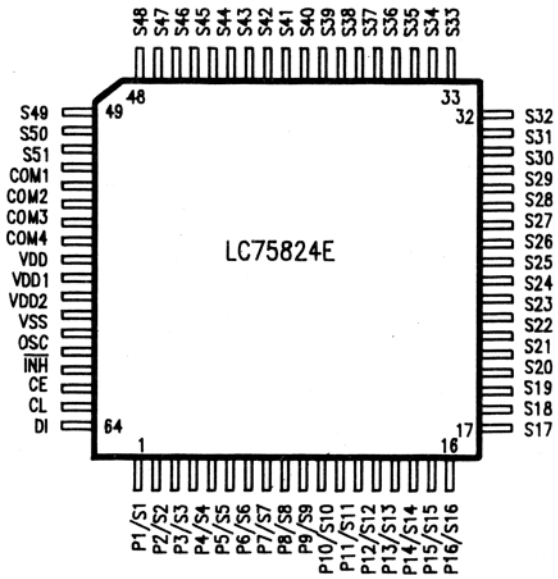


U303 CXA 1746Q Function/Volume/Tone IC

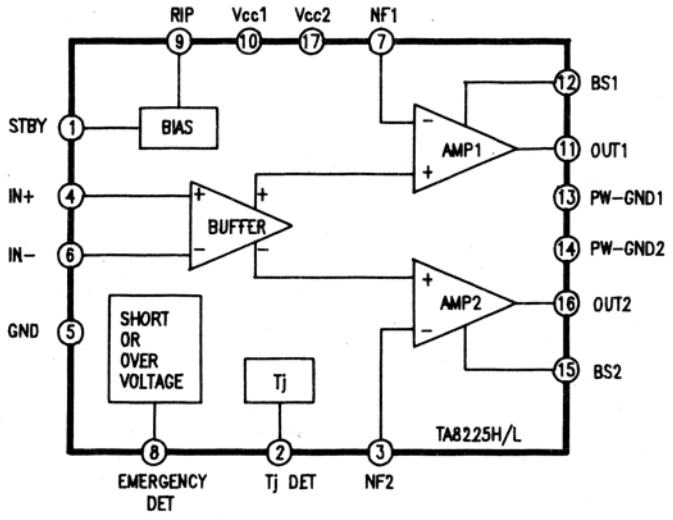


U305 TC4066BF
U504 TC4066BF
(for UK/EP)
Switch IC

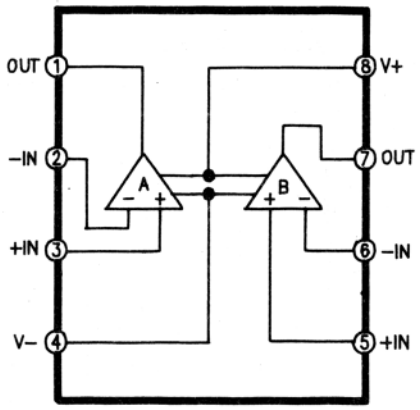




U701 LC75824E LCD Display Driver

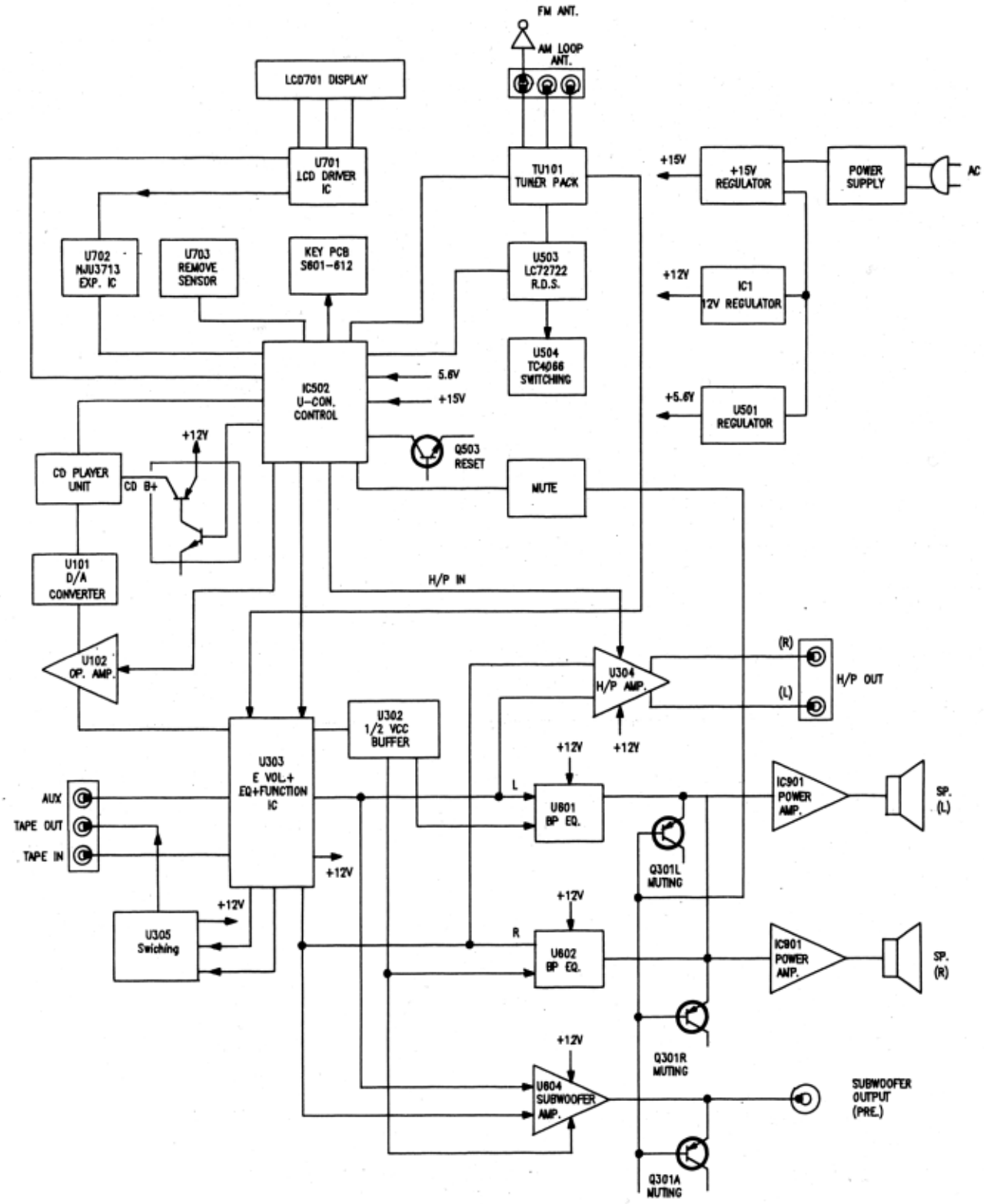


IC901 TA8225H Power Amplifier



U102/601/602 NJM2114M
U180 NJM2100M
U302/604 NJM4558M
U304 NJM4556AM
O/P Amplifier

8. BLOCK DIAGRAM



9. SPECIFICATIONS

[Main Unit]

Control Amplifier Section

Inputs.....2 (Tape,Aux)
Outputs.....1 Channel (Subwoofer)
Recording Outputs.....1 (Tape)
Input Sensitivity/Impedance.....250 mV/33 kohm

Rated Output Level/Impedance
  Line Output .....500 mV/1 kohm
  Recording Output .....250 mV/1 kohm
  Headphone Output.....40 mW/40 ohm

Total Harmonic Distortion.....
.....Less than 0.04% (20 - 20,000 Hz)
Frequency Response .....10 - 50,000 Hz + 0,-3 dB
Signal-to-Noise Ratio.....
.....Better than 80 dB (A-WTD, input shorted)
Channel Separation .....
.....Better than 55 dB (1 kHz, input shorted)

Tone Controls
  Bass.....20 Hz ± 10 dB
  Mid.....1 kHz ± 10 dB
  Treble.....20 kHz ± 10 dB
Loudness.....100 Hz + 7 dB, 10 kHz + 5 dB

Power Amplifier Section

Continuous Sine Wave Power Output.....
.....15 W x 2 (1 kHz, 1% THD)
Maximum Power Output.....18 W x 2
Total Harmonic Distortion.....Less than 0.1% (1 W)

AM Tuner Section
(Modulation: 400 Hz, 30%)

Frequency Range
  U.S.A./Canada.....522 - 1,629 kHz in 9-kHz steps
  Other Area.....530 - 1,710 kHz in 10-kHz steps
  or 531 - 1,602 kHz in 9-kHz steps
Sensitivity.....55 dBu/m
Signal-to-Noise Ratio...Better than 50 dB at 90 dBu/m
Total Harmonic Distortion....Less than 1% at 90 dBu/m

FM Tuner Section
- All RF levels in microvolts given re 75-ohm antenna input.
- Modulation: Mono 100%, Stereo Pilot: 10%, Stereo Audio Signal: 90%

Frequency Range
  U.S.A./Canada.....76.0 - 90.0 MHz in 100-kHz steps
  Other Area.....87.5 - 108.0 MHz in 50-kHz steps
IHF Usable Sensitivity....14 dBf / 2.7 uV (Mono, IHF)
50-dB Quieting Sensitivity.....22 dBf /6.9uV (Mono)
Signal-to-Noise Ratio.....
.....Mono: Better than 72 dB at 65 dBf
.....Stereo: Better than 68 dB at 65 dBf
Frequency Response.....30 - 15,000 Hz + 1,-3 dB
Total Harmonic Distortion.....
.....Mono: Less than 0.4% (1 kHz)
.....Stereo: Less than 0.6% (1 kHz)
Stereo Separation.....Better than 30 dB (1 kHz)

CD Player Section

System.....Compact Disc digital Audio
Signal Readout.....Optical (semiconductor laser)
Error Correction.....CIRC Principle
Number of Channels.....2 Channels, Stereo
D/A Converter type.....20-bit Dual D/A Converters
with 8-times oversampling digital filter
Sampling Frequency.....44.1 kHz
Quantization.....16-bit linear
Disc Rotational Velocity.....Approx. 200 to 500 rpm
(constant linear velocity)
Wow-and-Flutter.....Below measurement limit
Frequency Response.....5 - 20,000 Hz ± 0.5 dB
Total Harmonic Distortion.....
.....0.005% or less (1 kHz, 0 dB)
Signal-to-Noise Ratio...Better than 95 dB (IHF A-WTD)
Dynamic Range.....Better than 95 dB
Channel Separation.....Better than 90 dB
Optical Digital Output.....660 nm, -18 dBm

[Speaker Unit]

Enclosure.....2-way bass reflex type
Speaker Unit
  Midrange/Woofer.....
  .....10 cm (1 - 15/16 inches) round cone x2
  Tweeter.....2.5 cm (1 inch) semi dome
Impedance.....4 ohms
Rated Power Handling.....10 W
Maximum Power Handling.....20 W

[Remote Control Unit]

Principle.....Infrared pulse system
Power Supply.....DC 3 V (1.5 V x2)
Dimensions*

Main Remote Control.....55(W) x 19(H) x 182(D) mm
2-3/16(W) x 3/4(H) x 7-3/16(D) inches
Sub Remote Control.....49(W) x 26(H) x 110(D) mm
1-15/16(W) x 1(H) x 4-5/16(D) inches

Mass

Main Remote Control.....
Approx. 100g / 4oz. (including batteries)
Sub Remote Control.....
Approx. 60g / 2oz. (including batteries)

[General]

Power Source .....AC 100V, 50/60 Hz
AC 110 - 120V or AC 220 -240V,
50/60 Hz (According to country of sale)
Power Consumption.....95 W max.
Dimensions*
Main Unit.....220(W) x 270(H) x 94(D) mm
8-11/16(W) x 10-5/8(H) x 3-11/16(D) inches
Speaker Unit.....220(W) x 270(H) x 95(D) mm
8-11/16(W) x 10-5/8(H) x 3-3/4(D) inches
Power Supply Unit.....100(W) x 88(H) x 160(D) mm
3-15/16(W) x 3-7/16(H) x 6-5/16(D) inches

Mass

Main Unit.....Approx. 3.0kg, 6 lbs. 10oz.
Speaker Unit.....Approx. 1.8kg, 3 lbs. 15oz.
Power Supply Unit.....Approx. 2.1kg, 4 lbs. 10oz.
Supplied Accessories.....Power supply cable x 1
AM loop antenna x 1
Dipole antenna x 1
Antenna adaptor x 1
IEC R03 (side AAA) battery x 4
Rubber feet x 6
Tapping screw (M5.5x16) x 6
Speaker grill (navy blue) x 2
Speaker grill (greem) x 2

* Dimensions do not include protruding parts. Height is the panel heigt.
- Specifications and design are subject to change for further improvement without notice.
- MusicBank is registered trademark of Nakamichi Corporation.

Nakamichi Corporation	1-153 Suzukicho, Kodaira, Tokyo 187-8501, Japan Phone: 81(42)346-3103 Fax: 81(42)344-0802
Nakamichi America	955 Francisco St., Torrance, CA 90502 Phone: 1(310)538-8150 Fax: 1(310)324-7614
Nakamichi Canada	276 S.W. Marine Drive, Vancouver, B.C. V5X 2R4, Canada Phone: 1(604)324-7535 Fax: 1(604)324-7919
Nakamichi Asia	8/F The Grande Bldg., 398 Kwun Tong Rd., Kowloon, Hong Kong Phone: 852(2357)6690 Fax: 852(2357)6697
Nakamichi Europe	Berkshire House, 56, Herschel Street, Slough, Berkshire SL1 1PY, England Phone: 44(1753)577 345 Fax: 44(1753)550 211
Web Site	http://www.nakamichi.com

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