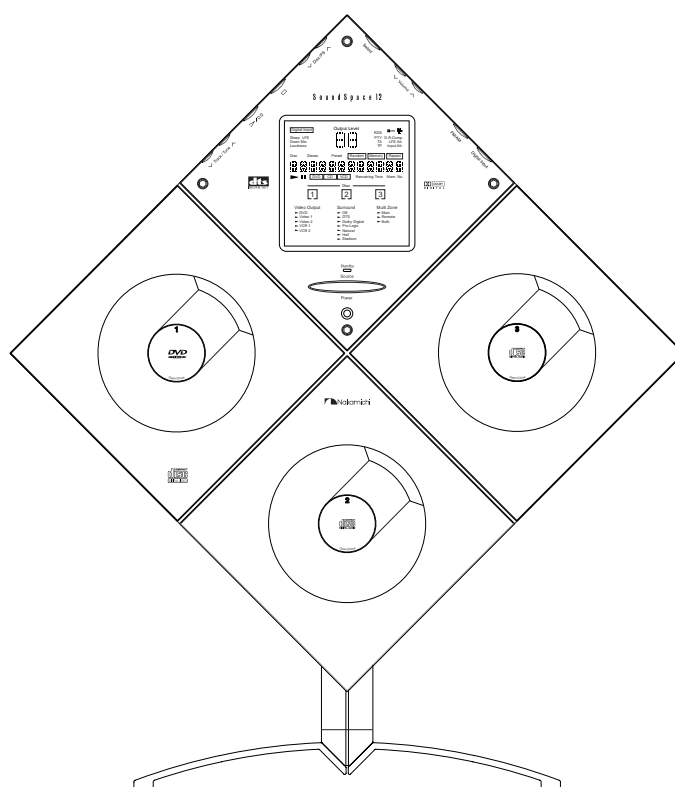


Service Manual

Home Theater System

SoundSpace 12



 Nakamichi

GENERAL

1.1. Product Code

D211

Abbreviations for Destinations:

CAN	—	Canada	CH	—	China
DA	—	South America			
EP	—	Europe	HK	—	Hong Kong
JPN	—	Japan	KR	—	Korea
OTR	—	Other	TW	—	Taiwan
UK	—	United Kingdom			
USA	—	U.S.A.	AUS	—	Australia

1.2. System Configuration

The SoundSpace consists of the following units.

- **Main Unit** (See pages 1-1, 1-2, ... in this manual)
Controls entire of the System. Mainly consists of the following sections:
 - Control section (including the system control microprocessor)
 - Operation panel control section
 - DVD player section (including the mechanism control microprocessor)
 - CD player section (including the mechanism control microprocessor)-- 2 identical CD player sections (Interchangeable with each other except for the Door Cap Ass'y on which the disc number is written.)
- **A/V Tuner/Processor Unit**
(See pages 2-1, 2-2, ... in this manual)
Mainly consists of the followings:
 - Tuner section
 - Audio/video signal processing section
 - Audio/video amp. section
 - Power supply section
- **Subwoofer L/R Unit**
(See pages 3-1, 3-2, ... in this manual)
 - Power amp. section
 - Power supply section
- **Satellite Speakers**
(See pages 4-1, 4-2, ... in this manual)
 - Front L and R speakers
 - Rear L and R speakers
 - Center speaker
- **Main Remote Control/Sub Remote Control**
- **For Specifications**, see pages SPEC1, SPEC2.. in this manual.

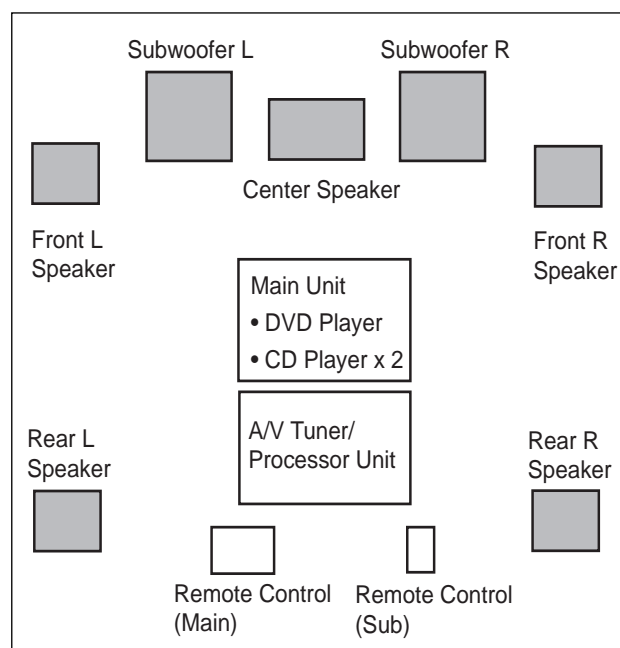



Fig. 1.1 SS-12 System Configuration

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** on the Changer.

(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 Player must be adjusted and repaired only by qualified service personnel.

OBSERVERA!

Sådana inställningar av rattarna, omkopplarna eller övriga kontrollknappar som inte är beskrivna i bruksanvisningen kan resultera i farlig laserutstrålning. Justering eller reparation av denna kompaktskivspelare skall endast utföras av kvalificerad servicepersonal.

OBS!

Indstilling af knapper, cmskiftere og øvrige kontrolknapper, som ikke følger den i brugsanvisningen beskrevne måde, kan resultere i farlig laserudstråling. Justering eller reparation af denne CD-afspiller må kun udføres af kvalificeret servicepersonale.

OBS!

Justering av ratt, brytare og kontroller andre enn de som er beskrevet her, kan resultere i farlig laserbestråling. Justering eller reparasjon av denne kompaktdiskspilleren må bare utføres av kvalifiserte fagfolk.

HUOMAUTUS

Jos nuppeja, kytkimiä ja säätimiä ym, säädetään tai laitetta käytetään toisella tavalla kuin on selostettu, tuloksena saat-
taa olla vaarallista lasersäteiden vuotoa. CD-soittimen säätö ja korjaus on jätettävä aina asiantuntevan huoltoteknikon tehtäväksi.

ADVERSEL: USYNLIG LASERSTRÅLING VED ÅBNING.
UNDGÅ UDSAETTELSE FOR STRÅLING.

VARO!: AVATTAESSA OLET ALTTIINA
NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.
ÄLÄ KATSO SÄTEESEEN.

VARNING — OSYNLIG LASERSTRÅLNING NAR
DENNA DEL ÄR ÖPPNAD. BETRAKTA
EJ STRÅLEN.

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. Caution for handling the Laser Pickup**1.4.1. For CD Player**

In case of repair or replacement of the Laser Pickup for CD Player, 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. 1.2.1.

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.

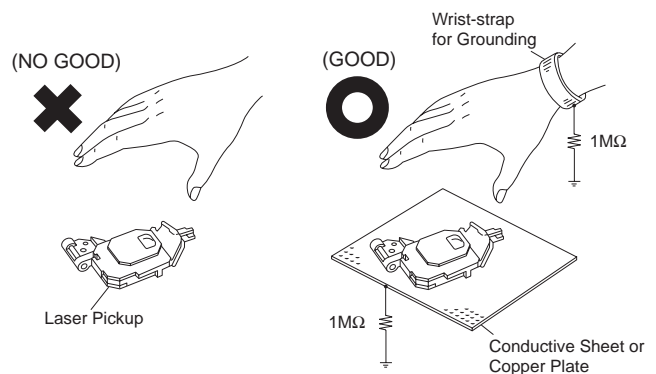


Fig. 1.2.1 Pickup Handling for CD Player

1.4.2. For DVD Player

[Electric Influence because of the impressed electric-ity]

Laser pickup of DVD player is more weak and sensitive than CD player's one, and it is possible to damage the pickup under the specific electrical environment, such as impressed or leaked electricity including the static electric-ity. The electricity, impressed during modification for zone coding, updating the micro processor and so forth, may in-fluence the laser pickup.

Prevention of Impressed Electricity

● In general

It is very difficult to specify why and how the static elec-tricity is impressed. It is considerable to be thoroughly for grounding the working bench and fastening the anti-static electricity wrist band, besides the daily manage-ment of isolating resistor of soldering iron and leaked current in the working room.

Unfortunately, it is impossible for us, even as the sup-plier, to assure all these conditions at any distributor or subsidiary that is not identical to the situation in the manu-facturing site. Consequently, we don't recommend any modification for zone coding, that can be a negative fac-tor against the quality assurance, and consider that the pickup failure of any modified unit for zone code shall be out of warranty.

● How to prevent or discharge the impressed electric-ity

Please refer to the following items.

1) Grounding

When you repair a laser pickup, first ground the hu-man body, as well as the measuring instruments and other tools (with particular caution to soldering iron). What's more, your workbench and floor should des-irably be grounded using conductive sheet or cop-per plate. Be careful so as not to let your clothes touch the laser pickup, as static electricity on the clothes may 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.) be-fore starting work by contacting them with the DVD player's chassis. Besides, never touch the laser pickup while power is applied.

3) Soldering iron

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 of power application is 10 M-ohm or more at 500 VDC. Soldering should be completed promptly, at a soldering iron temperature of 320°C ideally. (39W). A soldering iron hearted above this temperature can break down the laser di-ode.

Condition of Soldering Iron

Type	Output Wattage	Tip Temperature	Isolated Resistance	Leaked Current
For IC or LSI	13 — 18W	300±40°C	≥100MΩ	≤1.0μA
For Elec. Part	23 — 30W	360±40°C	≥50MΩ	≤2.0μA

Note: A precise digital tester is needed to measure the leaked current.

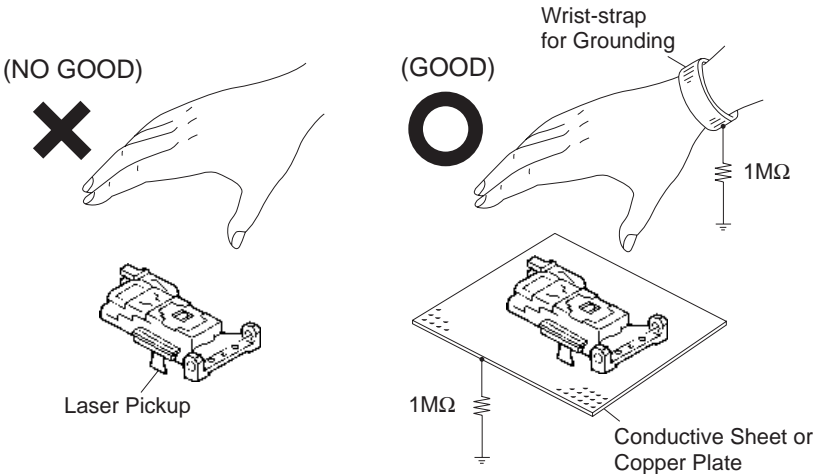


Fig. 1.2.2 Pickup Handling for DVD Player

1.5. Package Ass'y and Accessory Ass'y
(1) Main Unit

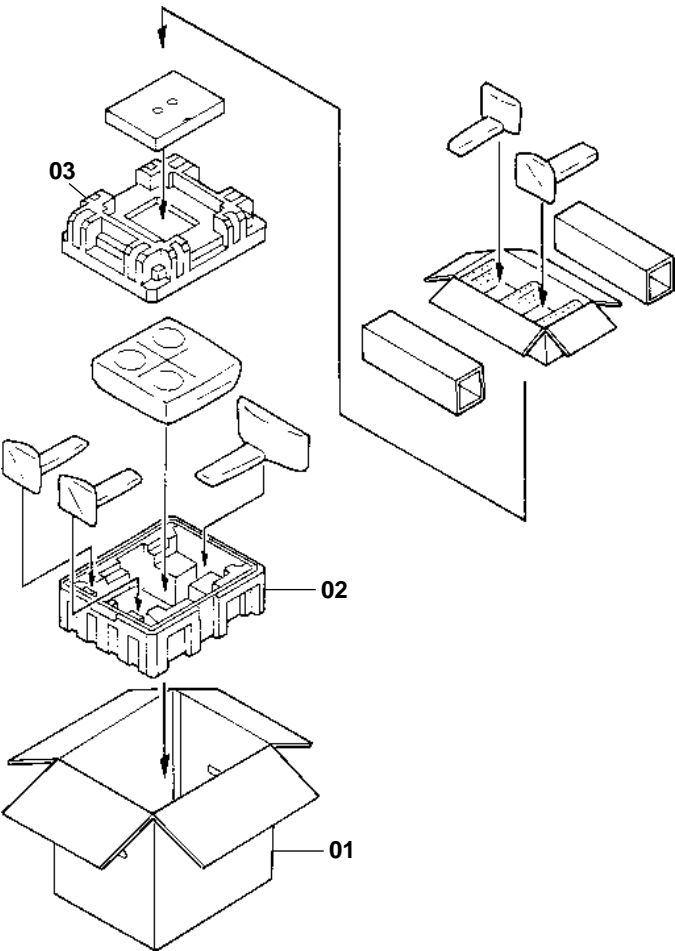


Fig. 1.3

Schematic Ref. No.	Part No.	Description	Q'ty
	—	Package and Accessory Ass'y (Main Unit)	
01	0F05637B	Carton Box	1
02	0F05630A	Packing Bottom Center	1
03	0F05629A	Packing Top Center	1
—	0F05631A	Accessory Box	1
—	0F05689A	Soft Sheet D Top A	1
—	0F05690A	Soft Sheet D Top B	4
—	0F05692A	Soft Bag Center	1
—	0F05693A	Soft Bag Stand Top	5
—	0F05727A	SP Stand Box	1
—	0F05728A	SP Stand Holder	1
—	0F05729A	SP Stand Parting	2
—	0D03092B	Poly Bag	1
—	0D07294A	Template Speaker	1
—	0D07295A	Template Bracket	1
—	0D07377A	Owner's Manual (Japanese)	1
—	0D07378A	Owner's Manual (English)	1
—	0D07469A	Owner's Manual (French)	1
—	0D07470A	Owner's Manual (German)	1
—	0D07471A	Owner's Manual (Spanish)	1
—	0D07472A	Owner's Manual (Italian)	1
—	0D07500A	Template	1
—	0F03467A	Poly Bag	1
—	0H08750A	Cable Holder	1
—	0H09008E	Stand Holder Cover Center	1
—	0H09012A	Stand Pole Cover L67	1
—	0H09013A	Stand Pole Cover L82	4
—	0H09031A	Base Cover Center	1
—	0J08862A	Pole Cover Cushion	1
—	DA05649A	Screw Ass'y S371	1
—	DA05650A	Spacer Ass'y S371	1
—	DA05654A	Screw Ass'y Center	1

(2) A/V Tuner/Processor Unit

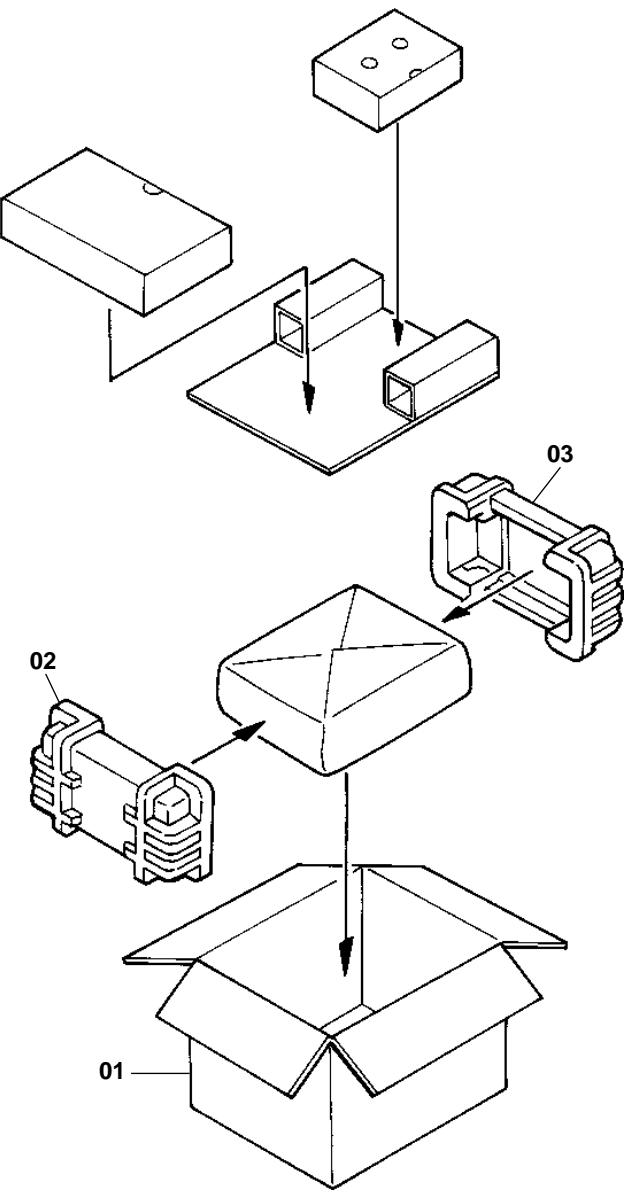


Fig. 1.4

Schematic Ref. No.	Part No.	Description	Q'ty
	—	Package and Accessory Ass'y (A/V Tuner/Processor Unit)	
01	0F05632A	Carton Box	1
02	0F05551A	Packing L	1
03	0F05552A	Packing R	1
—	0F04458A	Sheet	1
—	0F05489A	Accessory Box	1
—	0F05533A	Remote Box	1
—	0F05534A	Remote Box Spacer A	1
—	0F05535A	Remote Box Spacer B	1
—	0F05536A	Soft Bag Remote	1
—	0B85373A	3.5 Plug Cable	2
—	0B85375A	3P RCA Cable	1
—	0B85376A	4P RCA Cable	1
—	0B85377A	Digital Cable	1
—	0B85379A	S Video Cable	1
—	0B85381A	13P DIN Cable 5m L	1
—	0B85383A	13P DIN Cable 5m S	1
—	0B90462A	Battery UM4x1	2
—	0B90683A	Battery	6
—	0B90818A	AM Loop Antenna Ass'y	1
—	0B90819A	FM Indoor Antenna	1
—	0B90820A	Antenna Adaptor	1
—	0D07105A	Speaker Cable	3
—	0D07233A	Speaker Cable 15m	2
—	0D07238A	AC Cord UL (USA, CAN)	3
—	0D07239A	AC Cord EP (EP)	3
—	0D07240A	AC Cord DA/DU (OTR, DA, TW)	3
—	0D07241A	AC Cord DM (JPN)	3
—	0D07242A	AC Cord BS/HK (UK, HK)	3
—	0D07243A	AC Cord CH (CH)	3
—	0D07244A	AC Cord KR (KR)	3
—	0D07245A	AC Cord SA (AUS)	3
—	0F03469A	Poly Bag #10	1
—	0F04157A	Poly Bag #3	1
—	0H08216A	CD Single Adaptor (JPN)	1
—	DG05310A	Remote Control Sub Ass'y SS-5	1
—	HA08472A	Main Remote Control Ass'y	1

(3) Subwoofer and Satellite/Center Speakers

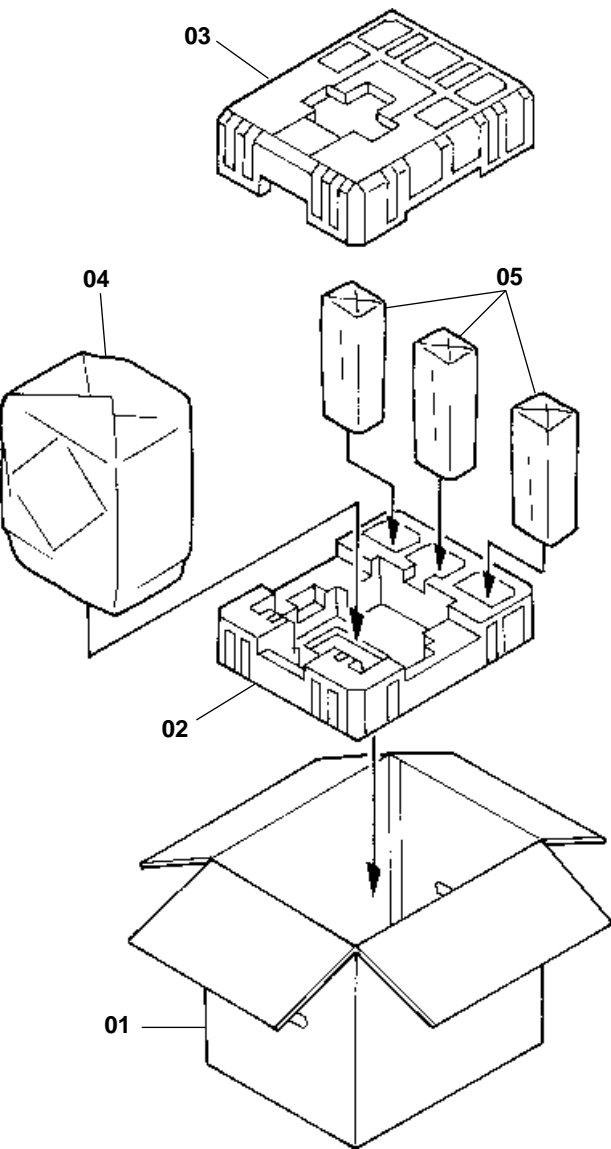


Fig. 1.5

Schematic Ref. No.	Part No.	Description	Q'ty
	—	Package and Accessory Ass'y (Subwoofer and Satellite/Center Speakers)	
01	0F05695A	Carton Box	1
02	0F05703A	Packing Bottom Sub Woofer	1
03	0F05702A	Packing Top Sub Woofer	1
04	0F05691A	Soft Sheet Sub Woofer	1
05	0F05541A	Soft Bag Satellite	3

(4) Subwoofer and Satellite Speakers

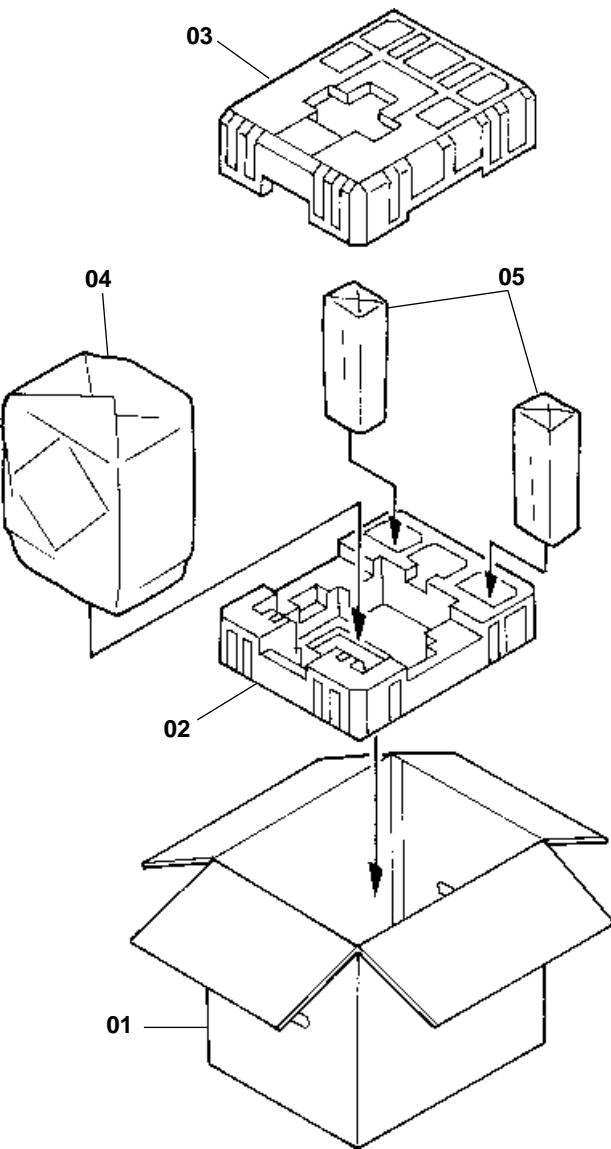


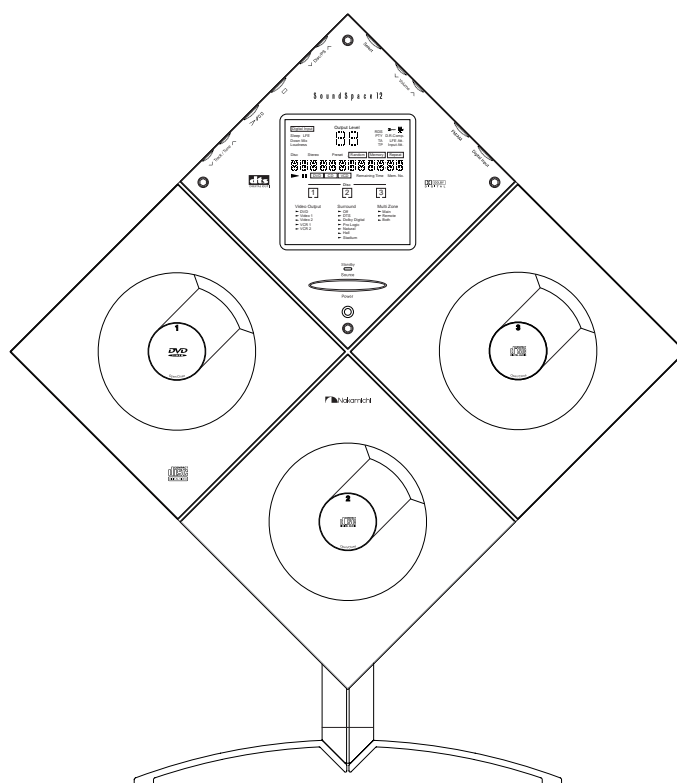
Fig. 1.6

Schematic Ref. No.	Part No.	Description	Q'ty
	—	Package and Accessory Ass'y (Subwoofer and Satellite Speakers)	
01	0F05696A	Carton Box	1
02	0F05703A	Packing Bottom Sub Woofer	1
03	0F05702A	Packing Top Sub Woofer	1
04	0F05691A	Soft Sheet Sub Woofer	1
05	0F05541A	Soft Bag Satellite	2
—	2J00218B	Bracket Wall A	1
—	2J00219C	Bracket Wall B	1

◀ To the cover page of this manual.

Main Unit

Main Unit Section



CONTENTS

1. REMOVAL PROCEDURES	1-3
1.1. Rear Cover	1-3
1.2. Main P.C.B. Ass'y	1-3
1.3. Mechanism CD2/3 Ass'y	1-3
1.4. Mechanism DVD Ass'y	1-4
1.5. Front P.C.B. Ass'y	1-4
1.6. Mechanism Chassis Block/Door Block	1-5
1.7. Disc Loading Ass'y	1-5
1.8. Laser Pickup/Sled Motor -- For Mechanism CD2/3 Ass'y	1-6
1.8.1. CD P.C.B. Ass'y and Traverse Mecha Ass'y	1-6
1.8.2. Laser Pickup	1-7
1.8.3. Sled Motor	1-7
1.9. Laser Pickup -- For Mechanism DVD Ass'y	1-8
1.9.1. DVD Traverse Block	1-8
1.9.2. Mechanism P.C.B. Ass'y and DVD Traverse Ass'y	1-8
1.9.3. Pickup	1-9
2. ELECTRICAL ADJUSTMENTS	1-11
2.1. Electrical Check for Mechanism CD2/3 Ass'y (CD Players)	1-11
2.1.1. Measurement Instruments and Jigs	1-11
2.1.2. Parts Location for Electrical Check	1-11
2.1.3. Electrical checks for CD Player	1-12
2.2. Electrical Check for Mechanism DVD Ass'y (DVD Player)	1-14
2.2.1. Measurement Instruments and Jigs	1-14
2.2.2. Parts Location for Adjustments	1-14
2.2.3. Adjustment Procedure	1-15
2.2.4. RAM Clear (System Controller & Mechanism Controller Clear)	1-18
3. MECHANISM ASS'Y AND PARTS LIST	1-19
3.1. Main Stand Ass'y	1-19
3.2. Synthesis (Main Unit)	1-20
3.3. Mechanism Ass'y (A01)	1-22
3.4. Mechanism Chassis Ass'y (B01)	1-26
3.5. Traverse Mecha Ass'y (B02)	1-28
3.6. Disc Loading Ass'y (B03)	1-30
4. ELECTRICAL PARTS LIST	1-32
4.1. Main P.C.B. Ass'y	1-32
4.2. Front P.C.B. Ass'y	1-33
4.3. CD P.C.B. Ass'y (For CD Player)	1-32
4.4. DVD Main P.C.B. Ass'y C3M1 (For DVD Player)	1-32
4.5. Mechanism P.C.B. Ass'y (For DVD Player)	1-33
4.6. Connector P.C.B. Ass'y (For DVD Player)	1-33
4.7. LED P.C.B. Ass'y	1-33
4.8. SEN LD1 P.C.B. Ass'y	1-33
4.9. SEN LD2 P.C.B. Ass'y	1-33
4.10. SEN UD P.C.B. Ass'y	1-33
4.11. Traverse P.C.B. Ass'y (For CD Player)	1-33
5. IC BLOCK DIAGRAMS	1-34
5.1. System Controller (U101 μ PD78F4225GC-8)-Main P.C.B. Ass'y	1-34
5.2. Mechanism Controller (U501 μ PD78018FGC)-CD P.C.B. Ass'y	1-36
5.3. Read channel (IC201 CYC12MP000 (LION))-DVD Main P.C.B. Ass'y	1-43
5.4. DVD Pre AMP (IC100 CYC11AP000)-DVD Main P.C.B. Ass'y	1-46
5.5. CPU/System control MI-COM (IC600 MB90F574)-DVD Main P.C.B. Ass'y	1-49
5.6. CD Signal Processor (IC490 MN66261)-DVD Main P.C.B. Ass'y	1-51
5.7. Servo Processing IC (IC300 MN67700)-DVD Main P.C.B. Ass'y	1-53
5.8. DVD Sync/ECC/Formatter (IC500 CYC13D000)-DVD Main P.C.B. Ass'y	1-55
5.9. Advanced DVD decoder with integrated Audio DSP (IC700 ZIVA-3)-DVD Main P.C.B. Ass'y	1-57
6. BLOCK DIAGRAMS	1-60
6.1. Main Unit (1/2)	1-60
6.2. Main Unit (2/2)	1-61

SPECIFICATIONS (See the end of this manual.)

SCHEMATIC DIAGRAMS (See the separate volume.)

1. REMOVAL PROCEDURES

NOTE: When parts required lubrication are replaced or reassembled, apply specified lubricant to the parts. For the parts which require lubrication, refer to 3. "MECHANISM ASS'Y AND PARTS LIST."

1.1. Rear Cover

Refer to Fig. 1.1

- (1) Remove F01 (Main Jack Cover) by pulling it out.
- (2) Remove screws F02 (ST3x8 + Binding (Black), 5 pcs.) and F03 (PT3x10 + Trass, 4 pcs.), and detach F04 (Rear Cover).

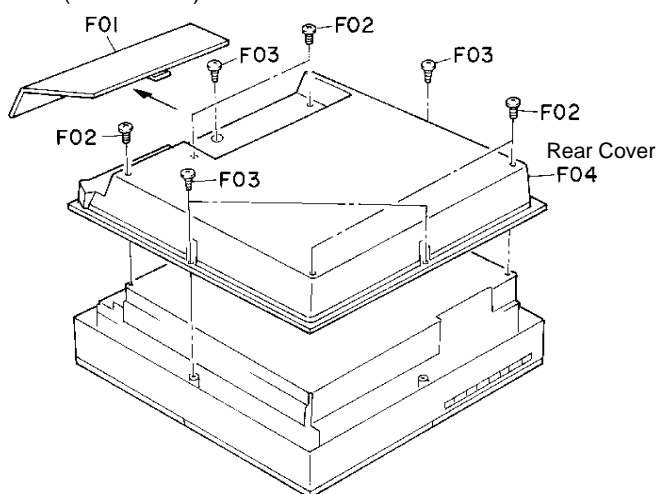


Fig. 1.1

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

Refer to Fig. 1.2.

- (1) Remove the Rear Cover. Refer to item 1.1.
- (2) Remove screws F01 (ST3x4 + Binding, 14 pcs.) and F02 (M3x6 + Binding (Black), 8 pcs.), and detach F03.
- (3) Disconnect all connectors (12 pcs.) from F07 (Main P.C.B. Ass'y).
- (4) Remove screws F04 (ST3 x 5 + Binding, 7 pcs.), F05 (ST3x4 + Binding (Black), 2 pcs.) and F06 (ST2.6x4 + Binding, 2 pcs.), and detach F07 (Main P.C.B. Ass'y).

Notes on reassembling:

- Securely connect the following connectors in place.
CP102, CP104, CP106: For Mechanism CD 2 Ass'y
CP103, CP105, CP107: For Mechanism CD 3 Ass'y

1.3. Mechanism CD2/3 Ass'y

Refer to Fig. 1.3.

- (1) Remove the Main P.C.B. Ass'y. Refer to item 1.2.
- (2) Remove screws F01 (M3x8 + Binding 2A (PW), 8 pcs.), F02 (8 pcs.) and F03 (8 pcs.).
- (3) Lift the Escutcheon Ass'y while removing the cables through the hole "B".
- (4) Remove F04 from F05 (Mechanism CD 2 Ass'y) and F06 (Mechanism CD 3 Ass'y).

Notes on reassembling:

- When assembling F06 (Mechanism CD 3 Ass'y), with the Mechanism CD 2 Ass'y not assembled yet, pass the cable of the Mechanism CD 3 Ass'y over the frame "A". Otherwise, you cannot assemble the Mechanism CD 3 Ass'y.
- Pass the cables of each Mechanism CD Ass'y through the hole "B" as shown in Fig. 1.3. Extend their cables approx. 10 cm from the hole "B" as shown in Fig. 1.2.

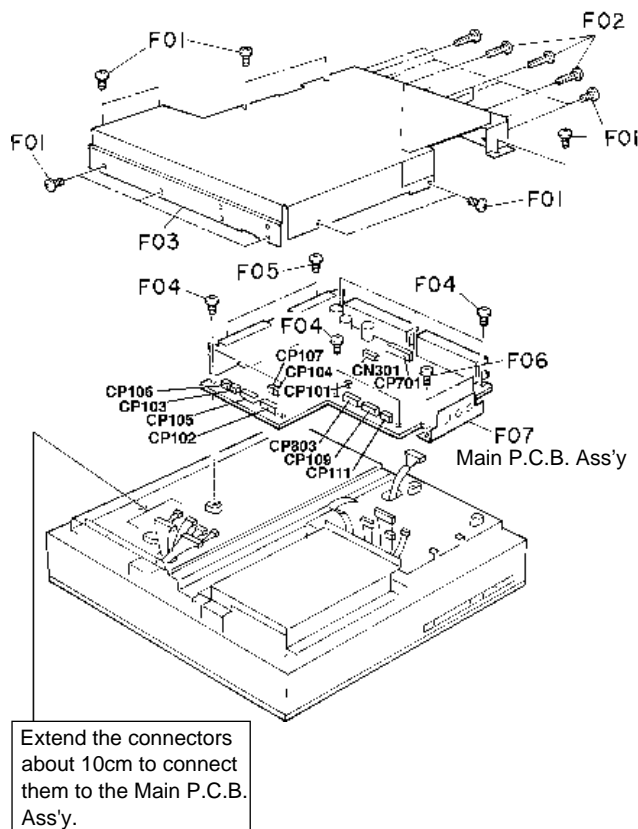


Fig. 1.2

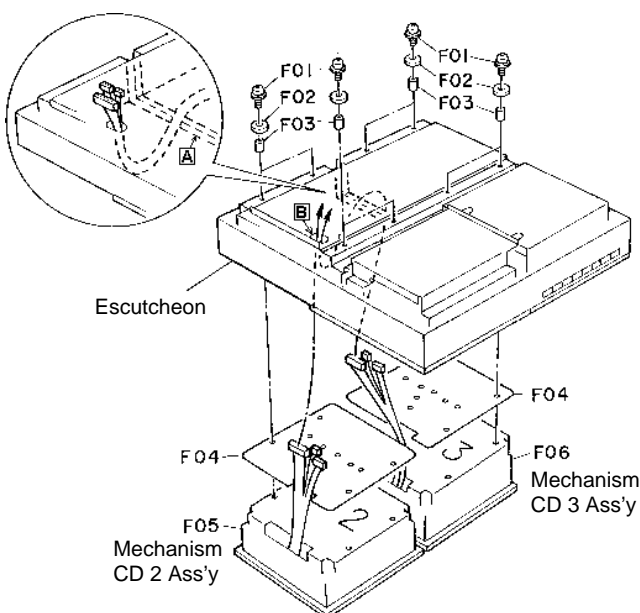


Fig. 1.3

1.4. Mechanism DVD Ass'y

Refer to Fig. 1.4.

- (1) Remove the Main P.C.B. Ass'y. Refer to item 1.2.
- (2) Remove screws F01 (PT3x8 + Binding, 5 pcs.) and, while removing the cable through the hole "C", detach F02.
- (3) Remove screws F03 (M3x8 + Binding 2A (PW), 4 pcs.), F04 (4 pcs.) and F05 (4 pcs.), and carefully detach F06 (Mechanism DVD Ass'y) from the Escutcheon Ass'y.

Note: Since part "D" is protruding, carefully detach F06 (Mechanism DVD Ass'y).

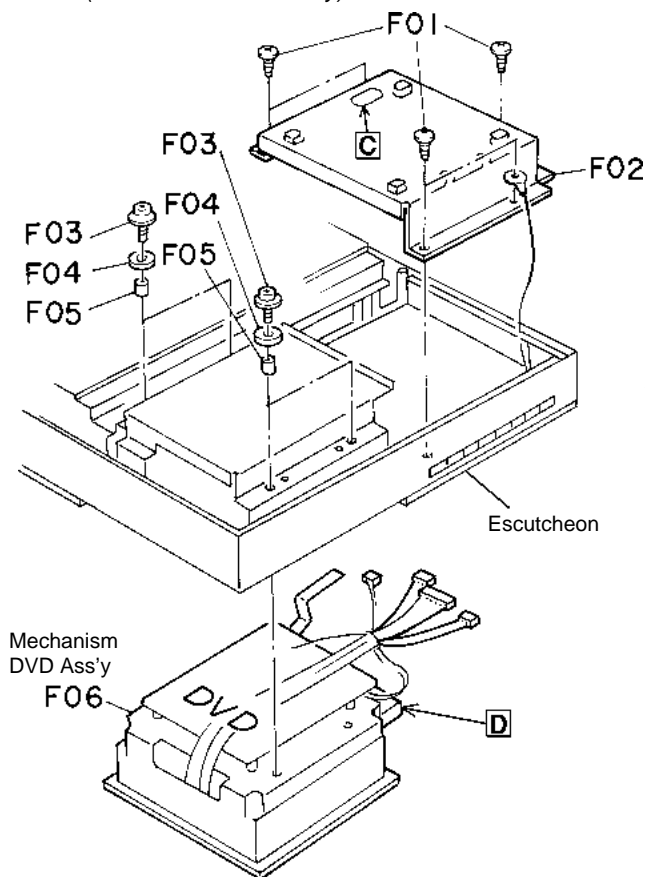


Fig. 1.4

1.5. Front P.C.B. Ass'y

Refer to Fig. 1.5.

- (1) Remove the Mechanism DVD Ass'y. Refer to item 1.4.
- (2) Remove screws F01 (BT2.6x6 + Flat Head, 2 pcs.) and F02 (PT2.6x8 + Flat Head, 2 pcs.), and detach F03 (Dress Plate Side B).
- (3) Remove F04 (GND Wire Ass'y).
- (4) Remove screws F05 (PT3x5 + Binding, 3 pcs.) and F06 (PT3x8 + Binding, 3 pcs.), and detach F07 (Front P.C.B. Ass'y).

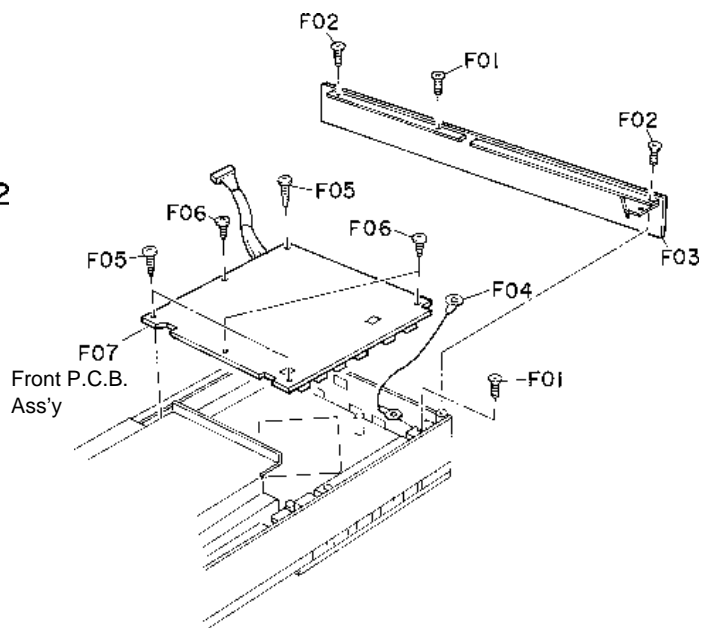


Fig. 1.5

1.6. Mechanism Chassis Block/Door Block**1.6.1 For Mechanism CD2/3 Ass'y**

Refer to Fig. 1.6.1.

- (1) Remove the Mechanism CD2/3 Ass'y. Refer to item 1.3.
- (2) Remove screws F01 (M2.6x5 + Binding, 4 pcs.), unhook the spring F02, and turn over F03 (Mechanism Chassis Block) in the direction shown by the arrow after lifting it. (One cable is connected between F03 (Mechanism Chassis Block) and the Door Block).

Note: The UD Plate S Ass'y on both sides can fall off.

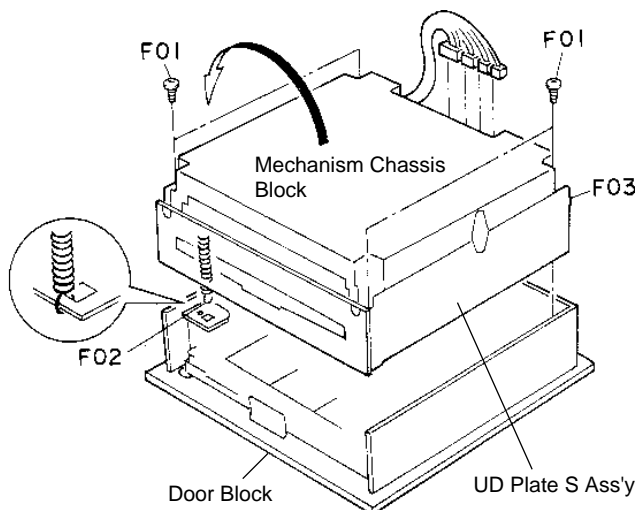


Fig. 1.6.1 For Mechanism CD2/3 Ass'y

1.6.2. For Mechanism DVD Ass'y

Refer to Fig. 1.6.2.

- (1) Remove the Mechanism DVD Ass'y. Refer to item 1.4.
- (2) Remove screws F01 (M2.6x5 + Binding, 4 pcs.).
- (3) Unhook F02 (Stabi SP) and turn over F03 (Mechanism Chassis Block) in the direction shown by the arrow after lifting it. (One cable is connected between F03 (Mechanism Chassis Block) and the Door Block).

Note: The UD Plate S Ass'y on both sides can fall off.

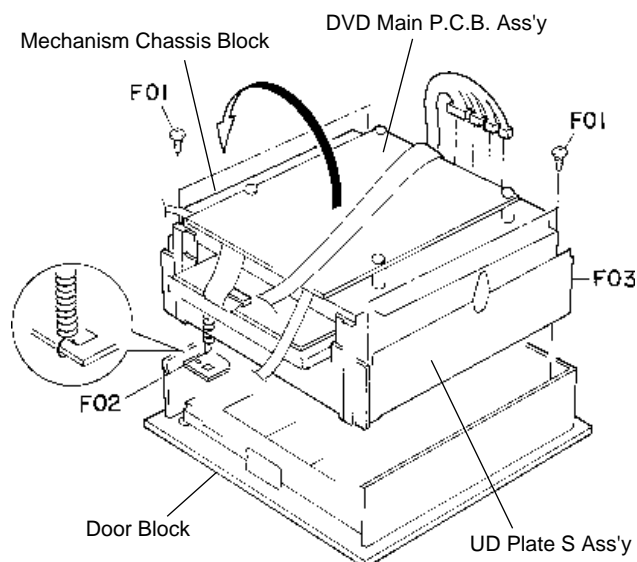


Fig. 1.6.2 For Mechanism DVD Ass'y

1.7. Disc Loading Ass'y

Note: This removal procedure is common to Mechanism CD2/3 Ass'y and Mechanism DVD Ass'y.

Refer to Fig. 1.7.

- (1) Remove the Door Block. Refer to item 1.6.1/1.6.2.
- (2) Remove screws F01 (PT2.6x6 + Binding (Black), 4 pcs.), and detach F02 (Disc Loading Ass'y).

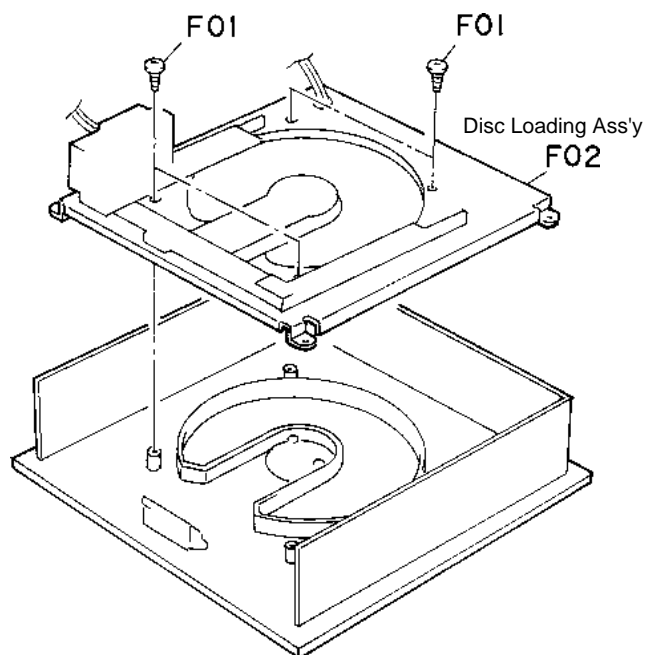


Fig. 1.7

For Mechanism CD2/3 Ass'y

1.8. Laser Pickup/Sled Motor -- For Mechanism CD2/3 Ass'y**1.8.1. CD P.C.B. Ass'y and Traverse Mecha Ass'y**

Refer to Figs. 1.8.1 and 1.8.2.

- (1) Remove the Mechanism Chassis Block. Refer to item 1.6.1.
- (2) Remove screws F01 (M3x5 + Binding (Black), 4 pcs.), F02 (Stabi SP) and F03.
- (3) Remove F04 (Traverse Mechanism Block) and detach washers F05 (4 pcs.). Refer to Fig. 1.8.1.

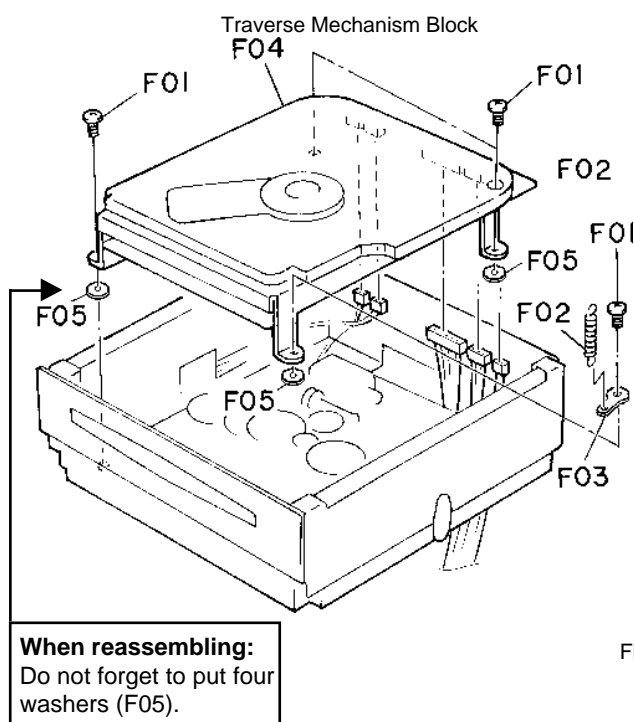


Fig. 1.8.1

For Mechanism CD2/3 Ass'y

- (4) Remove screws F01 (M2.6x4 + Binding (Black), 3 pcs.), collars F02 (3 pcs.) and one screw F03 (M2.6x4 + Pan (Black)), and detach F04 (Traverse Cover CD). Refer to Fig. 1.8.2.
- (5) Short the laser diode shorting lands with a soldering iron.
Note: Use the soldering iron whose metal part is grounded or a ceramic soldering iron.
CAUTION: Do not disconnect the Flexible Cable from F06 (CD P.C.B. Ass'y) unless the laser shorting lands are shorted.
- (6) Remove screws F05 (M3x5 + Binding), 4 pcs.) and detach F06 (CD P.C.B. Ass'y).
- (7) Remove three Damper Screw SL and one Damper Screw SD, and detach F07 (Traverse Mecha Ass'y).

Notes on reassembling:

- Do not unsolder the laser diode shorting lands before connecting the Flexible Cable to the CD P.C.B. Ass'y.

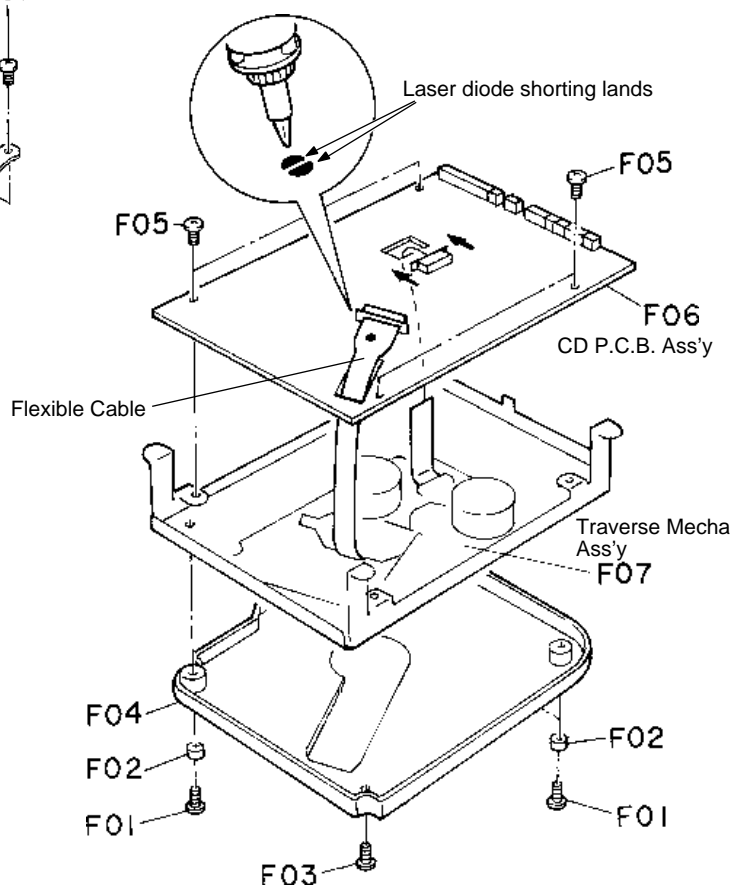


Fig. 1.8.2

For Mechanism CD2/3 Ass'y

1.8.2. Laser Pickup

● Removing the Laser Pickup

- (1) Remove the Traverse Mecha Ass'y. Refer to item 1.8.1.
 - (2) Remove screws F01 (M1.7x4 + Pan, 2 pcs.) and F02 (M2.6x3.5 + Pan, 2 pcs.), and then disassemble F04 (Laser Pickup Block). Refer to Fig. 1.8.3.
 - (3) Pull out the PU Guide Shaft SL from the Laser Pickup Block.
 - (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. 1.8.4.
- 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.

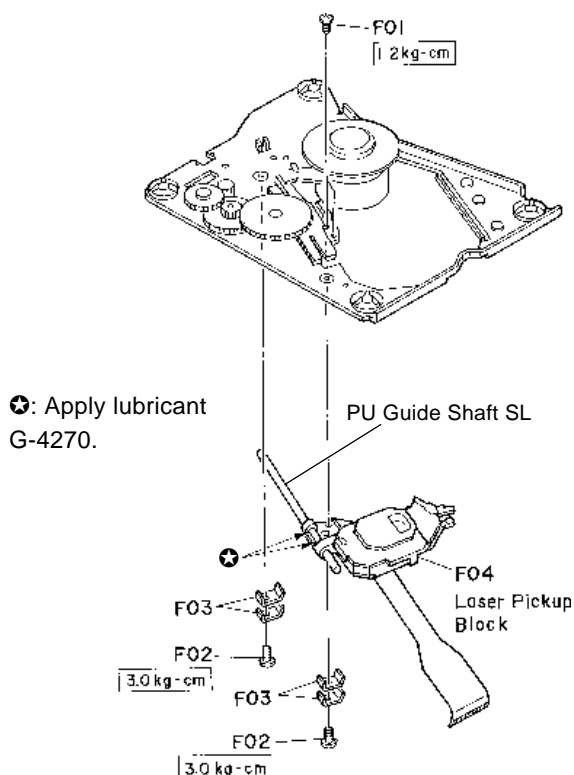


Fig. 1.8.3

● Installing a New Laser Pickup

- (1) Connect the Pickup Flexible P.C.B. to the new Laser Pickup. Refer to Fig. 1.8.4.
 - (2) Open the laser diode shorting lands on the bottom of the Laser Pickup.
- 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. 1.8.3.

For Mechanism CD2/3 Ass'y

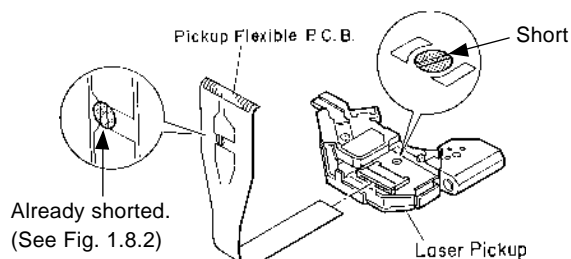


Fig. 1.8.4

1.8.3. Sled Motor

● Removing the Sled Motor

Refer to Fig. 1.8.5.

- (1) Remove the Traverse Mecha Ass'y. Refer to item 1.8.1.
- (2) Remove a cut washer F01 and pull out F02 (Second Gear).
- (3) Remove screws F03 (M1.7x2.5 + Pan #0 Type 3 (Black), 2 pcs.) and detach the Sled Motor Block.
- (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.

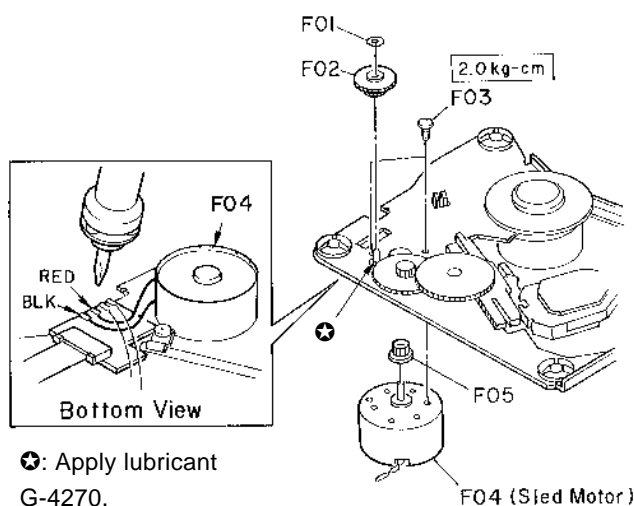


Fig. 1.8.5

● 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. 1.8.5.
- (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. 1.8.6.
 - (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.

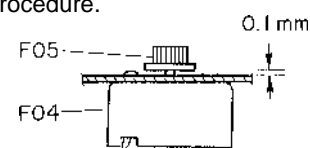


Fig. 1.8.6

For Mechanism DVD Ass'y

1.9. Laser Pickup -- For Mechanism DVD Ass'y

1.9.1. DVD Traverse Block

Refer to Fig. 1.9.1.

- (1) Remove the Mechanism Chassis Block. Refer to item 1.6.2.
- (2) Remove screws F01 (M2x3.5 + Pan #0 Type 3, 2 pcs.) and detach F02 (F Panel ME DVD Ass'y).
- (3) Remove both F03 (UD Plate S Ass'y) and detach F04 (6 pcs.) and F05 (2 pcs.).
- (4) Remove screws F06 (M3x5 + Binding (Black), 4 pcs.), disconnect 5 connectors, and detach F07 (DVD Traverse Block). Then, remove washers F08 (4 pcs.).

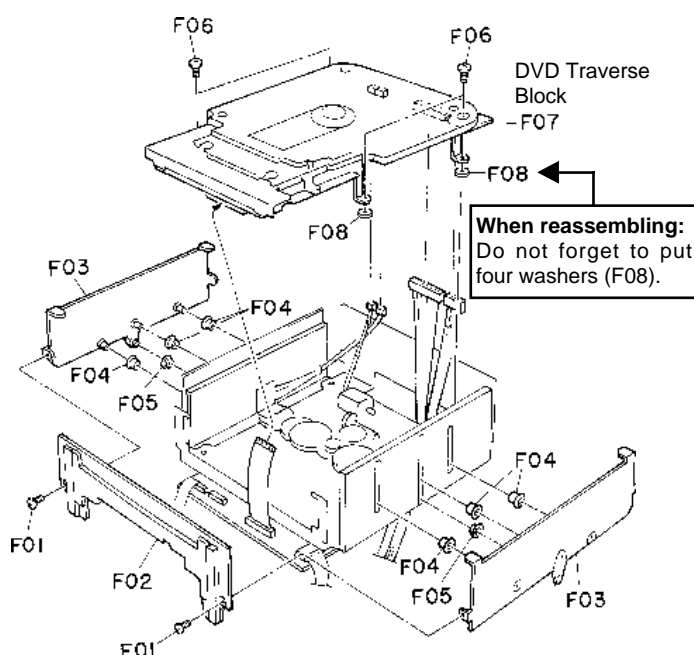


Fig. 1.9.1

CAUTION:
Do not disconnect the Flexible Cable "A" from F06 (Mechanism P.C.B. Ass'y) before shorting the laser diode shorting lands "B" in the next step.

For Mechanism DVD Ass'y

1.9.2. Mechanism P.C.B. Ass'y and DVD Traverse Ass'y

Refer to Fig. 1.9.2.

- (1) Remove the DVD Traverse Block. Refer to item 1.9.1.
- (2) Remove screws F01 (M2.6x4 + Pan (Black), 1 pce.), F02 (M2.6x4 + Binding (Black), 3 pcs.) and F03 (3 pcs.), and detach F04 (Traverse Cover DVD).
- (3) Disconnect the cables (a), (b) and (c), and remove screws F05 (M3x5 + Binding, 6 pcs.).

CAUTION: Do not disconnect the Flexible Cable "A" from F06 (Mechanism P.C.B. Ass'y) before shorting the laser diode shorting lands "B" in the next step.

Note: F06 (Mechanism P.C.B. Ass'y) and F07 (Connector P.C.B. Ass'y) are connected with one cable.

- (4) Solder the laser diode shorting lands "B".
Note: Use the soldering iron whose metal part is grounded or a ceramic soldering iron.
- (5) Disconnect the Flexible Cable "A" from F06 (Mechanism P.C.B. Ass'y).
- (6) Remove screws F08 (Damper Screw SL, 4 pcs.) and detach F09 (SUS Collar B, 4 pcs.), F11 (SUS Collar T, 4 pcs.), and F10 (DVD Traverse Ass'y).

Notes on reassembling:

- Do not remove the laser diode shorting lands "B" until the cable "A" is connected to F06 (Mechanism P.C.B. Ass'y).

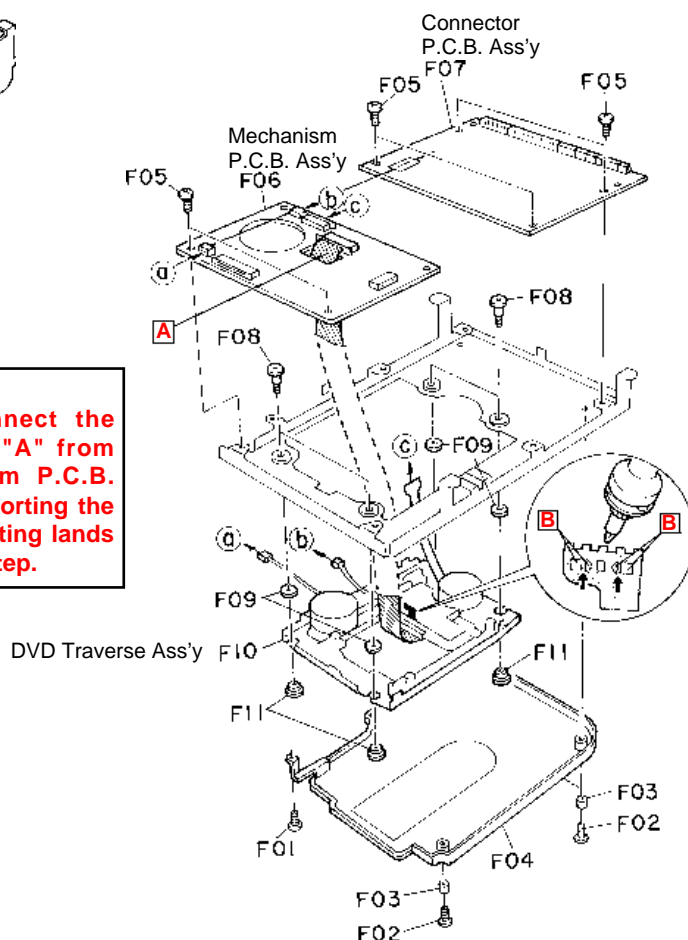


Fig. 1.9.2

For Mechanism DVD Ass'y

1.9.3. Pickup

Refer to Fig. 1.9.3.

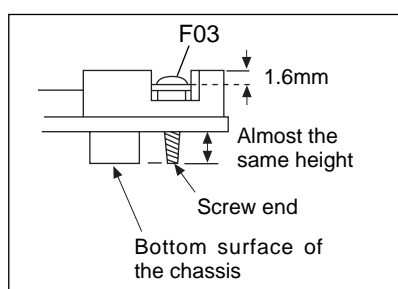
CAUTION: DO NOT remove or loosen screws that are not included in this procedure.

Note: After reassembling the Pickup, you need to perform "Tilt Adjustment" of the Pickup.

Preparation:

Since you need to reposition the screw F03 to the original position, check the current position before removing the screw F03.

- Give a mark on the head of screw F03 to allow easy repositioning.
- Check the end position of the screw F03. It will be almost the same as the bottom surface of the chassis.



For Mechanism DVD Ass'y

- (1) Remove the DVD Traverse Ass'y. Refer to item 1.9.2.
- (2) Remove a screw F01 (M1.7x3.5 + Pan CMT) and detach F02 (Hook L.S).
- (3) Give a mark to the screw F03 for repositioning.
- (4) Remove a screw F03 (Screw S) and detach F04/F05 (Pickup block).
F06 (SP Push Shaft) can be removed.
- (5) Pull out F04 (Shaft L) from F05 (Pickup).

Notes on reassembling:

- Assemble the screw F03 so that it is roughly positioned to the original position.
- Perform "Tilt Adjustment". Refer to Step 4 "Tilt Adjustment" in 2.2.3 "Adjustment Procedure".

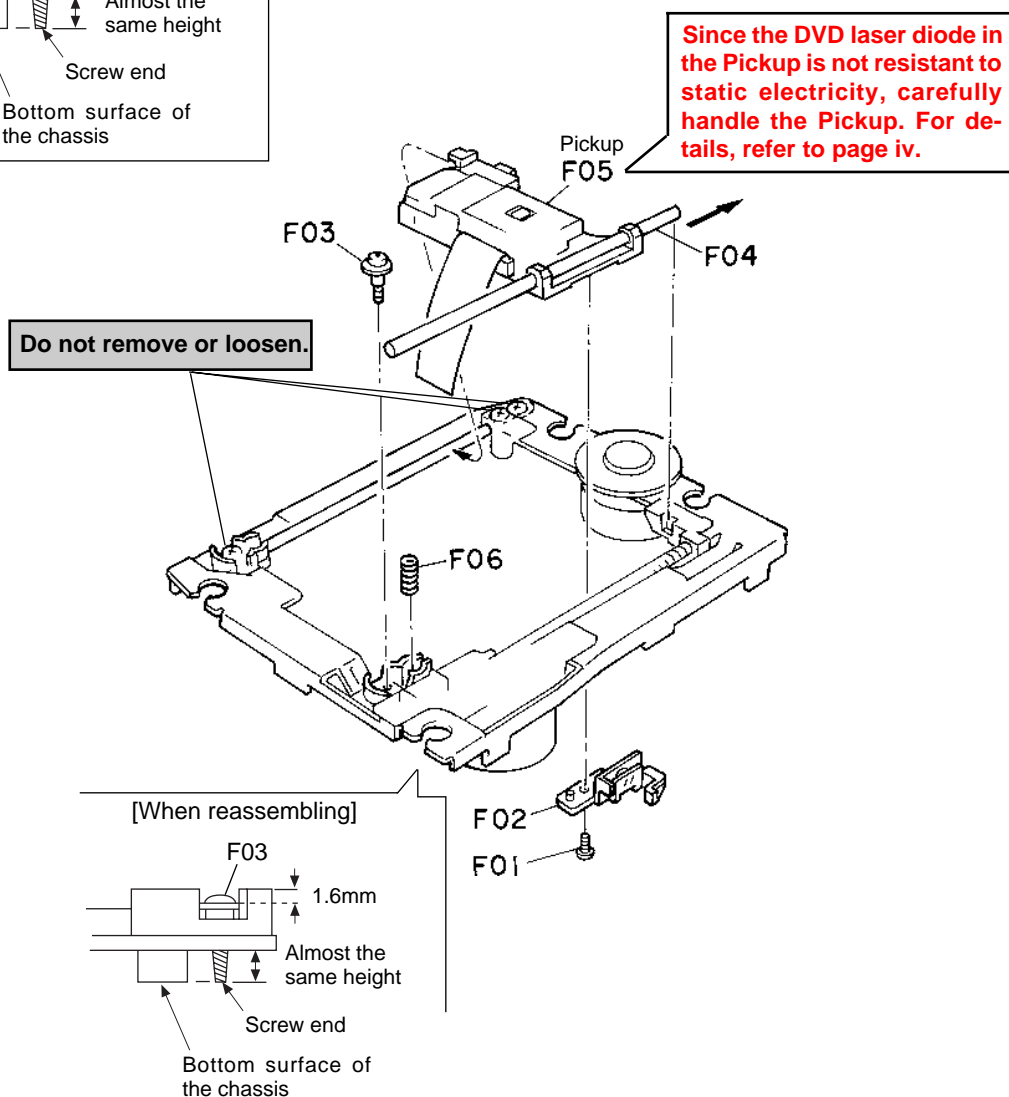


Fig. 1.9.3

How to reassemble the UD Cam S and UD Cam

● How to identify the UD Cam S and UD Cam

The **UD Cam S** is used on the left side of the CD Mechanism Ass'y in Fig. A. It has the projections as shown below:

While, the **UD Cam** is used on the right side of the CD Mechanism Ass'y in Fig. A, and has not projections.

- Note that they move in the opposite direction each other. For example, in Fig. A, when the **UD Cam S** moves backwards, the **UD Cam** moves forward.

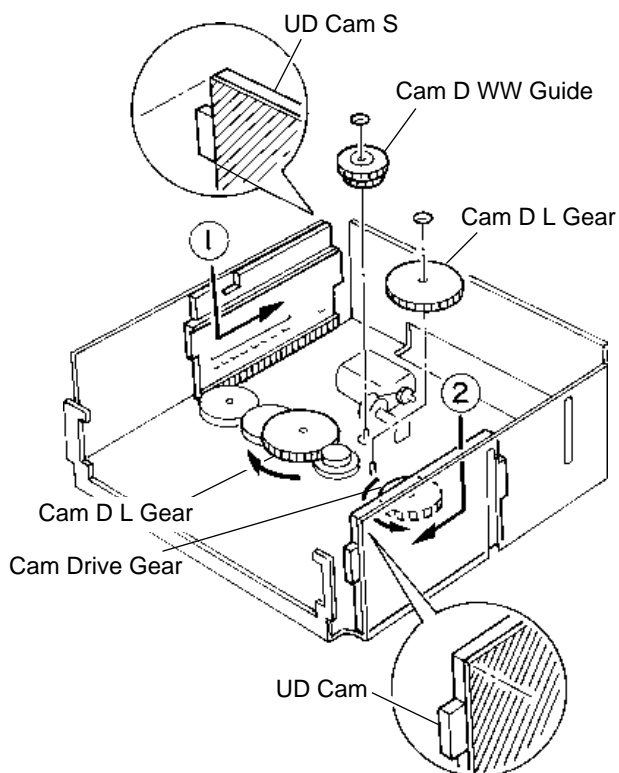
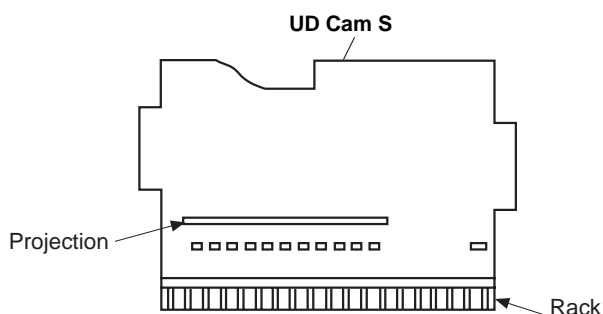


Fig. A

● Removal procedure

- (1) Remove the cut washer and pull out the Cam D WW Gear. Refer to Fig. A.
- (2) Remove the cut washer and pull out the Cam D L Gear. (Thus, the link between the UD Cam S and UD Cam is lost.)
- (3) Assemble the **UD Cam S** on the chassis so that its rack engages with the gear on the chassis. Then, by turning the Cam D L Gear on the chassis, align the edge of the **UD Cam S** with the edge of the chassis as shown in Fig. A. (①)
- (4) Assemble the **UD Cam** on the chassis so that its rack engages with the gear on the chassis. Then, by turning the Cam Drive Gear on the chassis, align the edge of the **UD Cam** with the edge of the chassis as shown in Fig. A. (②)
- (5) Assemble the Cam D L Gear which was removed in (2) and engage the cut washer. (Then, the UD Cam S and UD Cam are linked.) (③) Refer to Fig. B.
- (6) By turning the Cam D L Gear, align the grooves on the **UD Cam S** and **UD Cam** with the center slit of the chassis as shown in Fig. B. (④)
 - Fig. B shows the grooves on the UD Cam. Note that the shape of the **UD Cam S's** grooves are reversed.
- (7) Assemble the Cam D WW Gear which was removed in (1) and engage the cut washer. (⑤)

Note: If the assembled UD Cam S or UD cam is mis-positioned, the UD Plate S Ass'y (L or R) that engages with its grooves cannot be correctly assembled. In this case, you need to repeat above steps.

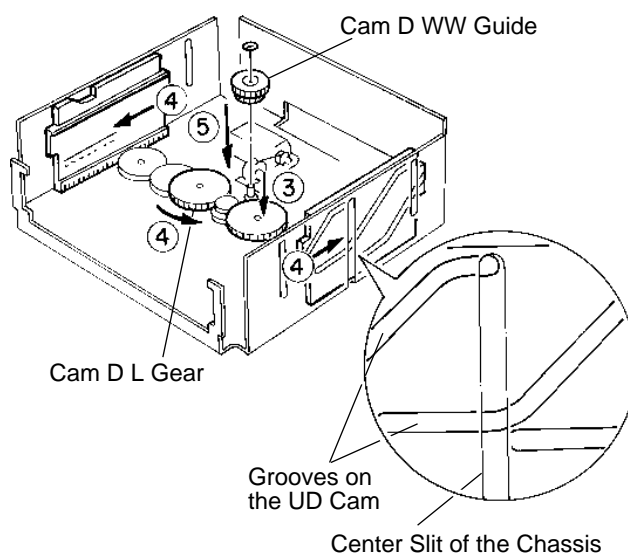


Fig. B

2. ELECTRICAL ADJUSTMENTS

For Mechanism CD2/3 Ass'y (CD Player)

2.1. Electrical Check for Mechanism CD2/3 Ass'y (CD Players)

2.1.1. Measurement Instruments and Jigs

- (1) Oscilloscope (40 MHz or more)
- (2) DC Voltmeter (Digital Voltmeter)
- (3) ABEX Test Disc TCD-784 (DA09195A)
- (4) ABEX Test Disc TCD-726A (DA09204A) or TCD-725A

2.1.2. Parts Location for Electrical Check

● CD P.C.B. Ass'y of the CD Player

(Dip Side View)

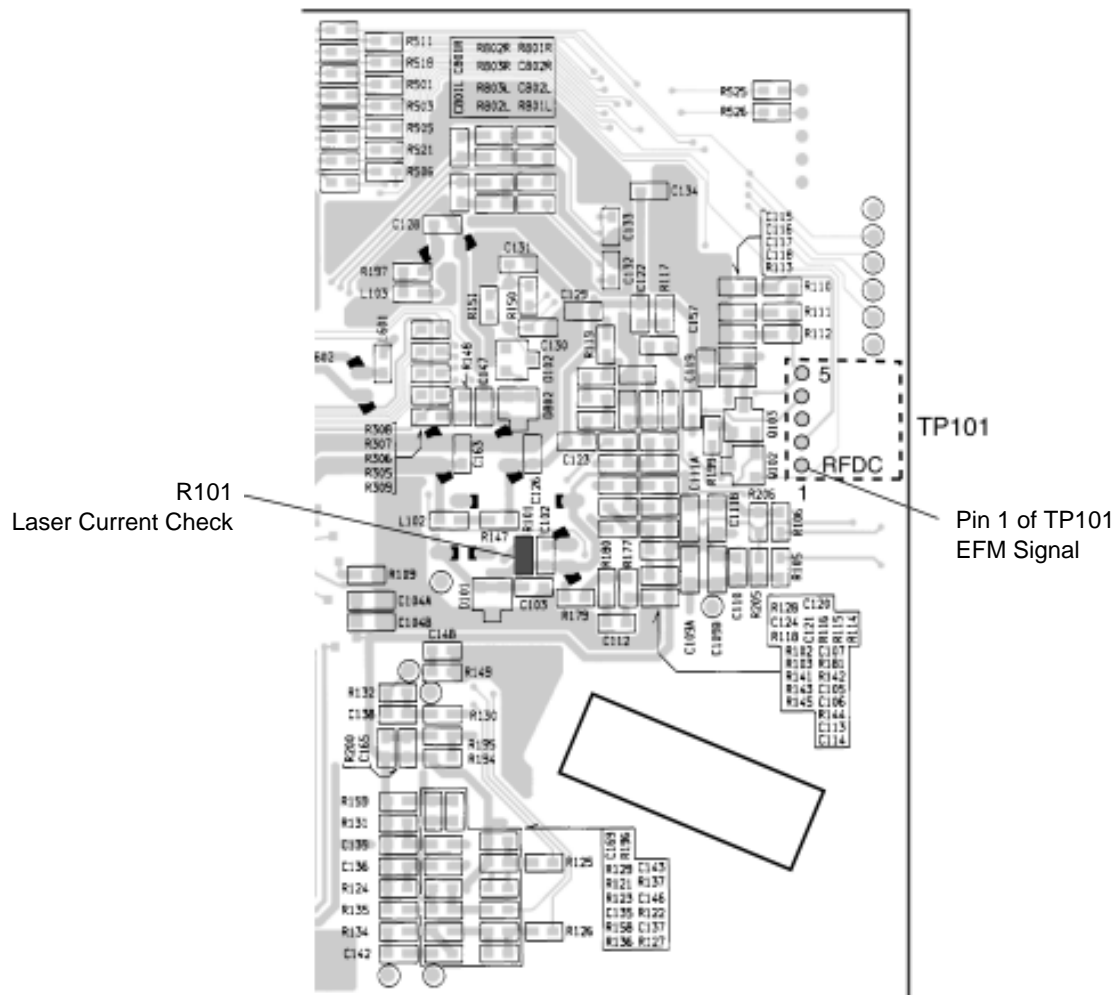
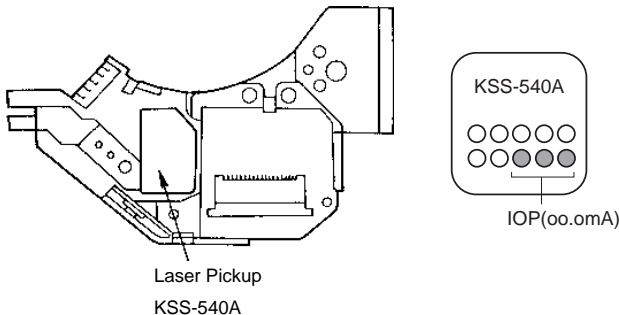
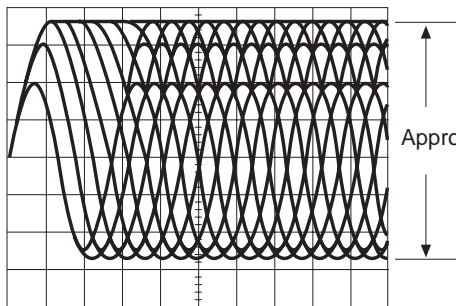


Fig. 2.1.1 Parts Location for Electrical Check (For CD Player)

For Mechanism CD2/3 Ass'y (CD Player)

2.1.3. Electrical checks for CD Player

Note: Do the same check for CD Player Nos. 2 to 3.

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUSTMENT	REMARKS
1	Laser Current Check	ABEX Test Disc TCD-784	DC Voltmeter across R101 on CD P.C.B.	—	<p>1. Turn ON the power and load a test disc. (To load the test disc, press the Open/Close button of the CD Player.)</p> <p>2. Play back the test disc and calculate the current flowing into R101 on the CD P.C.B. Ass'y from the following formula.</p> $I(\text{Measured}) = \frac{\text{Voltmeter Value}}{R101 (10 \text{ Ohms})} = \text{oo.o mA}$ <p>Example:</p> $I(\text{Measured}) = \frac{510.3 \text{ (mV)}}{10 \text{ (ohms)}} = 51.03 \text{ mA}$ <p>3. Check that the I(Measured) obtained in 2 and the rated current value (IOP) shown on the label are almost the same.</p> <p>[How to read IOP on the label] The shaded "OOO" on the label shows the IOP. If "OOO" is 475, the IOP is 47.5mA.</p> <p>NOTE: The calculated current (I(Measured)) should be in a range of 30 to 60 mA. If the value is large, the pickup will be defective.</p> <p>4. Stop the test disc.</p>
		 <p>Laser Pickup KSS-540A</p> <p>KSS-540A</p> <p>IOP(oo.o mA)</p>			
2	EFM Signal Adjustment	ABEX Test Disc TCD-784	Oscilloscope between pin 1 of TP101 and GND on CD P.C.B.	—	<p>1. Play back the first track of the test disc.</p> <p>2. Be sure that the peak-to-peak value of the EFM waveform is approx. 1V.</p>  <p>Approx. 1Vp-p</p> <p>Oscilloscope Setting: AC Mode, 0.2 V/div, 0.5 μs/div</p> <p>3. Stop the test disc and eject it.</p>

For Mechanism CD2/3 Ass'y (CD Player)

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUSTMENT	REMARKS
3	Operation Check	ABEX Test Disc TCD-726 or TCD-725A		—	<p>Make sure that no noise nor track-jumping is found in the following programs on the test disc.</p> <p>To select the desired program, press Track Search button on the Main Unit or Remote Control</p> <ul style="list-style-type: none"> • Interruption 0.8mm: 4th program • Black dot Ø0.6mm: 8th program • Simulated fingerprint Ø65µm: 13th program

For Mechanism DVD Ass'y (DVD Player)

2.2. Electrical Check for Mechanism DVD Ass'y (DVD Player)

2.2.1. Measurement Instruments and Jigs

- (1) DC Voltmeter
- (2) AC Voltmeter
- (3) Tracking Offset Meter LE-9055A or LTM-9055 (Leader Electronics Corp.)
- (4) A-BEX Vertical Deviation Test Disc TDV-562 (DA09206A)
- (5) SONY Test Disc Type 3
- (6) Clamper Ass'y (CA09403A)

Note: The Clamper Ass'y is the one that is used for SS-10/11/21.

2.2.2. Parts Location for Adjustments

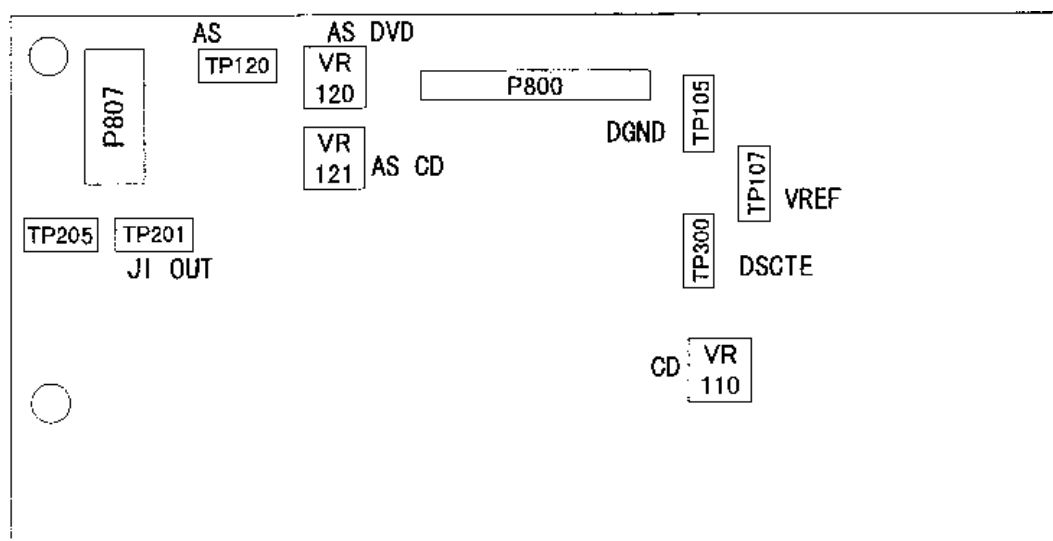


Fig. 2.2.1 Parts Location for Electrical Adjustment (For DVD Player)

For Mechanism DVD Ass'y (DVD Player)

2.2.3. Adjustment Procedure

Note: Perform the following steps in order.

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-MENT	REMARKS
1	Connection				<div>1. Remove the Main P.C.B. Ass'y and Mechanism DVD Ass'y from the Main Unit. (Refer to removal procedures, 1.2 "Main P.C.B. Ass'y" and 1.4 "Mechanism DVD Ass'y".)</div> <div>2. Remove the DVD Main P.C.B. Ass'y from the Mechanism DVD Ass'y, by taking off the four screws. (Refer to Fig. 1.6.2.)</div> <div>3. Remove the DVD Traverse Block from the Mechanism DVD Ass'y. Refer to 1.9.1 "DVD Traverse Block".</div> <div>4. Remove the Traverse Cover DVD from the DVD Traverse Block (F04 in Fig. 1.9.2). Refer to item 1.9.2.</div> <div>5. Connect each block as shown in Fig. 2.2.2 below.</div> <div>6. Prepare the Clamper Ass'y (CA09403A) to hold the test disc. (This Clamper Ass'y is the same one as used for SS-10/11/21.)</div>

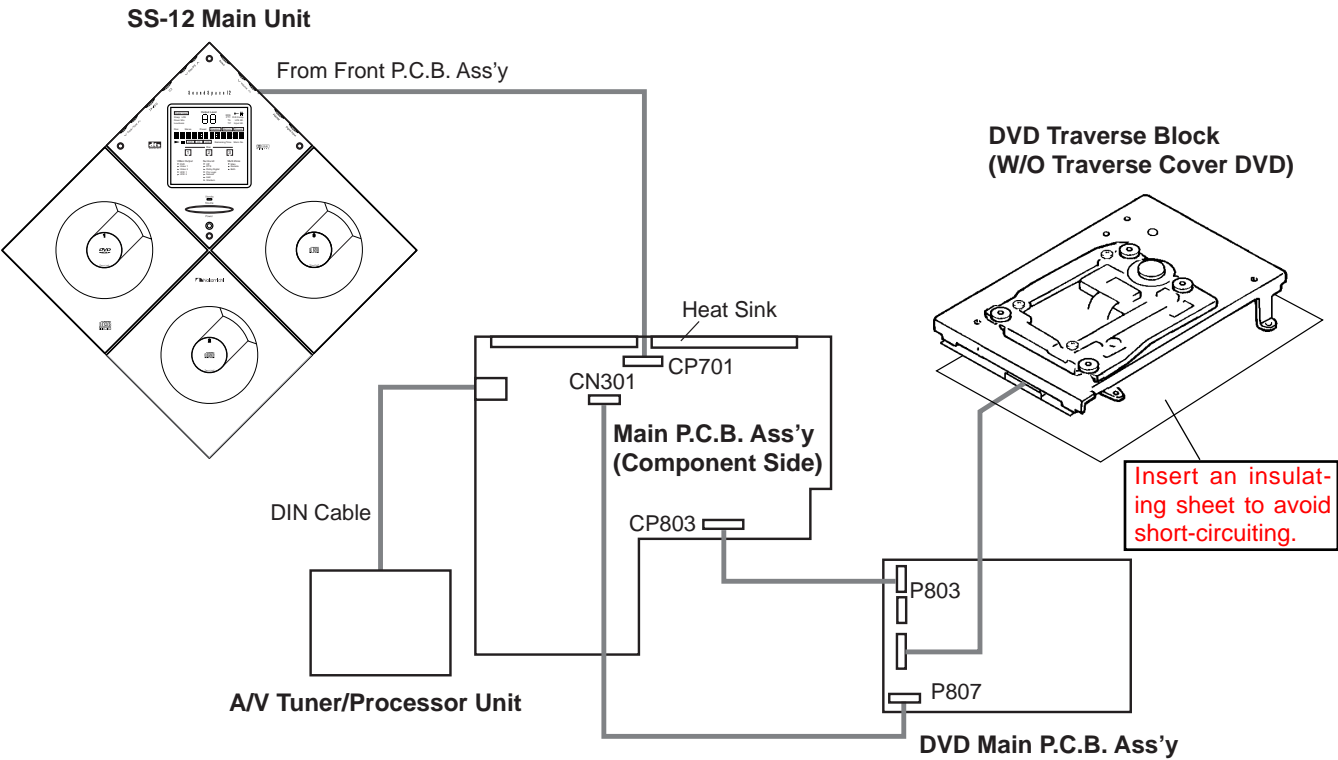
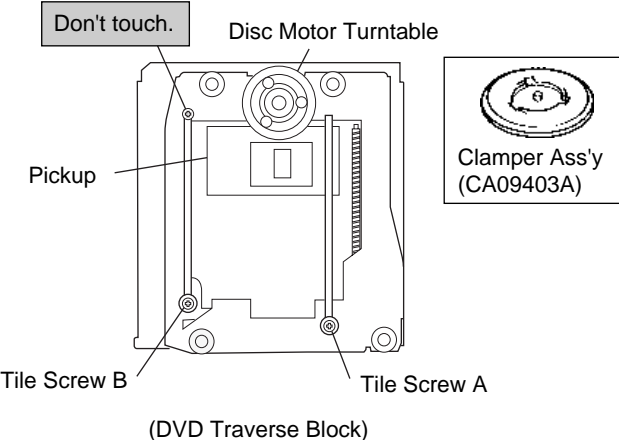
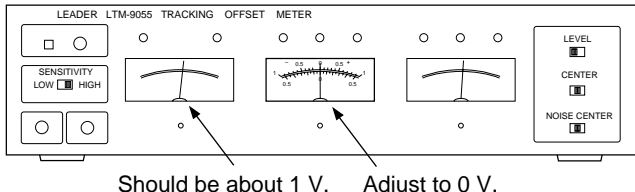


Fig. 2.2.2 Connecting Diagram (For DVD Player)

For Mechanism DVD Ass'y (DVD Player)

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUSTMENT	REMARKS
2	Entering DVD Adjust Mode				<ol style="list-style-type: none"> Connect each measuring instrument as follows: <ul style="list-style-type: none"> Connect a DC voltmeter between TP120 (AS) (+ terminal) and TP107 (VREF) (- terminal) on the DVD Main P.C.B. Ass'y. Connect an AC voltmeter between TP201 (JI OUT) (+ terminal) and TP105 (DGND) (- terminal) on the DVD Main P.C.B. Ass'y. Connect a tracking offset meter between TP300 (DSCTE) (+ terminal) and TP107 (VREF) (- terminal) on the DVD Main P.C.B. Ass'y. Be sure that the A/V Tuner/Processor unit is connected to the Main P.C.B. Ass'y. (Refer to Fig. 2.2.2.) Turn on the A/V Tuner/Processor unit by pushing its POWER switch. Press the POWER key on the Main unit for more than 2 seconds. Then, the Standby indicator lights up and the Main unit enters Standby mode. While pressing and holding the SELECT key on the Main unit, press the PLAY/PAUSE key for more than 2 seconds. Be sure that the following message appears on the display of the Main unit. DVD ADJUST
3	AS Adjustment	—	DC Voltmeter between TP120 (AS) (+) and TP107 (VREF) (-) on DVD Main P.C.B.	VR121 (for CD LD) VR120 (for DVD LD)	<p>Note: Perform the adjustment in the order of "CD LD ON" and "DVD LD ON" as mentioned below:</p> <ol style="list-style-type: none"> Press the STOP key once. The message will change as follows: → AS ADJUST → DVD LD ON Press the TRACK UP (Λ) key once. The following message will appear on the display. CD LD ON Adjust VR121 to obtain 0V ± 10 mV DC on the DC voltmeter. Press the TRACK UP (Λ) key twice. The following message will appear on the display. DVD LD ON Adjust VR120 to obtain 0V ± 10 mV DC on the DC voltmeter. <p>(to be continued)</p>

For Mechanism DVD Ass'y (DVD Player)

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUSTMENT	REMARKS
					<p>6. Press the TRACK UP (\wedge) key twice. The following message will appear on the display. LD OFF Then, the pickup will move to the innermost position and then stops there. Caution: <i>DO NOT use the TRACK DOWN (V) key to set "LD OFF", since the pickup cannot move to the innermost position. If this is done, the pickup will be damaged when you insert the test disc.</i></p> <p>7. Proceed to the next step.</p>
4	Tilt Adjustment	DVD Vertical Deviation Test Disc TDV-562 (DA09206A)	AC Voltmeter between TP201 (JI OUT) (+) and TP105 (DGND) (-) on DVD Main P.C.B.	Tilt Screws A and B	<p>Note: Prepare the Clamper Ass'y (CA09403A).</p> <p>1. Press the STOP key once. Be sure that the following message appears on the display. MECHA ADJUST</p> <p>2. Insert the DVD test disc and put the Clamper Ass'y on the test disc to hold the disc.</p> <p>3. Press the PLAY/PAUSE key to play back the disc.</p> <p>4. Press the TRACK UP (\wedge) key to play back the Chapter 16 (outermost track).</p> <p>5. Press the PLAY/PAUSE key to pause the disc. (The disc will keep turning.)</p> <p>6. Turn the Screw A to obtain minimum reading on the AC voltmeter.</p> <p>7. Turn the Screw B to obtain minimum reading on the AC voltmeter.</p> <p>8. Repeat steps 6 and 7 several times until minimum readings are obtained.</p> <p>9. Remove the test disc.</p> <p>10. Proceed to the next step.</p>
					
5	CD Tracking Adjustment	CD Test Disc SONY Type 3	Tracking Offset Meter between TP300 (DSCTE) (+) and TP107 (VREF) (-) on DVD Main P.C.B.	VR110	<p>1. Set the tracking offset meter as follows:</p> <ul style="list-style-type: none"> • Sensitivity switch: HIGH (right side) • Level switch: MEASURE (left side) • Center switch: MEASURE (center position) <p>2. Insert the CD test disc and put the Clamper Ass'y on the test disc to hold the disc.</p> <p>3. Press the STOP key twice. Be sure that the following message appears on the display. CD ADJUST</p> <p>4. Adjust VR110 so that the center meter indicates 0 V as shown on the left. Also, be sure that the left side meter indicates around 1 V.</p> <p>5. Remove the test disc.</p> <p>6. Proceed to the next step to terminate the adjustment.</p>
 <p>Should be about 1 V. Adjust to 0 V.</p>					

For Mechanism DVD Ass'y (DVD Player)

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-MENT	REMARKS
6	Termination				<ol style="list-style-type: none"> 1. Press the POWER key on the Main unit for more than 2 seconds to enter Standby mode. 2. Press the POWER button on the A/V Tuner/Processor unit to turn off the System. 3. Disconnect the measuring instruments. 4. Apply paint lock to the Screws A and B.

2.2.4. RAM Clear (System Controller & Mechanism Controller Clear)

Note: Before shipping perform the RAM Clear to perform the following:

- To clear the usable setting values (such as tuner preset) to the initial setting values.

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-MENT	REMARKS
1	RAM Clear				<ol style="list-style-type: none"> 1. Press the POWER key on the Main unit for more than 2 seconds to enter Standby mode. 2. Remove all discs. 3. Press and hold the SELECT and STOP buttons for more than 7 seconds. 4. The following messages will appear on the display. RAM CLEAR 2 ↓ (After 5 seconds) REGION x (x: 0 to 8) 5. Then, the following operation will be done. <ul style="list-style-type: none"> • User setting values are reset to the initial setting values. 6. "Power OFF" will be displayed and the system is automatically shut off. POWER OFF (Standby mode) If the disc remains in the CD/DVD mechanism, power is not shut off and the display returns to the normal one.

3. MECHANISM ASS'Y AND PARTS LIST

3.1. Main Stand Ass'y

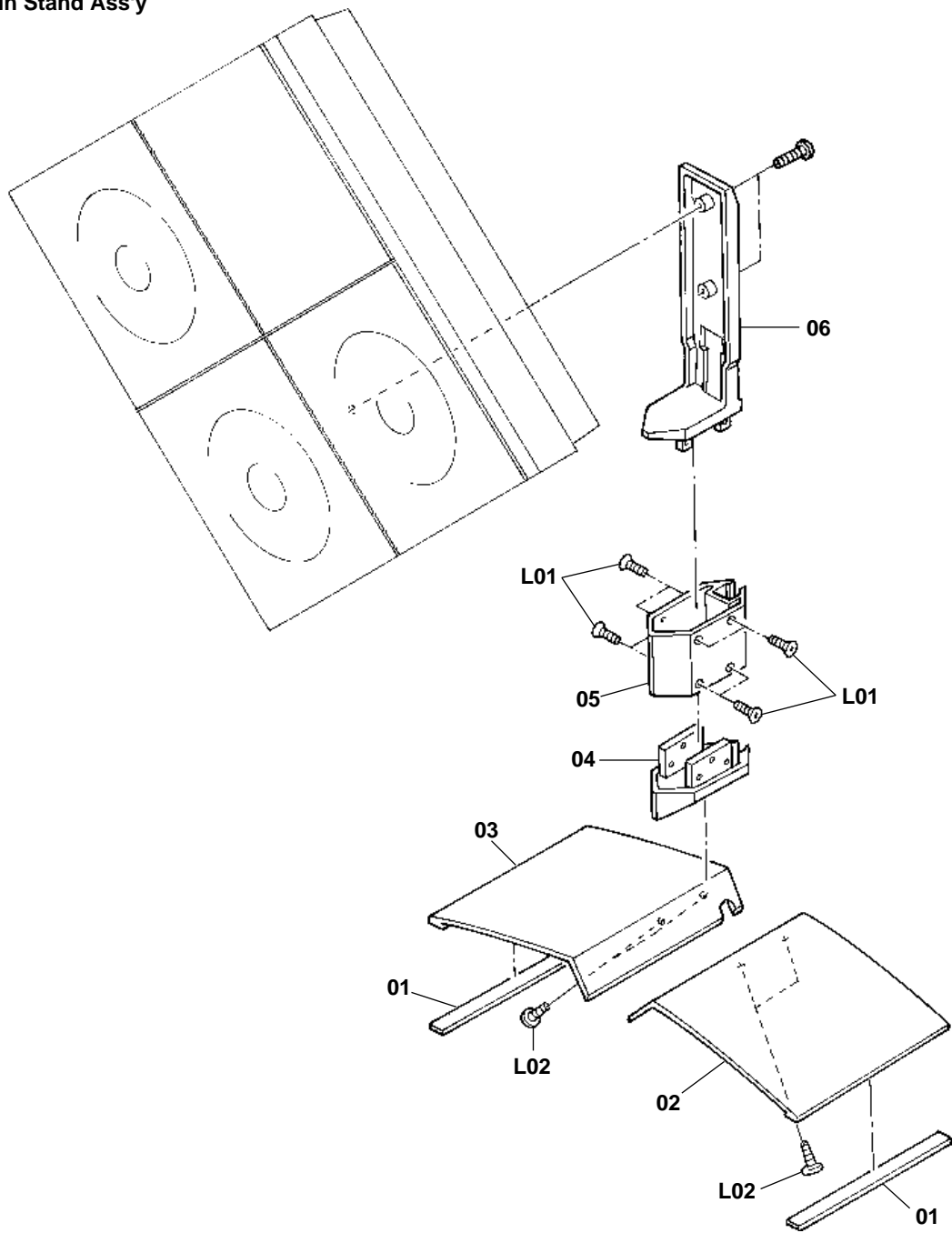


Fig. 3.1

3.1. Main Stand Ass'y

Schematic Ref. No.	Part No.	Description	Q'ty
—	—	Main Stand Ass'y D210 (Main Unit)	1
01	0J08792A	Base Cushion Center S	2
02	0H08793B	Stand Base Center R	1
03	0H08792B	Stand Base Center L	1
04	0H08791D	Base Joint	1
05	0H08796B	Stand Pole	1
06	0H08790C	Stand Holder Center	1
L01	0E04323A	BT4x10 + Oval Countersunk	
L02	0E03972A	BT4x12 + Binding	

3.2. Synthesis (Main Unit)

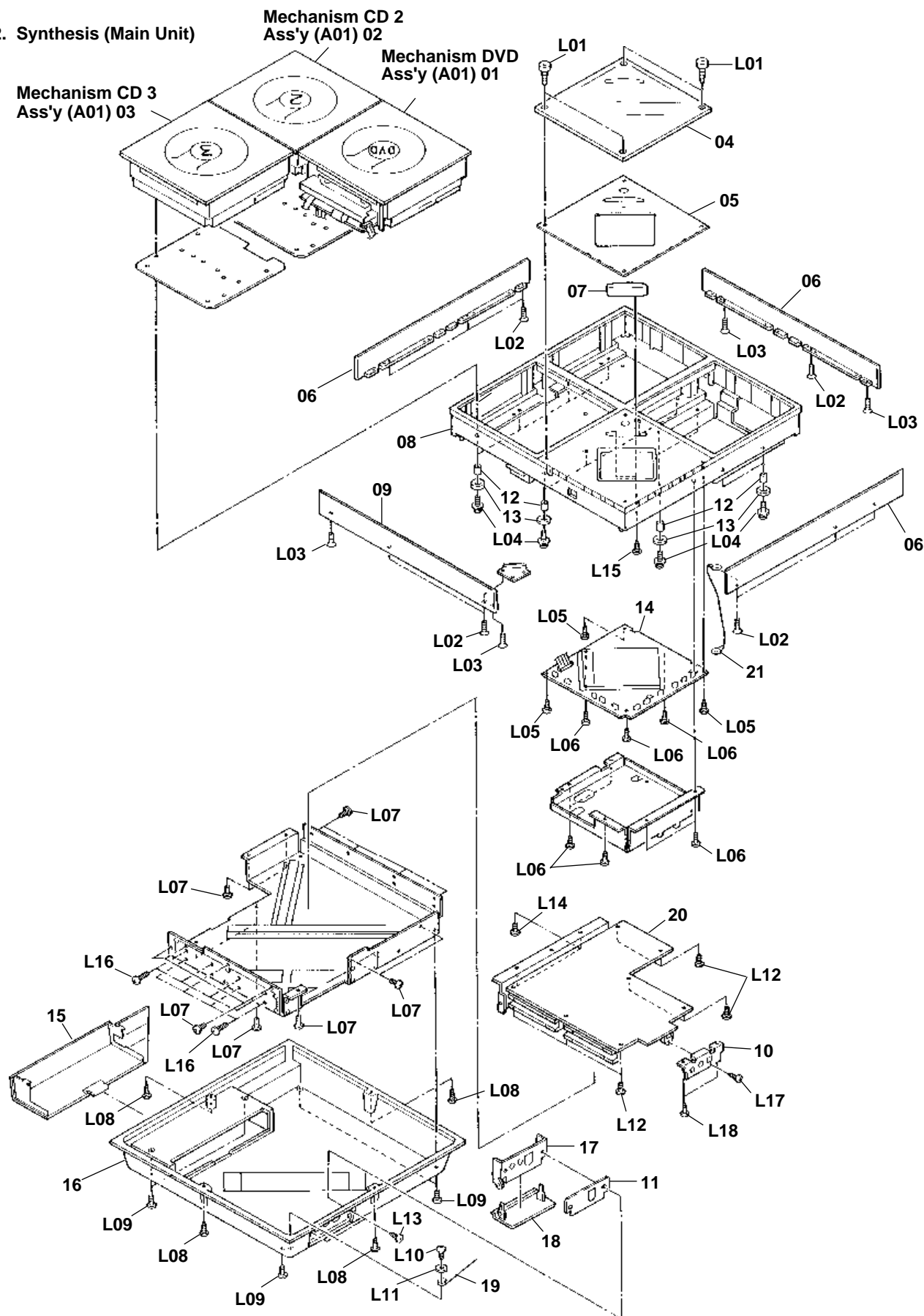


Fig. 3.2

3.2. Synthesis (Main Unit)

Schematic Ref. No.	Part No.	Description	Q'ty
	—	Synthesis (Main Unit)	1
01	—	Mechanism DVD Ass'y	1
02	—	Mechanism CD 2 Ass'y	1
03	—	Mechanism CD 3 Ass'y	1
04	0H08732B	Dress Panel	1
05	0H08745C	Dress plate (Except UK, EP)	1
	0H09024A	Dress plate RDS (UK, EP)	1
06	0H08739B	Dress Plate Side A	3
07	0H08730A	P Cap Button	1
08	HA08579A	Escutcheon Ass'y (Except UK, EP)	1
	HA08670A	Escutcheon Ass'y EP/BS (UK, EP)	1
09	0H08746B	Dress Plate Side B	1
10	0J08600B	Mini Jack Plate B	1
11	0H08789A	Mini Jack Blind	1
12	0J08836A	Mecha Damper	12
13	0J08837A	Damper Collar	12
14	BK10417A	Front P.C.B. Ass'y	1
15	0H08725B	Main jack Cover	1
16	0H08724B	Rear Cover	1
17	0J08599A	Mini Jack Plate A	1
18	0H07947D	Mini Jack Cover	1
19	0J08279A	Mini Jack Cover SP	1
20	BK10418A	Main P.C.B. Ass'y EP (UK, AUS, EP)	1
	BK10426A	Main P.C.B. Ass'y DM (JPN)	1
	BK10427A	Main P.C.B. Ass'y DU (OTR, CH, HK)	1
	BK10428A	Main P.C.B. Ass'y TW (KR, TW)	1
	BK10429A	Main P.C.B. Ass'y UL (USA, CAN, DA)	1
21	0B85522A	GND Wire Ass'y	1
—	0B85436A	24P Flexible Wire	1
L01	0E04237A	PT3x12 Dress Screw	
L02	0E04346A	BT2.6x6 + Flat Head	
L03	0E04326A	PT2.6x8 + Flat Head	
L04	0E04176A	M3x8 + Binding 2A (PW)	
L05	0E04362A	PT3x5 + Binding	
L06	0E03731A	PT3x8 + Binding	
L07	0E04324A	ST3x4 + Binding	
L08	0E04133A	PT3x10 + Trass	
L09	0E03281A	ST3x8 + Binding (Black)	
L10	0E04320A	PT2x8 + Binding	
L11	0E00029A	Washer 2 x 6 x 0.4	
L12	0E00877A	ST3 x 5 + Binding	
L13	0E03283A	ST3x6 + Binding (Black)	
L14	0E04325A	ST3x4 + Binding (Black)	
L15	0E04174A	PT2x5 + Binding	
L16	0E00985A	M3x6 + Binding (Black)	
L17	0E03749A	PT3x8 + Binding (Black)	
L18	0E03573A	ST2.6x4 + Binding	

3.3. Mechanism Ass'y (A01)

3.3.1. Mechanism DVD Ass'y - DVD Player (A01)

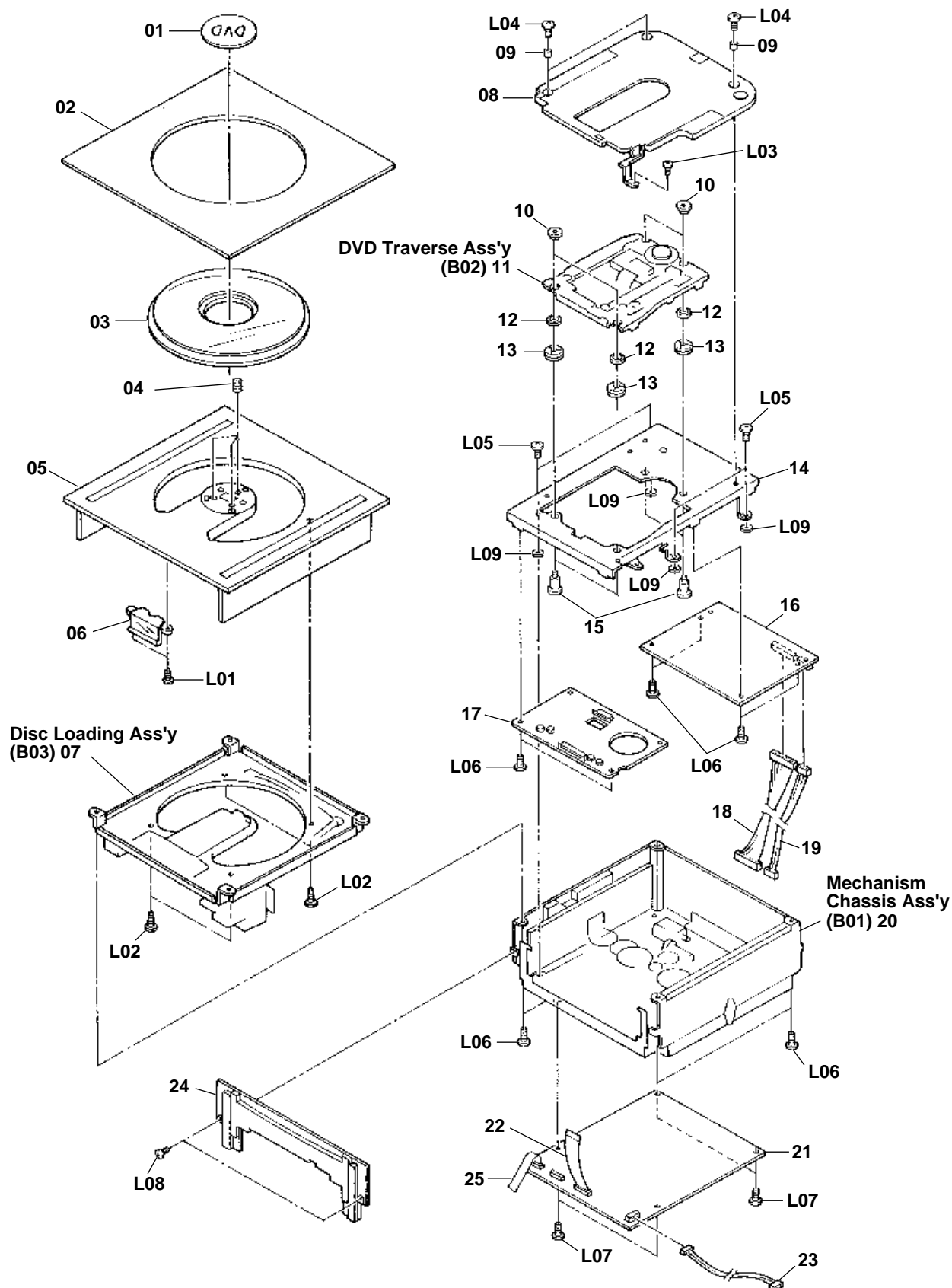


Fig. 3.3.1

3. MECHANISM ASS'Y AND PARTS LIST

SS-12 Main Unit Section

3.3.1. Mechanism DVD Ass'y - DVD Player (A01)

Schematic Ref. No.	Part No.	Description	Q'ty
A01	—	Mechanism DVD Ass'y (DVD Player)	1
01	HG08626A	Door Cap Ass'y	1
02	0H08863C	Dress Plate Door C	1
03	0H08736C	Window Door	1
04	0J08729B	D.Cap Spring	3
05	0H08734B	Escutcheon Door	1
06	0H08812A	Illumination Lens	1
07	CA09486A	Disc Loading Ass'y	1
08	0C10521B	Traverse Cover DVD	1
09	0C10575A	Sleeve 4x2.7x2.1	3
10	0C10566A	SUS Collar T	4
11	CA09479A	DVD Traverse Ass'y ADJ-3	1
12	0C10565A	SUS Collar B	4
13	0C10279A	Damper S SL	4
14	0C10520A	D Unit Base DVD	1
15	0C10287A	Damper Screw SL	4
16	BK10419A	Connector P.C.B. Ass'y	1
17	BK10454A	Mechanism P.C.B. Ass'y	1
18	0B85692A	13P Connector CN109-DVD	1
19	0B85693A	6P Connector Ass'y CN111-DVD	1
20	—	Mechanism Chassis Ass'y (DVD Player)	1
21	BK10322A	DVD Main P.C.B. Ass'y C3M1	1
22	0B85438A	FFC 40P L70 P0.5	1
23	0B85690A	6P Connector Ass'y CN301-DVD	1
24	HA08658C	F Panel ME DVD Ass'y	1
25	0B85948A	Wire DVSTP TP501-DVD	
—	0B85945A	2P Connector Ass'y CN101-DVD	
L01	0E04174A	PT2x5 + Binding	
L02	0E04035A	PT2.6x6 + Binding (Black)	
L03	0E03197A	M2.6x4 + Pan (Black)	
L04	0E00945A	M2.6x4 + Binding (Black)	
L05	0E03270A	M3x5 + Binding (Black)	
L06	0E03950A	M2.6x5 + Binding	
L07	0E00964A	M3x5 + Binding	
L08	0E04308A	M2x3.5 + Pan #0 Type 3	
L09	0C10587A	Washer	

3.3.2. Mechanism CD 2/3 Ass'y - CD Player (A01)

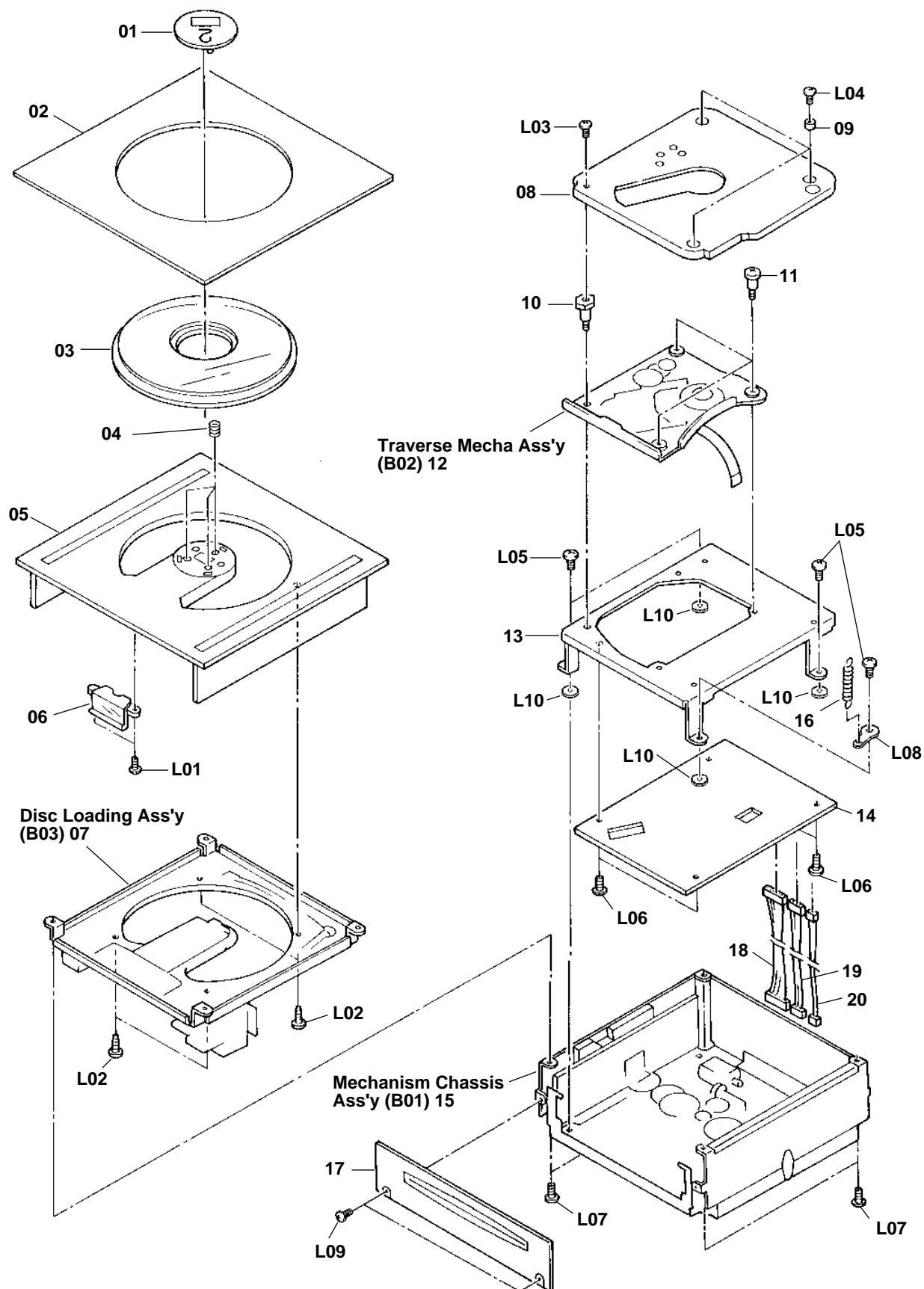


Fig. 3.3.2

3. MECHANISM ASS'Y AND PARTS LIST

SS-12 Main Unit Section

3.3.2. Mechanism CD 2 Ass'y - CD Player (A01)

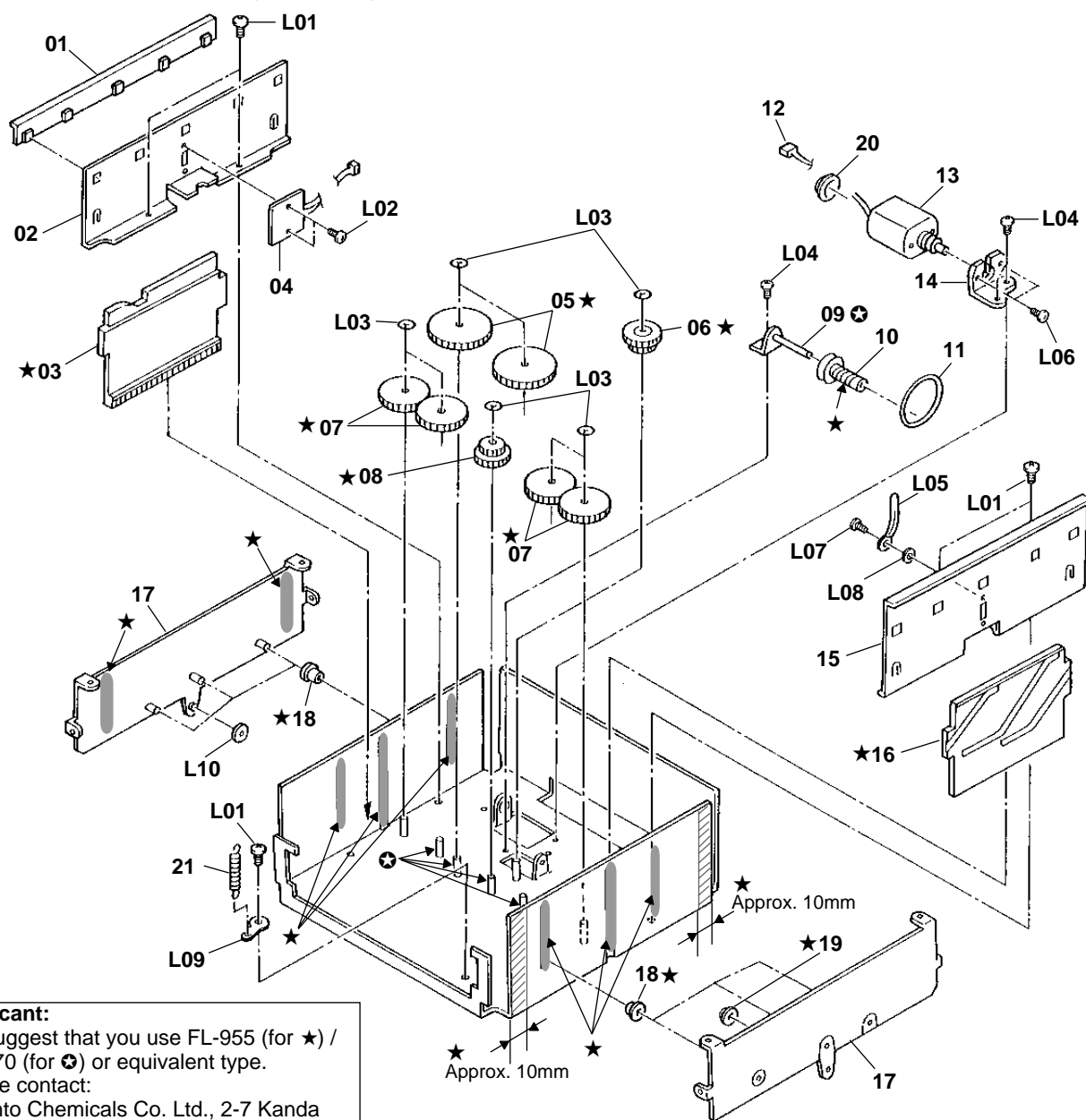
Schematic Ref. No.	Part No.	Description	Q'ty
A01	—	Mechanism CD 2 Ass'y (CD Player)	1
01	HG08576A	Door Cap Ass'y 2	1
02	0H08824D	Dress Plate Door B	1
03	0H08736C	Window Door	1
04	0J08729B	D.Cap Spring	3
05	0H08734B	Escutcheon Door	1
06	0H08812A	Illumination Lens	1
07	CA09459A	Disc Loading Ass'y	1
08	0C10450B	Traverse Cover CD	1
09	0C10575A	Sleeve 4x2.7x2.1	3
10	0C10449A	Damper Screw SD	1
11	0C10287A	Damper Screw SL	3
12	CA09504A	Traverse Mecha Ass'y	1
13	0C10448A	D Unit Base	1
14	BK10350A	CD P.C.B. Ass'y	1
15	—	Mechanism Chassis Ass'y (CD Player)	1
16	0C10578A	Stabi SP	1
17	HA08656B	F Panel ME CD S Ass'y	1
18	0B85946A	12P Connector Ass'y CN102/105-CD-CP501	2
19	0B85947A	3P Connector Ass'y CN103/106-CD-CP801	2
20	0B85691A	2P Connector Ass'y CN104/107-CD-CP502	2
L01	0E04174A	PT2x5 + Binding	
L02	0E04035A	PT2.6x6 + Binding (Black)	
L03	0E03197A	M2.6x4 + Pan (Black)	
L04	0E00945A	M2.6x4 + Binding (Black)	
L05	0E03270A	M3x5 + Binding (Black)	
L06	0E00964A	M3x5 + Binding	
L07	0E03950A	M2.6x5 + Binding	
L08	0E00174A	Earth Lug B-4	
L09	0E04308A	M2x3.5 + Pan #0 Type 3	
L10	0C10587A	Washer	

3.3..2 Mechanism CD 3 Ass'y - CD Player (A01)

Schematic Ref. No.	Part No.	Description	Q'ty
A01	—	Mechanism CD 3 Ass'y (CD Player)	1
01	HG08577A	Door Cap Ass'y 3	1
02	0H08735D	Dress Plate Door A	1
03	0H08736C	Window Door	1
04	0J08729B	D.Cap Spring	3
05	0H08734B	Escutcheon Door	1
06	0H08812A	Illumination Lens	1
07	CA09459A	Disc Loading Ass'y	1
08	0C10450B	Traverse Cover CD	1
09	0C10575A	Sleeve 4x2.7x2.1	3
10	0C10449A	Damper Screw SD	1
11	0C10287A	Damper Screw SL	3
12	CA09504A	Traverse Mecha Ass'y	1
13	0C10448A	D Unit Base	1
14	BK10350A	CD P.C.B. Ass'y	1
15	—	Mechanism Chassis Ass'y (CD Player)	1
16	0C10578A	Stabi SP	1
17	HA08656B	F Panel ME CD S Ass'y	1
18	0B85946A	12P Connector Ass'y CN102/105-CD-CP501	2
19	0B85947A	3P Connector Ass'y CN103/106-CD-CP801	2
20	0B85691A	2P Connector Ass'y CN104/107-CD-CP502	2
L01	0E04174A	PT2x5 + Binding	
L02	0E04035A	PT2.6x6 + Binding (Black)	
L03	0E03197A	M2.6x4 + Pan (Black)	
L04	0E00945A	M2.6x4 + Binding (Black)	
L05	0E03270A	M3x5 + Binding (Black)	
L06	0E00964A	M3x5 + Binding	
L07	0E03950A	M2.6x5 + Binding	
L08	0E00174A	Earth Lug B-4	
L09	0E04308A	M2x3.5 + Pan #0 Type 3	
L10	0C10587A	Washer	

3.4. Mechanism Chassis Ass'y (B01)

3.4.1. Mechanism Chassis Ass'y - DVD Player (B01)

**Lubricant:**

We suggest that you use FL-955 (for ★) / G-4270 (for ⊙) or equivalent type.

Please contact:

Kanto Chemicals Co. Ltd., 2-7 Kanda
Sakuma-cho, Chiyoda-Ku, Tokyo, Japan

Fig. 3.4.1

★: Apply lubricant FL-955

⊙: Apply lubricant G-4270

3.4.1. Mechanism Chassis Ass'y - DVD Player (B01)

Schematic Ref. No.	Part No.	Description	Q'ty
B01	—	Mechanism Chassis Ass'y (DVD Player)	1
01	0C10437A	UD Cam Guide	1
02	0C10435A	Cam Guide Chassis S	1
03	0C10439C	UD Cam S	1
04	BK10443A	SEN UD P.C.B. Ass'y	1
05	0C10441A	Cam D L Gear	2
06	0C10443A	Cam D WW Guide	1
07	0C10440A	Cam Drive Gear	4
08	0C10442A	Cam D S Gear	1
09	CA09458A	WP Base S Ass'y	1
10	0C10444A	Cam D Worm Pulley	1
11	0C10446A	Belt 1.5S D18.5	1
12	0B85683A	2P Wire Ass'y UD MOT	1
13	CA09511A	UD Motor SD S Ass'y	1
14	0C10447A	Cam Motor Holder	1

Schematic Ref. No.	Part No.	Description	Q'ty
15	0C10436A	Cam Guide Chassis L	1
16	0C10438A	UD Cam	1
17	CA09472A	UD Plate S Ass'y	2
18	0C10496A	UD Cam Roller	6
19	0C10514A	UD Cam Roller S	1
20	0C10265A	Motor Grommet SL	1
21	0C10578A	Stabi SP	1
L01	0E03270A	M3x5 + Binding (Black)	
L02	0E04085A	M2x3.5 (Black)	
L03	0E03955A	Cut Washer 2.2x4.2x0.2	
L04	0E03964A	ST2.6x3 + Pan #0 Type 3	
L05	0E03700B	Coating Clip	
L06	0E03953A	M2x2 + Pan #0 Type 1 (Black)	
L07	0E04072A	M2x1.8 (Black)	
L08	0E03214A	Washer 2.3x4.6x0.5	
L09	0E00174A	Earth Lug B-4	
L10	0E03925A	Washer	

3.4.2. Mechanism Chassis Ass'y - CD Player (B01)

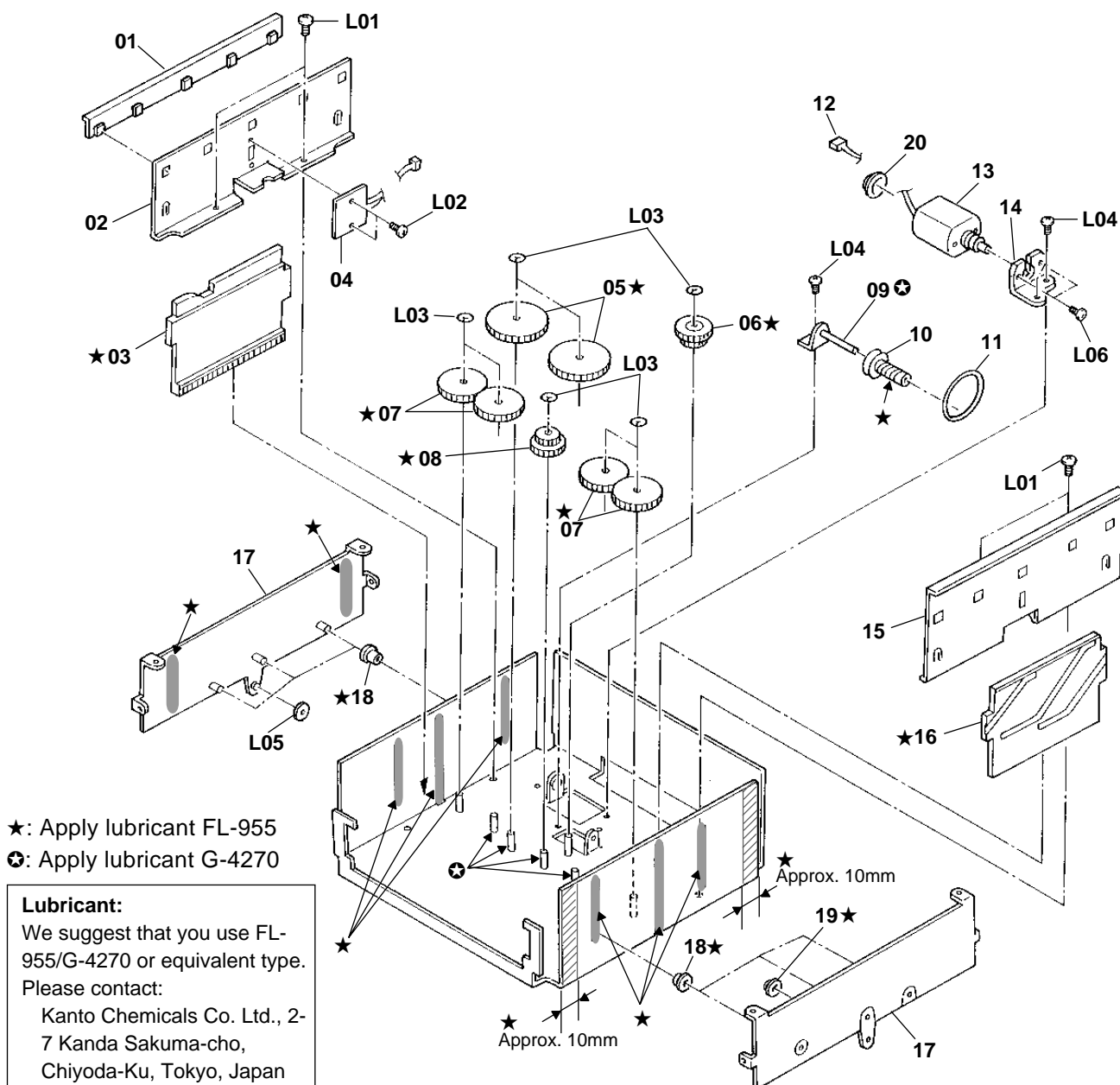


Fig. 3.4.2

3.4.2. Mechanism Chassis Ass'y - CD Player (B01)

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.	Part No.	Description	Q'ty
B01	—	Mechanism Chassis Ass'y (CD Player)	2	18	0C10496A	UD Cam Roller	6
01	0C10437A	UD Cam Guide	1	19	0C10514A	UD Cam Roller S	1
02	0C10435A	Cam Guide Chassis S	1	20	0C10265A	Motor Grommet SL	1
03	0C10439C	UD Cam S	1	L01	0E03270A	M3x5 + Binding (Black)	
04	BK10424A	SEN UD P.C.B. Ass'y	1	L02	0E04085A	M2x3.5 + (Black)	
05	0C10441A	Cam D L Gear	2	L03	0E03955A	Cut Washer 2.2x4.2x0.2	
06	0C10443A	Cam D WW Guide	1	L04	0E03964A	ST2.6x3 + Pan #0 Type 3	
07	0C10440A	Cam Drive Gear	4	L05	0E03925A	Washer	
08	0C10442A	Cam D S Gear	1	L06	0E03953A	M2x2 + Pan #0 Type 1 (Black)	
09	CA09458A	WP Base S Ass'y	1				
10	0C10444A	Cam D Worm Pulley	1				
11	0C10446A	Belt 1.5S D18.5	1				
12	0B85683A	2P Wire Ass'y UD_MOT	1				
13	CA09511A	UD Motor SD S Ass'y	1				
14	0C10447A	Cam Motor Holder	1				
15	0C10436A	Cam Guide Chassis L	1				
16	0C10438A	UD Cam	1				
17	CA09472A	UD Plate S Ass'y	2				

Apply FL-955:

03,05-08: Whole surface
10: Worm gear only
16: Whole surface
17: 2 places (on the left)
18,19: Whole surface
—: Chassis (8 places)

Apply G-4270:

09: Shaft
—: Chassis's shafts (4 pcs.)

3.5. Traverse Mecha Ass'y (B02)

3.5.1. DVD Traverse Ass'y ADJ-3 - DVD Player (B02)

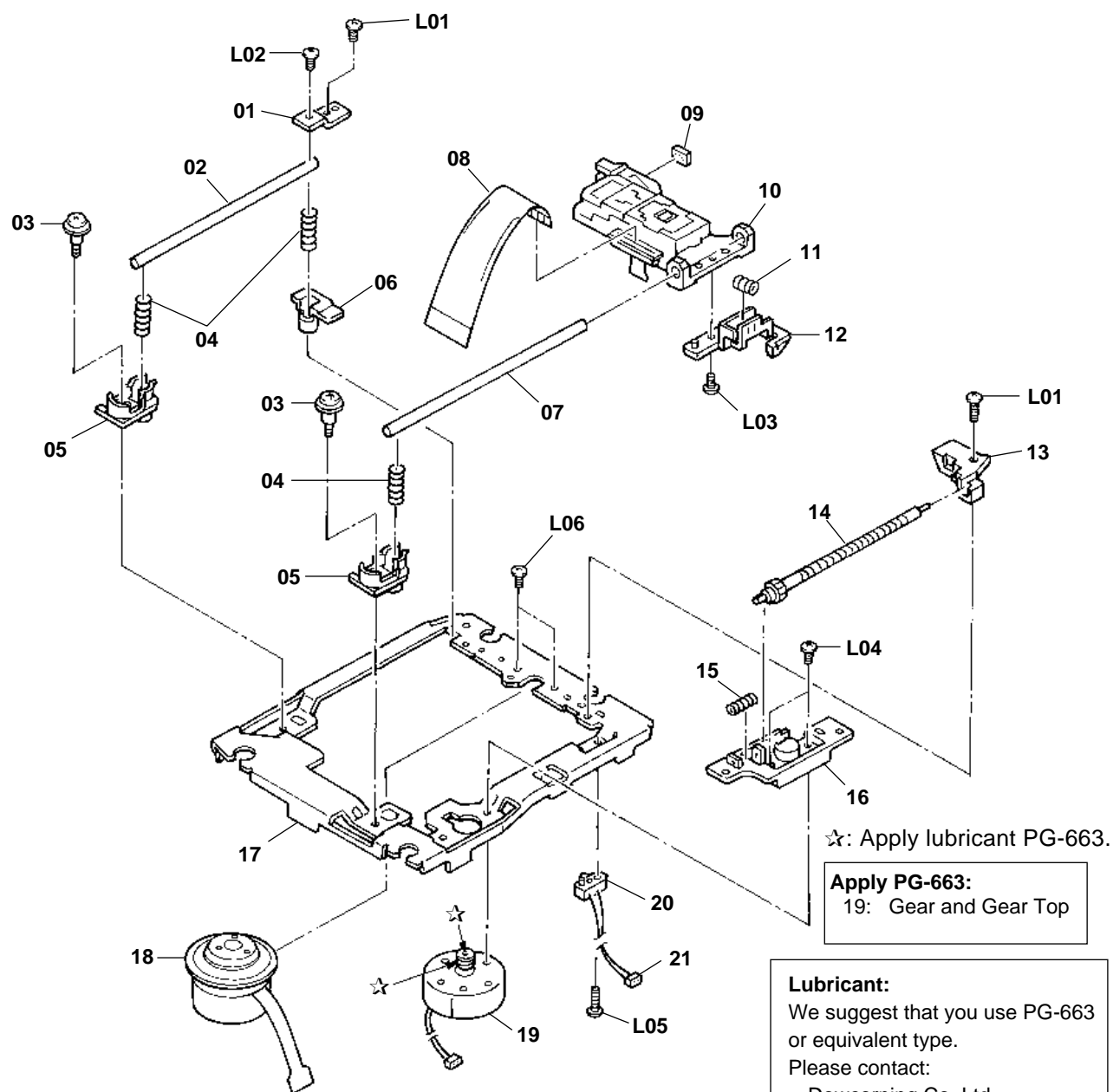


Fig. 3.5.1

3.5.1. DVD Traverse Ass'y ADJ-3 - DVD Player (B02)

Schematic Ref. No.	Part No.	Description	Q'ty
B02	CA09479A	DVD Traverse Ass'y ADJ-3 (DVD Player)	1
01	0C10559A	Holder Shaft 3	1
02	0C10532A	Shaft R	1
03	0C10534A	Screw S	2
04	0C10525A	SP Push Shaft	3
05	0C10536A	Holder SP	2
06	0C10558A	Holder SP-2	1
07	0C10531A	Shaft L	1
08	0B85437A	30P Flexible Wire	1
(Note: Not included in this DVD Traverse Ass'y)			
09	0C10583A	Cushion PU 7X4X2.5	1
10	0B90967A	Pick-up VED0383-AK	1
11	0C10526A	SP Push Hook	1
12	0C10535A	Hook L.S	1

Schematic Ref. No.	Part No.	Description	Q'ty
13	0C10537A	Holder Shaft 1	1
14	CA09487A	Shaft Screw Ass'y	1
15	0C10524A	SP Push L.S	1
16	0C10539A	Holder Motor	1
17	0C10530A	Traverse-P Chassis	1
18	0B90969A	M. CDS8A50T30-A/TT	1
19	CA09488A	Sled Motor Ass'y	1
20	0B70304A	Switch MPU10420MLB0	1
21	0B85699A	2P Wire Ass'y L100	1
L01	0E04250A	ST2x5 + Pan CMT	
L02	0E04256A	M2x4 + Pan BNI	
L03	0E04248A	M1.7x3.5 + Pan CMT	
L04	0E04248A	M1.7x3.5 + Pan CMT	
L05	0E04249A	ST2x8 + Binding CMT	
L06	0E04247A	M1.7x2.5 + Pan BZN	

3.5.2. Traverse Mecha Ass'y - CD Player (B02)

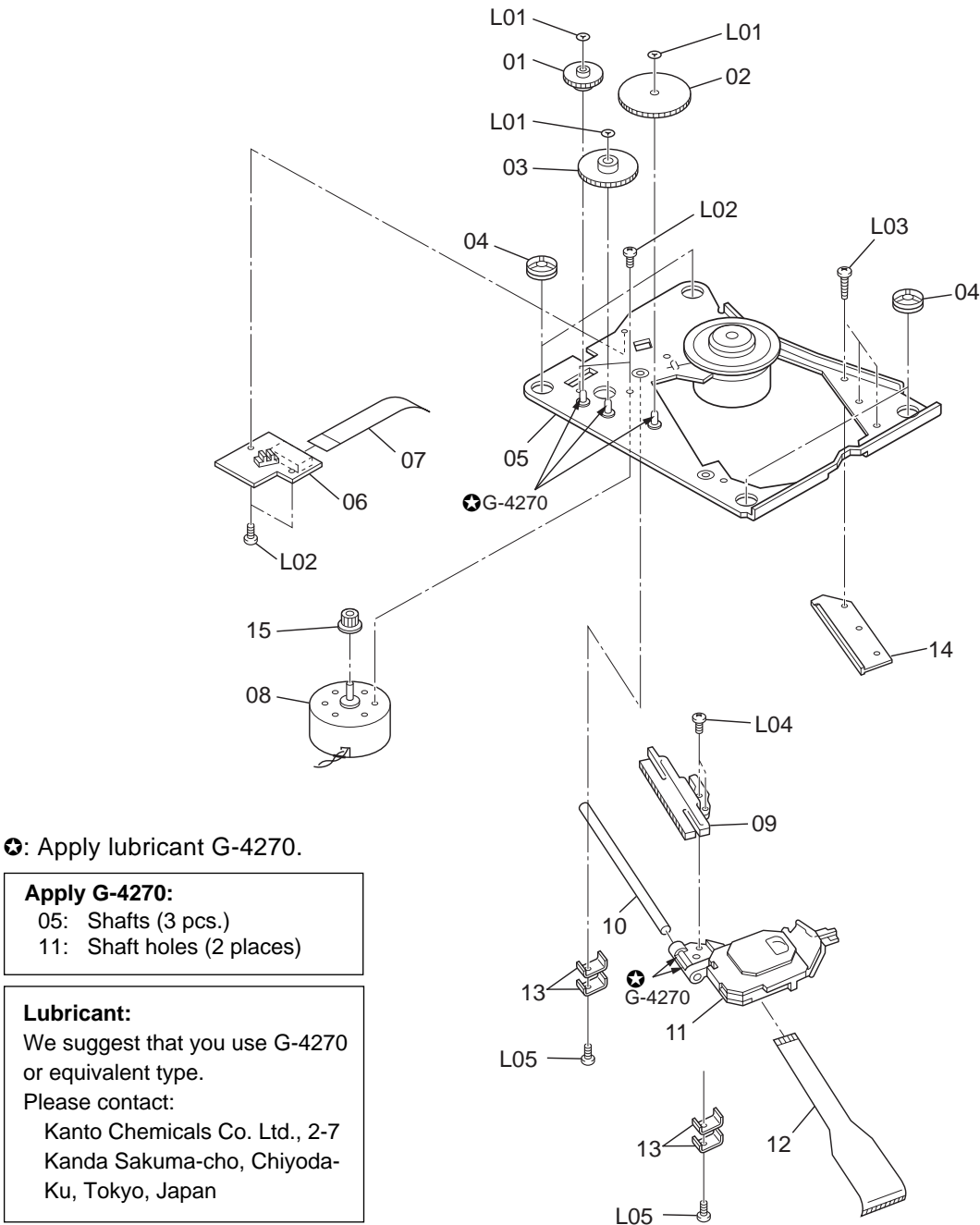


Fig. 3.5.2

3.5.2. Traverse Mecha Ass'y - CD Player (B02)

Schematic				Schematic			
Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
B02	CA09504A	Traverse Mecha Ass'y (CD Player)	2	12	0B61355A	Pick up Flexible P.C.B.	1
01	0C10139B	Second Gear	1	13	0C10278A	Shaft Lock Plate SL	4
02	0C09923C	Power Gear	1	14	0C10282A	PU Guide Plate H SL	1
03	0C10140B	Third Gear	1	15	0C10138B	First Gear	1
04	0C10279A	Damper S SL	4	L01	0E04343B	Cut Washer 1.6x3.2x0.2 (Black)	
05	CA09364A	Disc Motor Chassis Ass'y	1	L02	0E03845A	M1.7x2.5 + Pan #0 Type 3 (Black)	
06	BA09777A	Traverse P.C.B. Ass'y	1	L03	0E00955A	BT2x4 + Binding	
07	0B84608A	8P Flexible Wire	1	L04	0E00887A	M1.7x4 + Pan	
08	3B90704A	Sled Motor	1	L05	0E03947A	M2.6x3.5 + Pan #0 Type 3	
09	0C10141C	Rack CA	1				
10	0C10277A	PU Guide Shaft SL	1				
11	0B90741A	Pickup KSS-540A	1				

3.6. Disc Loading Ass'y (B03)

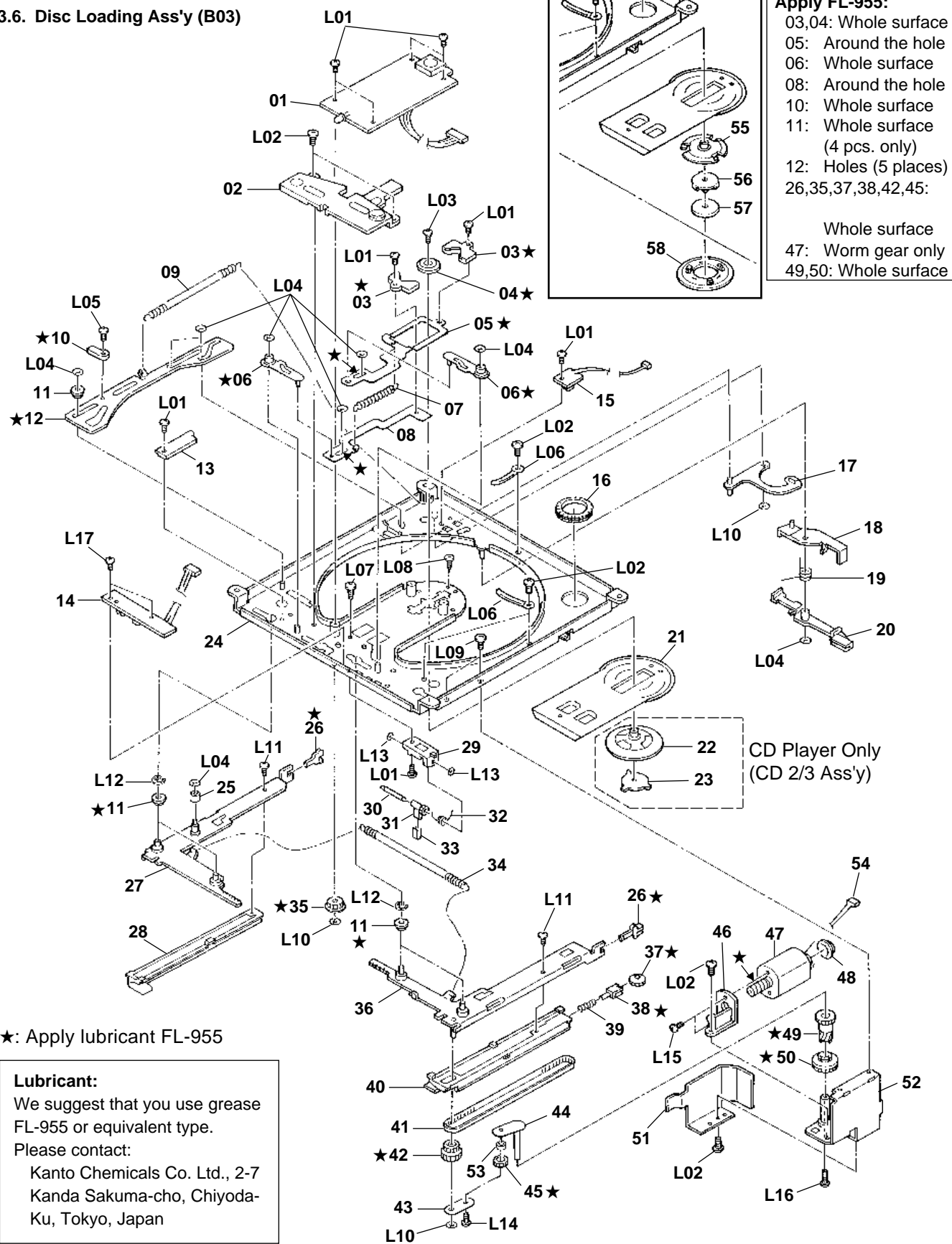


Fig. 3.6

3. MECHANISM ASS'Y AND PARTS LIST

SS-12 Main Unit Section

3.6. Disc Loading Ass'y (B03)

3.6.1. For DVD Player

Schematic Ref. No.	Part No.	Description	Q'ty
B03	CA09486A	Disc Loading Ass'y (DVD Player)	1
01	BK10440A	LED P.C.B. Ass'y	1
02	0C10518A	Link Cover	1
03	0C10510A	Clamp Holder	2
04	0C09988B	Clamp Top	1
05	0C10456A	Clamp Arm L	1
06	CA09462A	Clamp Link S Ass'y	2
07	0C10458A	Clamper RE SP SD	1
08	0C10457A	Clamp Arm S	1
09	0C10465A	LDG D Cam SP	1
10	0C10562A	LDG Cam Tip	1
11	0C10466A	LDG Guide Roller	5
12	0C10511A	D Sens Cam	1
13	0C10464A	LDG D Cam Holder	1
14	BK10441A	SEN LD1 P.C.B. Ass'y	1
15	BK10442A	SEN LD2 P.C.B. Ass'y	1
16	0C10567A	EDGE Protector	1
17	CA09461A	D Sens Link S Ass'y	1
18	0C10459A	Dsens Arm Base	1
19	0C10461A	Dsens Arm SP	1
20	0C10460A	Disc Sens Arm	1
21	0C10455A	Disc Guide SD	1
22	0C09922B	Disc Cramp Base	1
23	0C09997B	Steel Ring	1
24	CA09460A	Loading Chassis SD S Ass'y	1
25	0C10561A	LDG Cam Roller	1
26	0C10215A	LP Slider SL	2
27	CA09467A	Loading Plate L SD S Ass'y	1
28	CA09468A	Disc G L SD S Ass'y	1
29	0C10491B	D Shutter Base	1
30	0C10493A	D Shutter Shaft	1
31	0C10490A	D Shutter	1
32	0C10492B	D Shutter SP	1
33	0C10255A	Shutter Arm Cushion SL	1
34	0C10252A	Loading Return Spring SL	1
35	0C10454A	LDG Center Guide SD	1
36	CA09464A	Loading Plate R SD S Ass'y	1
37	0C10191A	Idler Pulley SL	1
38	0C10192A	Pulley Fork SL	1
39	0C10193A	Pulley Spring SL	1
40	0C10476B	LDG Guide R SD	1
41	0C10477A	Timing Belt SD	1
42	0C10213A	Timing Gear SL	1
43	0C10478A	Loading Link B SD	1
44	CA09465A	Loading Link A S Ass'y	1
45	0C10479A	LDG Idle Gear SD	1
46	0C10488A	LDG Motor Holder	1
47	CA09512A	Loading Motor SD S Ass'y	1
48	0C10265A	Motor Grommet SL	1
49	0C10236A	Loading Worm Gear SL	1
50	0C10237A	Loading Sensor Ring SL	1
51	0C10563A	LDG Motor Cover	1
52	CA09470A	Loading Motor Chassis S Ass'y	1
53	0C10480A	LDG Gear Collar SD	1
54	0B85682A	2P Wire Ass'y LD_MOT	1
55	0C10523A	Clamper Base DVD	1
56	CA09391D	Clamp York ADT S Ass'y	1
57	0C10497A	Clamp Magnet ADT 2	1
58	0C10320C	Clamp Wheel ADT	1
L01	0E04085A	M2x3.5 (Black)	
L02	0E03964A	ST2.6x3 + Pan #0 Type 3	
L03	0E03943A	BT1.7x5 + Pan #0 Type 3 (Black)	
L04	0E03954A	Cut Washer 1.6x3.2x0.2	
L05	0E03243A	M2x2.5 + Pan	
L06	0E03700B	Coating Clip	
L07	0E00869A	BT2.6x4 + Binding	
L08	0E03461A	BT2x2.5 + Pan (Black)	
L09	0E03970A	M2.6x3 + Pan #0 Type 3	
L10	0E03955A	Cut Washer 2.2x4.2x0.2	
L12	0E04310A	E Ring 1.5mm	
L13	0E04119A	Washer 1.2x3x0.25	
L14	0E03969A	M1.4x3 + Pan #0 Type 3	
L15	0E03953A	M2x2 + Pan #0 Type 1	
L16	0E03845A	M1.7x2.5 + Pan #0 Type 3 (Black)	
L17	0E04381A	M2x3.5 + Pan #0 Type 1	

3.6.2. For CD Player

Schematic Ref. No.	Part No.	Description	Q'ty
B03	CA09459A	Disc Loading Ass'y (CD Player)	1
01	BK10421A	LED P.C.B. Ass'y	1
02	0C10518A	Link Cover	1
03	0C10510A	Clamp Holder	2
04	0C09988B	Clamp Top	1
05	0C10456A	Clamp Arm L	1
06	CA09462A	Clamp Link S Ass'y	2
07	0C10458A	Clamper RE SP SD	1
08	0C10457A	Clamp Arm S	1
09	0C10465A	LDG D Cam SP	1
10	0C10562A	LDG Cam Tip	1
11	0C10466A	LDG Guide Roller	5
12	0C10511A	D Sens Cam	1
13	0C10464A	LDG D Cam Holder	1
14	BK10422A	SEN LD1 P.C.B. Ass'y	1
15	BK10423A	SEN LD2 P.C.B. Ass'y	1
16	0C10567A	Edge Protector	1
17	CA09461A	D Sens Link S Ass'y	1
18	0C10459A	Dsens Arm Base	1
19	0C10461A	Dsens Arm SP	1
20	0C10460A	Disc Sens Arm	1
21	0C10455A	Disc Guide SD	1
22	0C09922B	Disc Cramp Base	1
23	0C09997B	Steel Ring	1
24	CA09460A	Loading Chassis SD S Ass'y	1
25	0C10561A	LDG Cam Roller	1
26	0C10215A	LP Slider SL	2
27	CA09467A	Loading Plate L SD S Ass'y	1
28	CA09468A	Disc G L SD S Ass'y	1
29	0C10491B	D Shutter Base	1
30	0C10493A	D Shutter Shaft	1
31	0C10490A	D Shutter	1
32	0C10492B	D Shutter SP	1
33	0C10255A	Shutter Arm Cushion SL	1
34	0C10252A	Loading Return Spring SL	1
35	0C10454A	LDG Center Guide SD	1
36	CA09464A	Loading Plate R SD S Ass'y	1
37	0C10191A	Idler Pulley SL	1
38	0C10192A	Pulley Fork SL	1
39	0C10193A	Pulley Spring SL	1
40	0C10476B	LDG Guide R SD	1
41	0C10477A	Timing Belt SD	1
42	0C10213A	Timing Gear SL	1
43	0C10478A	Loading Link B SD	1
44	CA09465A	Loading Link A S Ass'y	1
45	0C10479A	LDG Idle Gear SD	1
46	0C10488A	LDG Motor Holder	1
47	CA09512A	Loading Motor SD S Ass'y	1
48	0C10265A	Motor Grommet SL	1
49	0C10236A	Loading Worm Gear SL	1
50	0C10237A	Loading Sensor Ring SL	1
51	0C10563A	LDG Motor Cover	1
52	CA09470A	Loading Motor Chassis S Ass'y	1
53	0C10480A	LDG Gear Collar SD	1
54	0B85682A	2P Wire Ass'y LD_MOT	1
L01	0E04085A	M2x3.5 (Black)	
L02	0E03964A	ST2.6x3 + Pan #0 Type 3	
L03	0E03943A	BT1.7x5 + Pan #0 Type 3 (Black)	
L04	0E03954A	Cut Washer 1.6x3.2x0.2	
L05	0E03243A	M2x2.5 + Pan	
L06	0E03700B	Coating Clip	
L07	0E00869A	BT2.6x4 + Binding	
L08	0E03461A	BT2x2.5 + Pan (Black)	
L09	0E03970A	M2.6x3 + Pan #0 Type 3	
L10	0E03955A	Cut Washer 2.2x4.2x0.2	
L11	0E03961A	BT2x4 + Pan #0 Type 1 (Black)	
L12	0E04310A	E Ring 1.5mm	
L13	0E04119A	Washer 1.2x3x0.25	
L14	0E03969A	M1.4x3 + Pan #0 Type 3	
L15	0E03953A	M2x2 + Pan #0 Type 1	
L16	0E03845A	M1.7x2.5 + Pan #0 Type 3 (Black)	
L17	0E04381A	M2x3.5 + Pan #0 Type 1	

4. ELECTRICAL PARTS LIST

NOTES: 1. Abbreviations

TR – Transistor, SID – Silicon Diode, ZD – Zener Diode, Varicap – Variable Capacitance Diode
 RK – Carbon Resistor, RM – Metal Film Resistor, RF – Fail Safe Type Resistor,
 RC – Cement Resistor, CE – Electrolytic Capacitor, CML – Mylar Capacitor,
 CC – Ceramic Capacitor, CPP – PP Capacitor, CMM – Metalized Mylar Capacitor,
 CSP – Polystyrene Capacitor, C – Mica Capacitor, CT – Tantalum Capacitor

2. Description of capacitor: 10 16V = 10μ 16V

3. Parts marked with * show chip parts.

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

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BK10418A	Main P.C.B. Ass'y EP (UK, AUS, EP)	R070	0B25612A	RK 0 1/10W J* (UK, OTR, AUS, EP, CH, HK)	Q404	0B10930A	TR 2SD1758F*
	BK10426A	Main P.C.B. Ass'y DM (JPN)	R071	0B25563A	RK 10K 1/10W J* (OTR, CH, HK, KR, TW)	Q411,412	0B14167A	TR 2SC2412K*
	BK10427A	Main P.C.B. Ass'y DU (OTR, CH, HK)		0B25612A	RK 0 1/10W J* (USA, CAN, DA)	Q413	0B14167A	TR 2SC2412K*
	BK10428A	Main P.C.B. Ass'y TW (KR, TW)	R072	0B25612A	RK 0 1/10W J* (JPN)	Q414	0B10930A	TR 2SD1758F*
	BK10429A	Main P.C.B. Ass'y UL (USA, CAN, DA)	R338	0B21642A	RF 3.6 5W	Q501,502	0B14013A	TR DTC144EK*
			CN101	0B80668A	DIN 13P Socket	Q503,504	0B12847A	TR 2SK2158*
			CN102	0B85452A	13P Mini Socket	Q505	0B12847A	TR 2SK2158*
			CP803	0B85423A	24P F Connector*	Q521	0B14002A	TR DTA114EK*
			F301	0B90865A	Fuse 1A 250V T	Q522	0B12847A	TR 2SK2158*
			PJ301	0B85356A	1P Pin Jack Gold	Q801L,R	0B14206A	TR DTC323TK*
			PJ302	0B85358A	1P S Jack Gold	ZD401	0B12150A	ZD RD5.6V JS B2
			PJ303	0B85828A	3P Pin Jack GOLD	ZD403	0B12153A	ZD RD6.2V JS B2
U101	0B12863A	IC UPD78F4225GC-8*				ZD404,405	0B12150A	ZD RD5.6V JS B2
U102	0B12994A	IC PQ30RV1				D101,102	0B10540A	SID MA152WA*
U103	0B11493A	IC TC4538BP				D404	0B10540A	SID MA152WA*
U104	0B06302A	IC TC4001				D406	0B10540A	SID MA152WA*
U105	0B10723A	IC SN74LV32NS*				D801	0B10540A	SID MA152WA*
U301	0B13144A	IC PQ12RD21				L101	0B51300A	Inductor 10uH
U302	0B10571A	IC PQ05RF2				L102,103	0B50287A	Coil 120uH*
U303	0B13145A	IC PQ3RD23				L104	0B51138A	Inductor 1mmH
U304	0B10588A	IC NJM2100D				L105	0B51183A	Inductor 100uH
U306	0B12811A	Toslink TOTX178A				L301	0B51300A	Inductor 10uH
U307,308	0B12862A	IC BA7660FS*				L503	0B50287A	Coil 120uH*
U309,310	0B12994A	IC PQ30RV1				L601	0B50287A	Coil 120uH*
U311	0B17087A	IC TC74HC153AP				L802	0B50287A	Coil 120uH*
U312	0B13400A	IC TC74HC4066AP				X101	0B90672A	X'tal 16.9344MHz
U313	0B11568A	IC TC74HCU04AP				X501	0B91047A	X'tal 8.38MHz
U314	0B11561A	IC TC74HC74AP				CP101	0B80896A	16P F Connector*
U315	0B11568A	IC TC74HCU04AP				CP102	0B85680A	8P F Connector*
U316	0B12994A	IC PQ30RV1				C411	0B42247A	CE 0.1 5.5V F
U317	0B13384A	IC TC74HCT7007AP*				TP101	0B84787A	5P Connector Header
U318	0B13400A	IC TC74HC4066AP				TP501	0B84787A	5P Connector Header
U319	0B10588A	IC NJM2100D						
Q101,102	0B14167A	TR 2SC2412K*						
Q103	0B14167A	TR 2SC2412K*						
Q106	0B12847A	TR 2SK2158*						
Q108	0B14002A	TR DTA114EK*						
Q109	0B12847A	TR 2SK2158*						
Q301L,R	0B14193A	TR DTC323TK*						
Q302	0B12901A	TR 2SB1132R*						
Q303	0B12847A	TR 2SK2158*						
Q501,502	0B12847A	TR 2SK2158*						
Q503	0B12847A	TR 2SK2158*						
ZD101,102	0B12150A	ZD RD5.6V JS B2						
ZD103,104	0B12150A	ZD RD5.6V JS B2						
ZD105,106	0B12150A	ZD RD5.6V JS B2						
ZD107,108	0B12150A	ZD RD5.6V JS B2						
ZD109,110	0B12150A	ZD RD5.6V JS B2						
ZD111	0B12150A	ZD RD5.6V JS B2						
ZD113	0B12150A	ZD RD5.6V JS B2						
D102,103	0B12586A	SID 1N4002						
D106,107	0B12249A	SID 1SS133						
D108,109	0B12249A	SID 1SS133						
D110,111	0B12249A	SID 1SS133						
D112	0B12249A	SID 1SS133						
T301	0B51351A	Pulse Transformer (TC-1027-04)						
L001,002	0B51369A	Inductor 10mH						
L301	0B51392A	Inductor 47uH						
L302,303	0B50354A	Coil 750*						
L304,305	0B50354A	Coil 750*						
L306	0B50354A	Coil 750*						
X001	0B91047A	X'tal 8.38MHz						

4.2. Front P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10417A	Front P.C.B. Ass'y
U701	0B12866A	IC LC75874E*
U702	0B13257A	IR SENSOR 38K
D701,702	0B12865A	LED WHITE
D703,704	0B12865A	LED WHITE
D705	0B12865A	LED WHITE
D707	0B10825A	LED Amber GL3HS43
LCD701	0B90963A	LCD
SW701,702	0B70295A	Tact Switch SKQBLB
SW703,704	0B70295A	Tact Switch SKQBLB
SW705	0B70295A	Tact Switch SKQBLB
SW706	0B70282A	Tact Switch
SW707,708	0B70295A	Tact Switch SKQBLB
SW709,710	0B70295A	Tact Switch SKQBLB
SW711,712	0B70295A	Tact Switch SKQBLB

4.3. CD P.C.B. Ass'y (For CD Player)

Schematic Ref. No.	Part No.	Description
	BK10350A	CD P.C.B. Ass'y (For CD Player)
U101	0B10691A	IC CXA2521Q*
U102	0B10948A	IC CXD2587Q*
U103	0B10953A	IC TC4W53FU*
U104	0B12955A	IC BA5983FP*
U105,106	0B10719A	IC TA8409F*
U180	0B10645A	IC NJM2100M*
U301	0B12989A	IC PCM1716*
U302	0B10645A	IC NJM2100M*
U501	0B12988A	IC UPD78018FGC*
U502	0B11928A	IC TC4049BF
U601	0B10832A	IC TC74HCU04AF*
Q101	0B10731A	TR 2SB1132*
Q102	0B14013A	TR DTC144EK*
Q103	0B10652A	TR DTC144TK*
Q106	0B12847A	TR 2SK2158*
Q301	0B12847A	TR 2SK2158*
Q403	0B10901A	TR 2SD2153TL*

4.4. DVD Main P.C.B. Ass'y C3M1 (For DVD Player)

Schematic Ref. No.	Part No.	Description
	BK10322A	DVD Main P.C.B. Ass'y C3M1 (For DVD Player)
IC100	0B13171A	IC CYC11AP000*
IC110,111	0B13179A	IC NJM4558M*
IC120	0B13169A	IC BU4011BFV-E2*
IC121,122	0B13170A	IC BU4S81-TR*
IC201	0B13172A	IC CYC12MP000*
IC202	0B13190A	IC TC7SHU04FU*
IC203	0B13179A	IC NJM4558M*
IC300	0B13177A	IC MN67700VRZB*
IC311	0B13190A	IC TC7SHU04FU*
IC410,411	0B13178A	IC NJM2903V*
IC412	0B13169A	IC BU4011BFV-E2*
IC490	0B13165A	IC MN66261
IC500	0B13173A	IC CYC13DD000*
IC501	0B13175A	IC HY628100ALG-55*
IC502	0B13174A	IC Y57V161610DTC*
IC503	0B13183A	IC TC74VHC00FT*
IC507	0B13186A	IC C74VHC32FTEL*
IC550	0B13185A	IC TC74VHC157FTEL*
IC600	BA10558B	DVD SYS KIT NC-SYS6

4. ELECTRICAL PARTS LIST

SS-12 Main Unit Section

Schematic Ref. No.	Part No.	Description
IC602	0B13166A	IC MSM531602E-T1GS
IC603	0B13176A	IC M24C16-MN6T*
IC605	0B13183A	IC TC74VHC00FT*
IC606	0B13189A	IC TC74VHCT245AFT*
IC607	0B13187A	IC TC74VHC574FTEL*
IC610	0B13191A	IC TC7W04FUTE12L*
IC611	0B13183A	IC TC74VHC00FT*
IC612	0B13193A	IC TC7WH74FUTE12L*
IC613	0B13184A	IC TC74VHC08FTEL*
IC614	0B13188A	IC TC74VHC86FT*
IC700	0B13195A	IC ZIVA-3-PEO*
IC701,702	0B13174A	IC HY57V161610DTC*
IC703	0B13192A	IC TC7WH157FU*
IC704	0B13181A	IC SI-3025ALS-TL*
IC800	0B13182A	IC SM8701BM-ET*
IC801	0B13194A	IC TC7WU04FUTE12L*
IC802	0B13190A	IC TC7SHU04FU*
IC803	0B13194A	IC TC7WU04FUTE12L*
IC850	0B13167A	IC ADV7172 KST*
IC901	0B13168A	IC BA05FP-E2*
IC911	0B13180A	IC PCM1735E/2K*
IC991	0B13231A	IC TC74HC4053AFT*
TR100,101	0B13161A	TR UMG4N-TR*
TR102,103	0B13161A	TR UMG4N-TR*
TR104,105	0B13161A	TR UMG4N-TR*
TR106	0B13161A	TR UMG4N-TR*
TR110,111	0B13163A	TR 2SK880-TE85L*
TR112	0B13162A	TR 2SK2145-TE85L*
TR115	0B13157A	TR UMY3N-TR*
TR117	0B13160A	TR DTC144TUA*
TR120	0B13155A	TR UMW1N-TR*
TR125	0B13160A	TR DTC144TUA*
TR167	0B13154A	TR FMY4A-T148*
TR170	0B13160A	TR DTC144TUA*
TR171	0B13156A	TR UMX3N-TR*
TR172	0B13196A	TR 2SA1576A-Q/R/S*
TR190	0B13159A	TR DTC144EUA*
TR200,201	0B13197A	TR 2SC4081-R/S*
TR202	0B13197A	TR 2SC4081-R/S*
TR300	0B13158A	TR DTA144EUA*
TR490	0B13159A	TR DTC144EUA*
TR491	0B13160A	TR DTC144TUA*
TR500	0B13160A	TR DTC144TUA*
TR600	0B13159A	TR DTC144EUA*
TR801,802	0B13196A	TR 2SA1576A-Q/R/S*
TR804,805	0B13196A	TR 2SA1576A-Q/R/S*
TR806	0B13196A	TR 2SA1576A-Q/R/S*
D101,102	0B13151A	SID 1SS355TE-17*
D103	0B13151A	SID 1SS355TE-17*
D120	0B13151A	SID 1SS355TE-17*
D190	0B13151A	SID 1SS355TE-17*
D191	0B13152A	SID DA204U-T106*
D193	0B13151A	SID 1SS355TE-17*
D209	0B13151A	SID 1SS355TE-17*
D300,301	0B13151A	SID 1SS355TE-17*
D500,501	0B13151A	SID 1SS355TE-17*
D850	0B13153A	SID UMN11N-TN*
D901	0B13153A	SID UMN11N-TN*
D902,903	0B13151A	SID 1SS355TE-17*
L100	0B50383A	Coil 3.3uH*
L200	0B50383A	Coil 3.3uH*
L300	0B50385A	Coil 1.5uH*
L301,302	0B50383A	Coil 3.3uH*
L490,491	0B50383A	Coil 3.3uH*
L500,501	0B50384A	Coil 4.7uH*
L600	0B50379A	Coil 10uH*
L699	0B50379A	Coil 10uH*
L700	0B50380A	Coil 1.0uH*
L701	0B50379A	Coil 10uH*
L702	0B50382A	Coil 2.2uH*
L800,801	0B50384A	Coil 4.7uH*
L850	0B50379A	Coil 10uH*
L901	0B50381A	Coil 22uH*
X301	0B90966A	X'tal CX-16F 40MHz*
X601	0B90964A	X'tal CCR4.0MC3T*
X800	0B90965A	X'tal CX-11F 27MH*
VR110	0B30229A	Semi VR 22K*

Schematic Ref. No.	Part No.	Description
VR120,121	0B30229A	Semi VR 22K*
TP105	0B85698A	TERM RCT1.25X2.0*
TP107	0B85698A	TERM RCT1.25X2.0*
TP120	0B85698A	TERM RCT1.25X2.0*
TP201	0B85698A	TERM RCT1.25X2.0*
TP205	0B85698A	TERM RCT1.25X2.0*
TP300	0B85698A	TERM RCT1.25X2.0*

4.5. Mechanism P.C.B. Ass'y (For DVD Player)

Schematic Ref. No.	Part No.	Description
	BK10454A	Mechanism P.C.B. Ass'y (For DVD Player)
IC1	0B13221A	IC BA6859AFP-E2*
IC2	0B13220A	IC BA5938FM-E2*
IC3	0B13179A	IC NJM4558M*
IC4	0B13228A	IC NJM2904M*
TR1	0B13159A	TR DTC144EUA*
TR31,32	0B13246A	TR 2SB1132-P/Q/R*
TR33,34	0B13196A	TR 2SA1576A-Q/R/S*
TR35	0B13197A	TR 2SC4081-R/S*
TR36	0B13213A	TR DTC114TUA*
TR37	0B13197A	TR 2SC4081-R/S*
TR38	0B13211A	TR DTA114EUA*
TR90	0B13197A	TR 2SC4081-R/S*
D11	0B13151A	SID 1SS355TE-17*
D31,32	0B13151A	SID 1SS355TE-17*
D33	0B13253A	ZD UDZ10BTE-17*

4.6. Connector P.C.B. Ass'y (For DVD Player)

Schematic Ref. No.	Part No.	Description
	BK10419A	Connector P.C.B. Ass'y (For DVD Player)
U106,107	0B10719A	IC TA8409F*
Q504	0B12847A	TR 2SK2158*
D501	0B12249A	SID 1SS133

4.7. LED P.C.B. Ass'y

4.7.1. LED P.C.B. Ass'y (For DVD Player)

Schematic Ref. No.	Part No.	Description
	BK10440A	LED P.C.B. Ass'y (For DVD Player)
LED1	0B12900A	LED BLUE
LED2	0B12900A	LED BLUE
LED3	0B13141A	LED GREEN
SW1	0B70302A	Tact Switch

4.7.2. LED P.C.B. Ass'y (For CD Player)

Schematic Ref. No.	Part No.	Description
	BK10421A	LED P.C.B. Ass'y (For CD Player)
LED1	0B12900A	LED BLUE
LED2	0B12900A	LED BLUE
LED3	0B13141A	LED GREEN
SW1	0B70302A	Tact Switch

4.8. SEN LD1 P.C.B. Ass'y

4.8.1. SEN LD1 P.C.B. Ass'y (For DVD Player)

Schematic Ref. No.	Part No.	Description
	BK10441A	SEN LD1 P.C.B. Ass'y (For DVD Player)
PC1,2	0B10737A	IC Photointerrupter

4.8.2. SEN LD1 P.C.B. Ass'y (For CD Player)

Schematic Ref. No.	Part No.	Description
	BK10422A	SEN LD1 P.C.B. Ass'y (For CD Player)
PC1,2	0B10737A	IC Photointerrupter

4.9. SEN LD2 P.C.B. Ass'y

4.9.1. SEN LD2 P.C.B. Ass'y (For DVD Player)

Schematic Ref. No.	Part No.	Description
	BK10442A	SEN LD2 P.C.B. Ass'y (For DVD Player)
PC3	0B10737A	IC Photointerrupter

4.9.2. SEN LD2 P.C.B. Ass'y (For CD Player)

Schematic Ref. No.	Part No.	Description
	BK10423A	SEN LD2 P.C.B. Ass'y (For CD Player)
PC3	0B10737A	IC Photointerrupter

4.10. SEN UD P.C.B. Ass'y

4.10.1. SEN UD P.C.B. Ass'y (For DVD Player)

Schematic Ref. No.	Part No.	Description
	BK10443A	SEN UD P.C.B. Ass'y (For DVD Player)
PC1,2	0B10737A	IC Photointerrupter

4.10.2. SEN UD P.C.B. Ass'y (For CD Player)

Schematic Ref. No.	Part No.	Description
	BK10424A	SEN UD P.C.B. Ass'y (For CD Player)
PC4,5	0B10737A	IC Photointerrupter

4.11. Traverse P.C.B. Ass'y (For CD Player)

Schematic Ref. No.	Part No.	Description
	BA09777A	Traverse P.C.B. Ass'y (For CD Player)
PC201	0B10737A	Photointerrupter

5. IC BLOCK DIAGRAMS

5.1. System Controller (U101 μ PD78F4225GC-8)-Main P.C.B. Ass'y

Pin No.	Signal Name	I/O	Function	Active	Standby
1	INT/EXT	I	Video signal presence detect input from A/V Tuner/Processor unit.	—	—
2	MASTER	I	Remote controller's main/remote detect input.	—	—
3	AL5V	I	A/V Tuner/Processor unit connection detect input.	—	—
4	AVSS	—	GND.		
5	INH	O	LCD display inhibit output.	L	L
6	CE	O	LCD driver chip enable output.	H	L
7	AVREF1	—	Analog reference voltage.		
8	SDI	I	Serial data input.	—	—
9	SDO	O	Serial data output.	L/H	L
10	SCK	O	Serial clock output.	L/H	L
11	DVDI	I	Serial DVD data input.	—	—
12	DVDO	O	Serial DVD data output.	L/H	L
13	DVCLK	O	Serial DVD clock output.	L/H	L
14	READY/BSY	I	DVD Mechanism ready/busy input.	—	L
15	DVRST	O	DVD Mechanism reset output.	H	L
16	CD-SI	I	Serial data input from the CD Mechanism. (Serial data input for flash ROM writing)	—	—
17	CD-SO	O	Serial data output to the CD Mechanism. (Serial data output for flash ROM writing)	L/H	L
18	CD-SCK	I	Serial clock input from the CD Mechanism. (Serial clock input for flash ROM writing)	—	L
19	CD1RES	O	CD Mechanism-1 operation/standby control output (reset).	H	L
20	CD2RES	O	CD Mechanism-2 operation/standby control (reset).	H	L
21	A	O	Strobe address A to the A/V Tuner/Processor unit.	L/H	L
22	B	O	Strobe address B to the A/V Tuner/Processor unit.	L/H	L
23	C	O	Strobe address C to the A/V Tuner/Processor unit.	L/H	L
24	LT1	O	Strobe permit output-1 to the A/V Tuner/Processor unit.	L	L
25	LT2	O	Strobe permit output-2 to the A/V Tuner/Processor unit.	L	L
26	SHUTTER	I	Shutter sensor input from the DVD Mechanism.	—	—
27	DISCIN	I	Disc In sensor input from the DVD Mechanism.	—	—
28	MVCONT	I	Motor voltage control input.	—	—
29	UD	I	UD sensor input from the DVD Mechanism.	—	—
30	HOME	I	Home position sensor input from the DVD Mechanism.	—	—
31	CD-CE1	O	CD Mechanism-1 chip enable output.	H	L
32	CD-CE2	O	CD Mechanism-2 chip enable output.	H	L
33	VSS1	—	GND.		
34	CD-EJ1	I	Eject switch input from the CD Mechanism-1.	L	—
35	CD-EJ2	I	Eject switch input from the CD Mechanism-2.	L	—
36	LED-EJ	O	Eject LED (blue) ON/OFF control output to the DVD Mechanism.	H	L
37	LED-BL	O	LED (blue) ON/OFF control output to the DVD Mechanism.	H	L

(to be continued)

System Controller (U101 μ PD78F4225GC-8)-Main P.C.B. Ass'y -- Continued

Pin No.	Signal Name	I/O	Function	Active	Standby
38	LED-GR	O	LED (green) ON/OFF control output to the DVD Mechanism.	H	L
39	L-LIGHT	O	LCD backlight ON/OFF control output (white).	H	L
40	L-STBY	O	Standby LED (amber) ON/OFF control output.	H	L
41	DVD-EJ	I	Eject switch input from the DVD Mechanism.	L	—
42	DVSTP	O	DVD reverse rotation prevention control output.	H	L
43	NC	—			
44	MOTOR1	O	Motor-1 output to the DVD Mechanism.	H	L
45	MOTOR2	O	Motor-2 output to the DVD Mechanism.	H	L
46	MOTOR3	O	Motor-3 output to the DVD Mechanism.	H	L
47	MOTOR4	O	Motor-4 output to the DVD Mechanism.	H	L
48	P-ON	O	Power ON/OFF control output.	H	L
49	REM	I	Remote sensor input.	—	—
50	A-MUTE	O	DVD audio mute output.	H	L
51	AU-SEL3	O	Audio output select signal-3.	H	L
52	D-MUTE	O	DVD digital audio mute output.	H	L
53	CTL11V	O	11V/3.3V output control for the DVD Mechanism.	H	L
54	CTL5V	O	5V output control for the DVD Mechanism.	H	L
55	V-MUTE	O	DVD video signal mute output.	H	L
56	NC	—			
57	NC	—			
58	DZFL	I	DVD audio zero signal input.	L	—
59	DZFR	I	DVD audio zero signal input.	L	—
60	RESET	I	Reset input.		
61	LD-PLS	I	Loading pulse sensor input from the DVD Mechanism.	—	—
62	P-OFF	I	Power OFF detect input.	L	—
63	AU-SEL1	O	Audio output select signal-1.	H	L
64	AU-SEL2	O	Audio output select signal-2.	H	L
65	LOAD	I	Load sensor input from the DVD Mechanism.	—	—
66	NC	—			
67	VSS0	—	GND.		
68	VDD1	—	+5V.		
69	X2	—	8.38MHz X'tal is connected.		
70	X1	—	8.38MHz X'tal is connected.		
71	VPP	—	(For testing)		
72	XT2	—	Not used.		
73	XT1	—	GND.		
74	VDD0	—	+5V.		
75	AVDD	—	+5V.		
76	KIN1	I	Key input 1 analog signal.	—	—
77	KIN2	I	Key input 2 analog signal.	—	—
78	NT/PAL	I	NTSC/PAL detect input.	—	—
79	AREA	I	Area selection input.	—	—
80	MODEL	I	Model selection input.	—	—

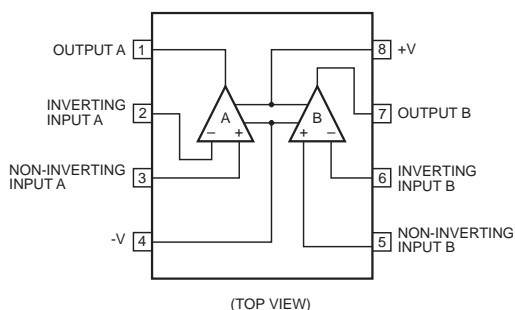
5.2. Mechanism Controller (U501 μ PD78018FGC)-CD P.C.B. Ass'y

Pin No.	Signal Name	I/O	Function	Active	Standby
1	LSI DATA	O	DSP command data output.	H/L	L
2	LSI CLK	O	DSP command clock output.	H/L	L
3	LSI XLT	O	DSP command latch pulse output.	L	L
4	SCLK	O	DSP servo parameter readout clock.	H/L	L
5	CDRST	O	DSP reset output.	L	L
6	EN CLK	O	DSP clock ON/OFF output.	H	L
7	IR	O	Interruption countermeasure circuit ON/OFF control output.	L	L
8	LD ON	O	Laser ON/OFF control output.	L	L
9	VSS	—	GND.		
10	P40	—	(For testing, etc.)		
11	P41	—	(For testing, etc.)		
12	ML	O	Latch output to the DAC IC.	H	L
13	MC	O	Serial clock output the DAC IC.	H/L	L
14	MD	O	Serial data output to the DAC IC.	H/L	L
15	DACRST	O	DAC reset output.	L	L
16	MVCONT	O	Loading speed setting output. (H=7V, L=5V)	H	L
17	P47	—	Not used.		
18	DISCIN	I	Mechanism loading sensor input.	—	—
19	P51	—	Not used.		
20	UD	I	Mechanism Up/Down sensor input.	—	—
21	HOME	I	Mechanism Up/Down sensor input.	—	—
22	LDLOAD	O	Mechanism loading motor drive output.	H	L
23	LDEJECT	O	Mechanism loading motor drive output.	H	L
24	VSS	—	GND.		
25	UDUP	O	Mechanism Up/Down motor drive output.	H	L
26	UDDOWN	O	Mechanism Up/Down motor drive output.	H	L
27	P60	—	Not used.		
28	P61	—	Not used.		
29	P62	—	Not used.		
30	P63	—	Not used.		
31	L EJ	O	Eject LED ON/OFF control output.	H	L
32	MUTE	O	Audio mute output.	H	H
33	L-BLUE	O	Blue illumination ON output.	H	L
34	L-GREEN	O	Green illumination ON output.	H	L
35	RESET	I	Reset input.		
36	P00	—	Grounded.		
37	SHUTTER	I	Mechanism loading sensor input.	—	—
38	LOAD	I	Mechanism loading sensor input.	—	—
39	SCOR	I	DSP SCOR signal input.	—	—
40	VDD	—	+5V.		
41	X2	—	8.388608 MHz clock.		
42	X1	—	8.388608 MHz clock.		
43	IC	—	Grounded.		
44	XT2	—	Not used.		
45	P04	I	Supplied with +5V.		

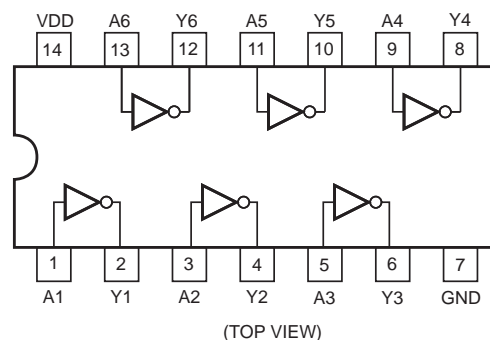
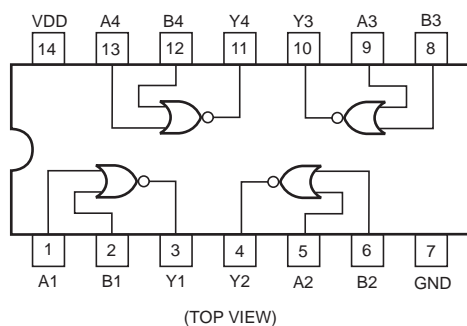
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Mechanism Controller (U501 μ PD78018FGC)-CD P.C.B. Ass'y -- Continued

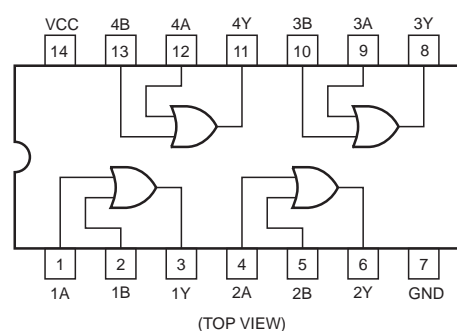
Pin No.	Signal Name	I/O	Function	Active	Standby
46	AVss	—	GND.		
47	P10	—	(For testing, etc.)		
48	P11	—	(For testing, etc.)		
49	P12	—	Not used.		
50	BSENS	I	Battery voltage sensing input.	—	H
51	ASENS	I	ACC voltage sensing input.	—	H
52	LSISENS	I	DSP sensing input.	—	—
53	FOK	I	FOCUS OK signal input.	—	—
54	GFS	I	GFS OK signal input.	—	—
55	AVDD	—	+5V.		
56	AVREF	—	Reference voltage.		
57	DATAIN	I	Serial data input from the system.	—	—
58	DATAOUT	O	Serial data output to the system.	H/L	L
59	CLK IN	I	Serial clock input from the system.	—	—
60	CE	I/O	Communication line between the system. (CE: IN ACK: OUT)	H	IN
61	P24	—	Not used.		
62	SQSO	IN	DSP SubQ data input.	—	—
63	P26	—	Not used.		
64	SQCK	O	DSP SQSO readout clock.	H/L	L



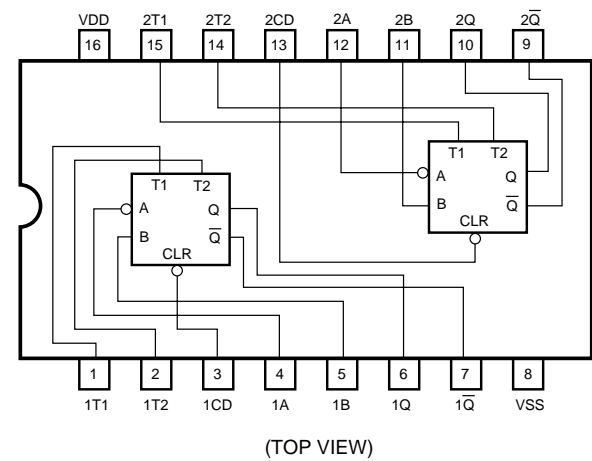
Operational Amp. NJM2100, 4558

Inverter TC74HCU04AP (U313, 315-Main P.C.B.)
Inverter TC4049BP/TC74HCU04AF (U502, 601-CD P.C.B.)

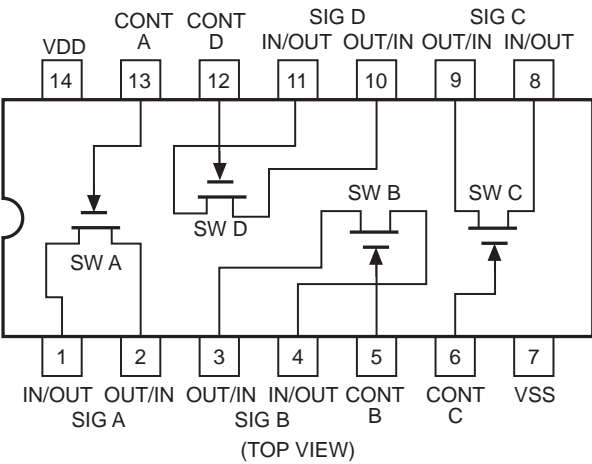
NOR Gate TC4001 (U104-Main P.C.B.)



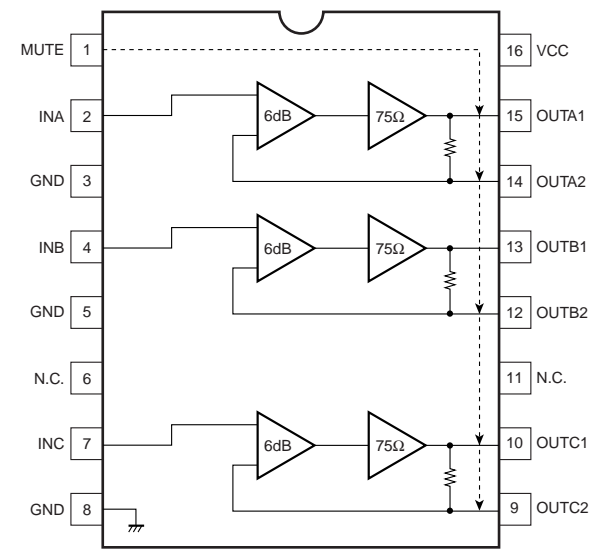
OR Gate SN74LV32NS (U105-Main P.C.B.)



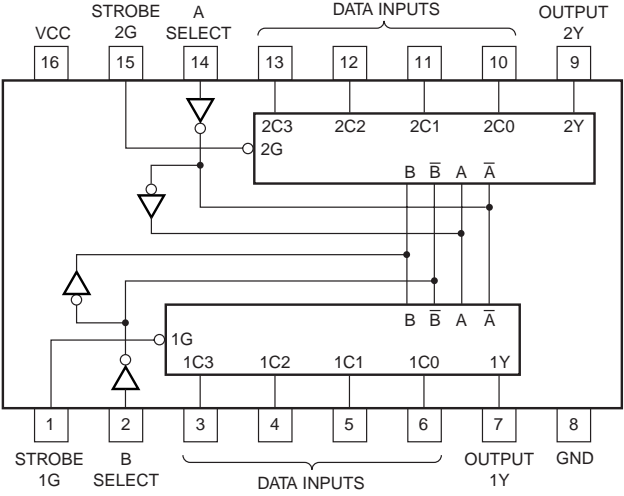
One-shot Multi-vibrator TC4538BP (U103-Main P.C.B.)



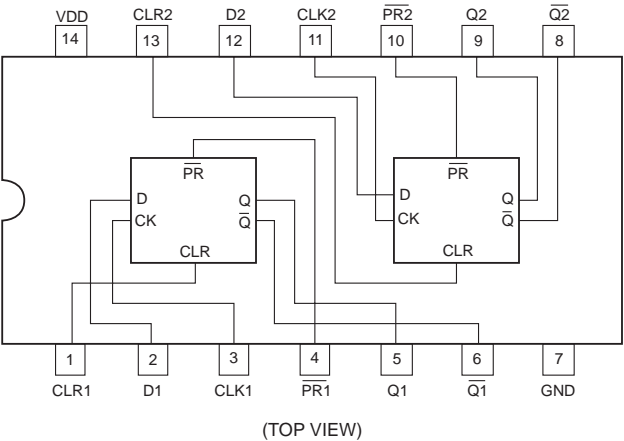
Analog Switch TC74HC4066AP (U312, 318-Main P.C.B.)



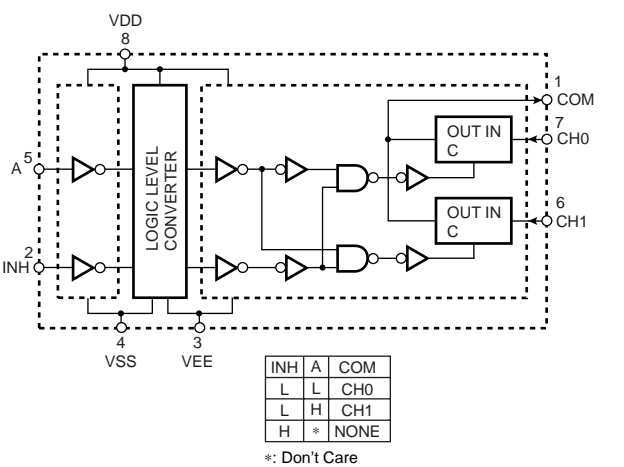
75Ω Driver BA7660FS (U307, 308-Main P.C.B.)



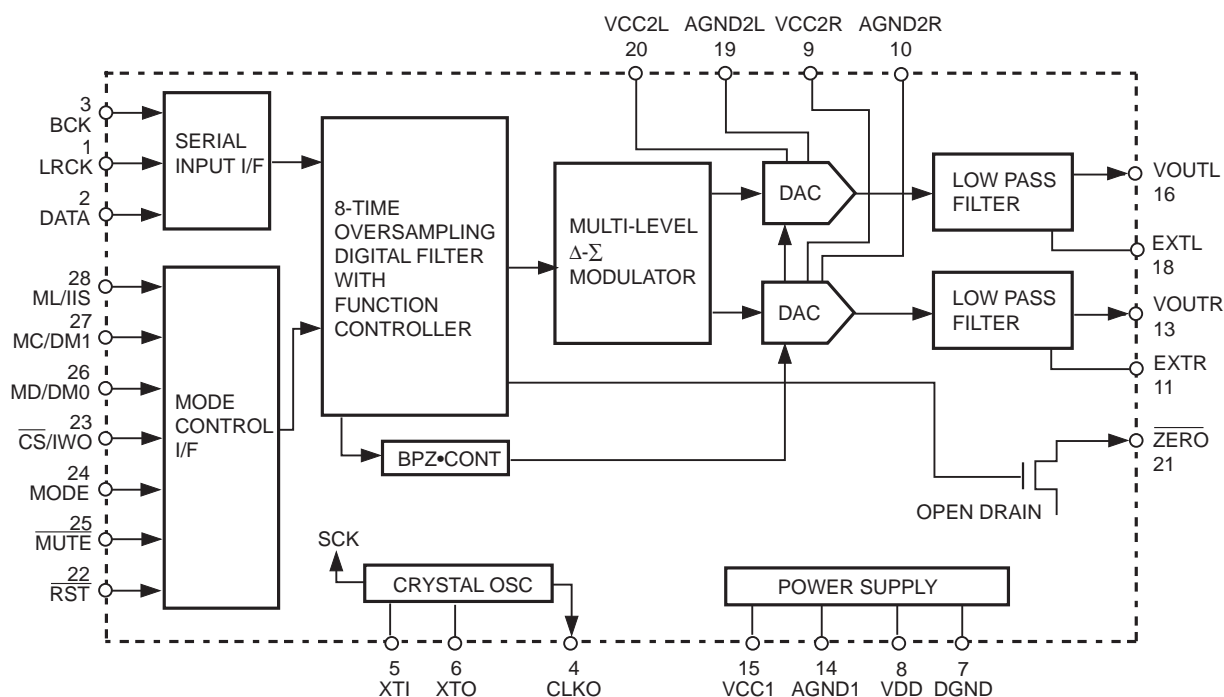
Selector TC74HC153AP (U311-Main P.C.B.)



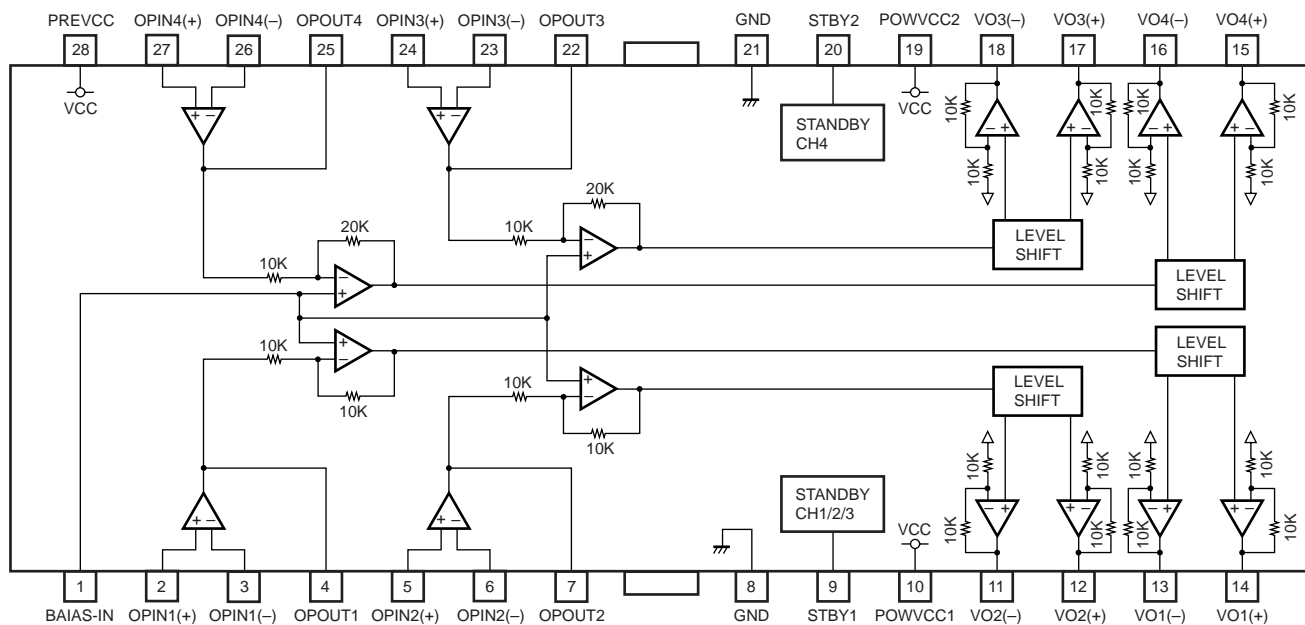
D-Type Flip-Flop TC74HC74AP (U314-Main P.C.B.)



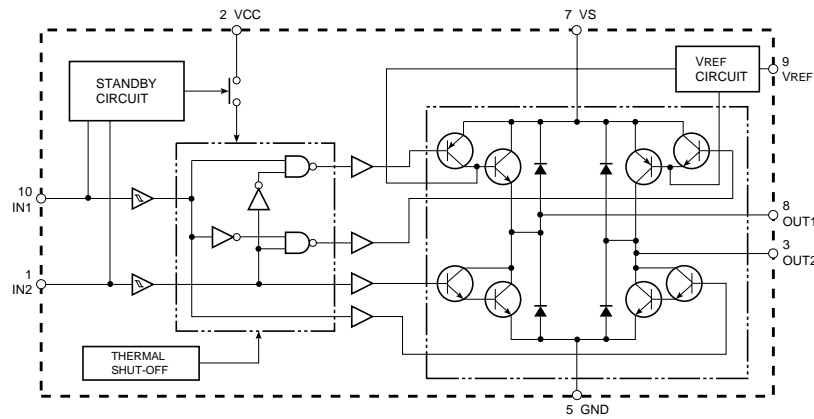
Driver TC4W53FU (U103-CD P.C.B.)



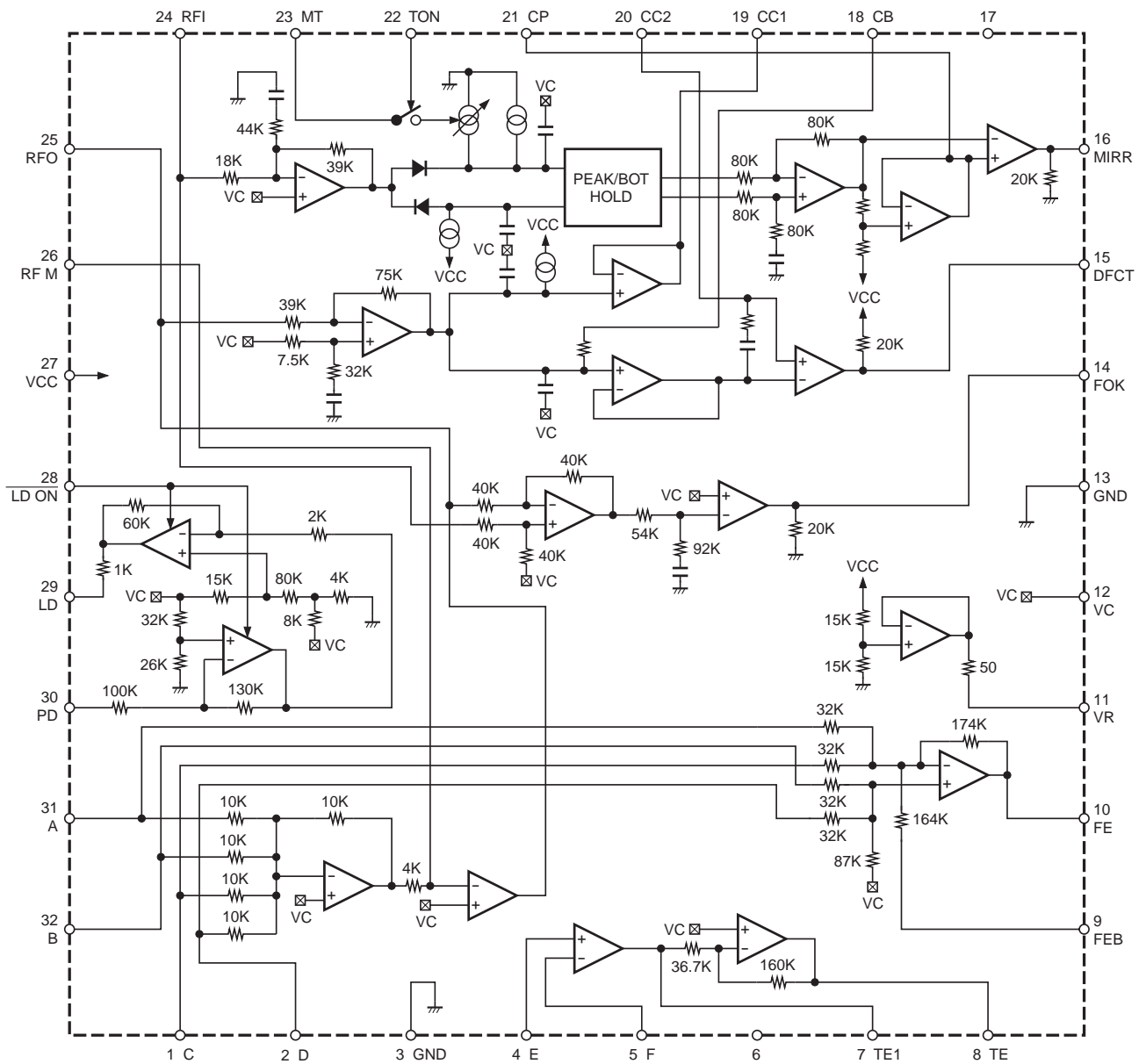
24-Bit, 96 kHz Stereo Audio D/A Converter PCM1716 (U301-CD P.C.B.)



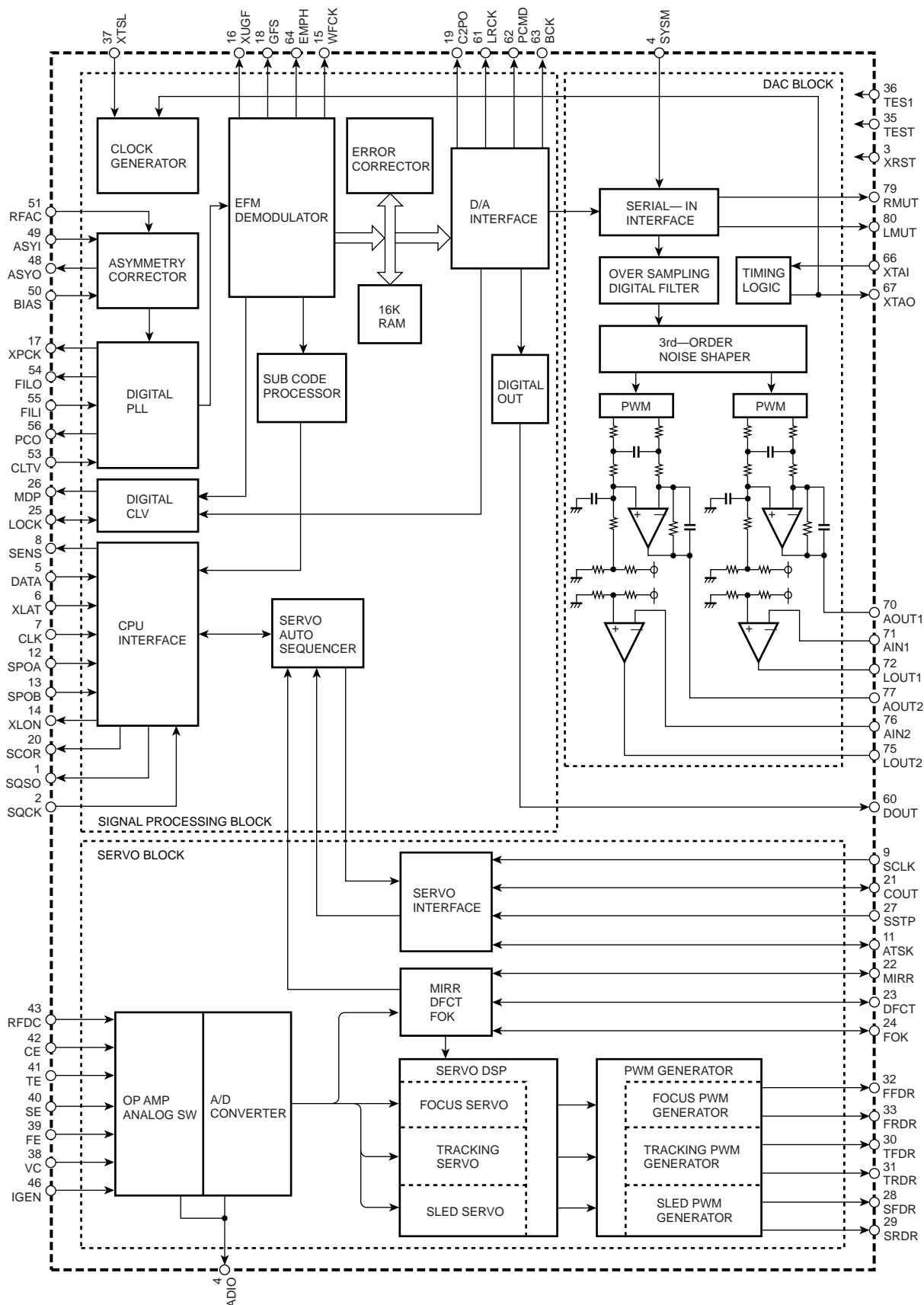
Driver BA5983FP (U104-CD P.C.B.)



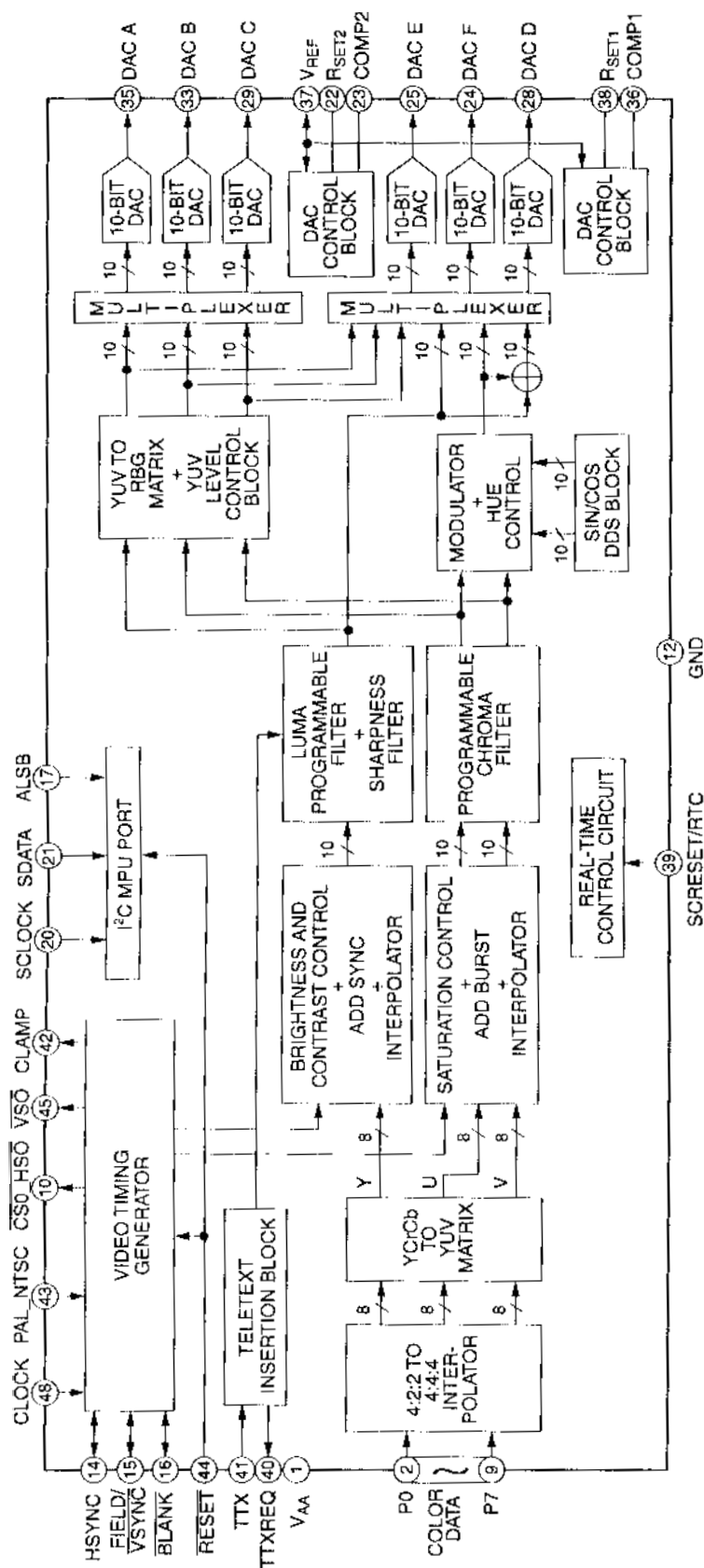
Motor Driver TA8409F (U105, 106-CD P.C.B.)



RF Amp. CXA2521Q (U101-CD P.C.B.)



DSP IC CXD2587Q (U102-CD P.C.B.)



Video Signal Decoder ADV7172 (IC850-DVD Main P.C.B.)

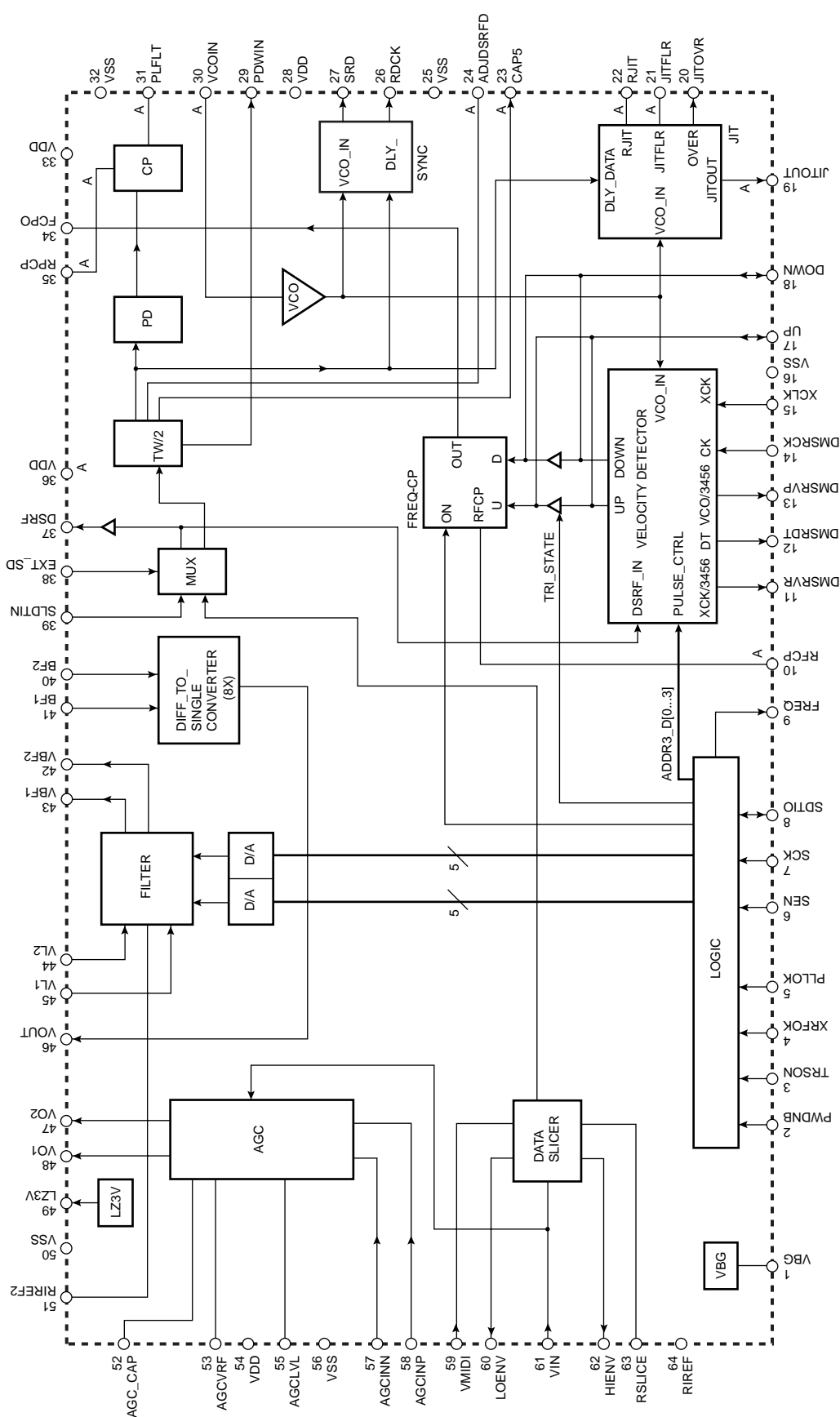
5.3. Read channel (IC201 CYC12MP000 (LION))-DVD Main P.C.B. Ass'y

Pin No.	Port Name	I/O	FUNCTION
1	VBG	O	Band gap reference voltage output.
2	PWDNB	I	Power on mode control input. (Normal: H)
3	TRSON	I	Traverse servo on. (H: tracking servo on, L: off)
4	XRFOK	I	Drop out input. (H: drop out, L: normal)
5	PLLOK	I	PLL mode selection. (H: phase pull in, L: frequency pull in)
6	SEN	I	Serial port enable input.
7	SCK	I	Serial port clock input.
8	SDTIO	I/O	Serial port data input/output.
9	FREQ	O	Frequency mode test pin.
10	RFCP	–	Frequency mode current setting pin.
11	DMSRVR	O	Reference clock / 3456 output.
12	DMSRDT	O	Serial data output for speed control.
13	DMSRVP	O	VCO / 3456 output.
14	DMSRCK	I	Serial clock input for speed control.
15	XCLK	I	Reference clock input for velocity detection (27 MHz).
16,25,32,50,56	Vss	–	Ground pin.
17	UP	I/O	Tri-state I/O pin (not used).
18	DOWN	I/O	Tri-state I/O pin (not used).
19	JITOUT	O	PLL jitter output. Jitter is converted to voltage and send to output.
20	JITOVR	O	Jitter over output (L: normal, H: jitter over).
21	JITFLR	–	Filter terminal for PLL jitter detection.
22	RJIT	–	Resister terminal for jitter detection.
23	CAP5	–	TW/2 test pin.
24	ADJDSRFD	–	TW/2 half window adjust pin.
26	RDCK	O	Synchronized clock output.
27	SRD	O	Synchronized data output.
28,33,36,54	VDD	–	LVD & digital section power supply.
29	PDWIN	O	TW/2 half window test pin.
30	VCOIN	I	VCO input pin. The voltage level of this pin controls the frequency of VCO.
31	PLFLT	–	Phase control charge pump output / VCO input.
34	FCPO	–	Capacitor connecting pin for frequency control loop.
35	RPCP	–	Phase mode current setting terminal.
37	DSRF	O	Sliced data test pin.
38	EXT_SD	I	MUX selection control pin. (L: normal mode, H: select SLDTIN as PLL input for testing.)
39	SLDTIN	I	PLL test data input.
40	BF2	I	Differential to single converter input 2.
41	BF1	I	Differential to single converter input 1.
42	VBf2	O	Buffered filter output 2 (nominal output : 50 mVp-p).
43	VBf1	O	Buffered filter output 1 (nominal output : 50 mVp-p).
44	VL2	I	Filter input 2.
45	VL1	I	Filter input 1.
46	VOUT	O	D/S converter output ($VOUT = Vbf2 - Vbf1 \times 10 + LZ3V$).
47	VO2	O	Differential AGC output 2.
48	VO1	O	Differential AGC output 1.
49	LZ3V	O	Reference voltage output (3V).
51	RIREF2	–	Filter & equalizer reference current setting resistor pin.
52	AGC_CAP	–	AGC loop setting terminal.
53	AGCVRF	–	AGC output reference voltage pin.
55	AGCLVL	–	AGC output level reference voltage pin.

(to be continued)

Read channel (IC201 CYC12MP000 (LION))-DVD Main P.C.B. Ass'y -- Continued

Pin No.	Port Name	I/O	FUNCTION
57	AGCINN	I	AGC negative signal input.
58	AGCINP	I	AGC positive signal input.
59	VMIDI	I	Data slicer comparator positive input test pin.
60	LOENV	O	Data slicer negative envelope output pin.
61	VIN	I	Data slicer input.
62	HIENV	O	Data slicer positive envelope output pin.
63	RSLICE	—	Data slicer internal bias current setting resistor pin.
64	RIREF	—	Reference current setting resistor pin.



Read Channel CYC12MP000(LION) (IC201-DVD Main P.C.B.)

5.4. DVD Pre AMP (IC100 CYC11AP000)-DVD Main P.C.B. Ass'y

Pin No.	Port Name	I/O	FUNCTION
1	NC	-	No connection.
2,19,23,38,48	AVSS	-	Ground pin.
3	LPCVREF	O	LPC (laser power control) reference voltage output.
4	LPCI1	I	LPC (laser power control) non-inverting input pin.
5	LPCI2	I	LPC (laser power control) inverting input pin.
6	LPCO	O	LPC (laser power control) output.
7	LDON	I	LPC (laser power control) on/off control (H: LD on, L: LD off).
8	FBAL	I	Focus balance control input.
9	VFEI_P	I	Focus AMP positive input pin.
10	VFEI_N	I	Focus AMP negative input pin.
11	FEO	O	Focus error output pin.
12	FE3XINN	I	Focus AMP negative input pin.
13	FE3XINP	I	Focus AMP positive input pin.
14	VFE2N4	O	Vin2, Vin4 summing output.
15	VFE1N3	O	Vin1, Vin3 summing output.
16	VGAOUT	O	Focus balance AMP output.
17	ASI	I	Servo full addition AMP inverting input.
18	ASO	O	Servo full addition AMP output.
20	TPSP	I	OP-AMP non-inverting input.
21	TPSO	O	OP-AMP output.
22	TPSN	I	OP-AMP inverting input.
24,25,43,79	AVDD	-	+5 V power supply pin.
26	REFCAPFIX	-	Fixed delay capacitor connecting pin.
27	REFCAPDLY	-	Variable delay capacitor connecting pin.
28	CLIMITER	-	Phase error limit capacitor connecting pin.
29	VDOWN	O	Low reference voltage output (nominal: 1.25V).
30	HOLD	I	Select TE detection method. (L: TE detection method, H: improved method)
31	LIMIT	-	Phase error limit capacitor connecting terminal.
32	POF_NEG	I	POF AMP negative input pin.
33	POF	O	TE (tracking error) phase off-track voltage output.
34	VREF	O	Reference voltage output (nominal: 2.5V).
35	TBAL	I	Tracking balance control pin (nominal input range: 2.5V \pm 1.25V).
36	VUP	O	High reference voltage output (nominal: 3.75V).
37	TE	O	TE (tracking error) AMP output.
39	TE_N	I	TE (tracking error) AMP inverting input.
40	CMN	I	Comparator inverting input.
41	CMOUT	O	Comparator output.
42	CMP	I	Comparator non inverting input.
44	POFP	I	POF non inverting input.
45	OFTR_2	O	CD off-track analog output.
46	POFN	I	POF inverting input.
47	POF_2.2	O	2.2 V reference voltage output.
49	XDVD	I	DVD control pin.
50	XCD2	I	CD 2X control pin.
51	XCD4	I	CD 4X control pin.
52	OFTR	O	Off track detect output pin.
53	COFTR	-	OFTR AMP filtering capacitor connecting pin.
54	COFTR_FAST	-	OFTR AMP timing capacitor connecting pin.
55	BUF_COFTR	O	Buffered output of OFTR AMP.
56	OFTRVTH	-	OFTR AMP threshold voltage setting pin.

(to be continued)

DVD Pre AMP (IC100 CYC11AP000)-DVD Main P.C.B. Ass'y -- Continued

Pin No.	Port Name	I/O	FUNCTION
57	OFTRIN	I	OFTR AMP input pin.
58	BDO	O	BDO (black drop out) AMP output pin.
59	CBDO	-	BDO (black drop out) AMP filtering capacitor connecting pin.
60	BDOV1	-	BDO (black drop out) AMP connecting pin.
61	BDOIN	I	BDO (black drop out) AMP input pin.
62	ARF	O	AGC (automatic gain control) AMP output pin.
63	CAGC	-	AGC (automatic gain control) loop setting capacitor connecting pin.
64	AGCREF	-	Reference current setting resistor connecting pin.
65	RFI2	I	AGC (automatic gain control) AMP input pin.
66	SP_P	I	Spare amplifier positive input pin.
67	SP_N	I	Spare amplifier negative input pin.
68	SP_O	O	Spare amplifier output pin.
69	RFENV	O	RF envelope output pin.
70	BOTTOM	-	Bottom hold capacitor connecting pin.
71	PEAK	-	Peak hold capacitor connecting pin.
72	RFI3	I	RF envelope input pin.
73	PDVD1	I	DVD tracking phase difference input pin 1.
74	PCD1	I	CD tracking phase difference input pin 1.
75	PDVD2	I	DVD tracking phase difference input pin 2.
76	PCD2	I	CD tracking phase difference input pin 2.
77	RFO2	O	RF phase difference output pin 2.
78	RFO1	O	RF phase difference output pin 1.
80	RFAS3	O	RF full addition AMP output pin.
81	RF1	I	RF full addition AMP input pin 1.
82	RF2	I	RF full addition AMP input pin 2.
83	RFAS1	O	RF addition AMP output pin 1.
84	RFAS2	O	RF addition AMP output pin 2.
85-88	VIN5-VIN8	I	External PD input pins.
89-92	VIN1-VIN4	I	Internal PD input pins.
93-100	VCD1-VCD8	-	Phase delay capacitor connecting pins.



5.5. CPU/System control MI-COM (IC600)-DVD Main P.C.B. Ass'y

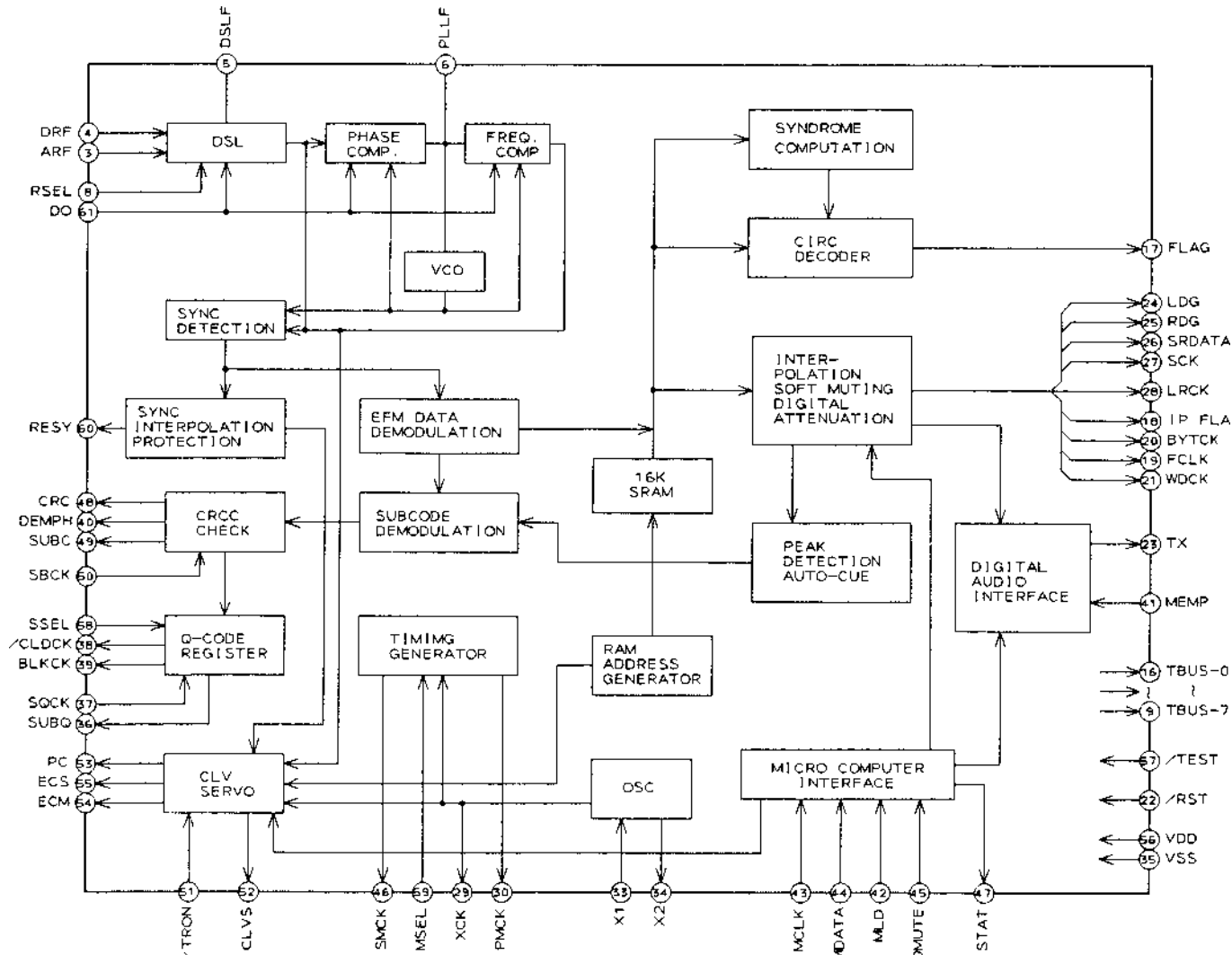
Pin No.	Port Name	I/O	FUNCTION
1	RDX	O	System bus read strobe signal output.
2	WEX	O	System bus lower 8 bit write strobe signal output.
3	BOOT	O	Ziva MI-COM transmission control output.
4	CDLOW	O	Disc judge output.
5	LD.SW1	O	Laser control output 1.
6,53,56	N.C	–	No connection.
7	LD.SW2	O	Laser control output 2.
8,54,94	Vcc	–	+5 V power supply pin.
9	DACML.C3	O	Audio DAC serial latch output.
10	DACMC.C3	O	Audio DAC serial clock output.
11	DACMD.C3	O	Audio DAC serial data output.
12	OPE.DOUT	I	Serial data input from the output control MI-COM.
13	OPE.DIN	O	Serial data output to the output control MI-COM.
14	OPE.CLK	I	Serial clock input from the output control MI-COM.
15	SLI.LV	O	PWM output for data slice level control of the read channel MI-COM.
16	LMTc	O	PWM output for disc changer tray rotation control.
17	XAVRST	O	Reset control output for the Ziva-3 MI-COM.
18	SYS.XBSY	O	Serial data ready/busy output to the output control MI-COM.
19	DVD.L	O	DVD/CD laser select control output.
20	SUBQ	I	CD-DSP Q data input.
21	OLD.M3	I	New M3/old M3.
22	SQCK	O	Clock output for CD-DSP Q data.
23	REG95	O	Register 0x95. L: When writing
24	CRCOK	I	Sector ID error O.K. input.
25	XAVLP	I	Z:VA LP operation setting.
26	XDAMUTE0	O	Audio section mute control output. (L: mute on)
27	ICESEL	O	IEC958 digital out select output. (L: Ziva, H: CD)
28	XDAMUTE1	O	Audio section mute control output. (L: mute on)
29	CLKSEL1	O	Clock generator SRO control output. (L: normal, H: double)
30	CLKSEL2	O	Clock generator FSO control output. (L: 48 kHz, H: 44.1 kHz)
31	SYSRST	O	System reset output.
32	DRPOUT	I	Drop out input.
33,63,91,119	Vss	–	Ground pin.
34	C	–	Capacitor connecting pin.
35	PAL/NTSC	O	Video decoder PAL/NTSC select output.
36	ENRST	O	Video encoder IC reset output.
37	XDARST	O	DAC reset output.
38	DVcc	–	+5 V power supply pin for digital circuit.
39	DVss	–	Ground pin for digital circuit.
40	FCSBAL	I	Focus balance adjustment input.
41	TRKBAL	I	Tracking balance adjustment input.
42	Avcc	–	+5 V power supply pin for analog circuit.
43	AVRH	I	Connect to +5 V.
44	AVRL	I	Connect to ground.
45	Avss	–	Ground pin for analog circuit.
46	TE	I	A/D input for disc judge signal 1 (Tracking error).
47	RFENV	I	A/D input for disc judge signal 2 (RF envelope).
48	FE	I	A/D input for disc judge signal 3 (Focus error).
49	JIT.OUT	I	A/D input for jitter out.
50	DASW1	O	Audio DAC L/R channel input data select control output.
51	SL.KICK	O	Sled kick.

(to be continued)

CPU/System control MI-COM (IC600)-DVD Main P.C.B. Ass'y -- Continued

Pin No.	Port Name	I/O	FUNCTION
52	VREFM	I	TRD offset adjustment input.
55	DASW0	O	Audio DAC mix channel input data select control output.
57	DEC.CS	O	Ziva MI-COM chip select output.
58	XDACS1	O	Audio DAC (L/R) chip select output.
59	XDACS2	O	Audio DAC (SL/SR) chip select output.
60	XDACS3	O	Audio DAC (C/SUBW) chip select output.
61	XDACS0	O	Audio DAC (MIXL/MIXR) chip select output.
62	CHG.V.C	O	Disc changer motor control output.
64	DISC.CHK	I	Disc judge assist.
65	M3C1	I	M3C1/C3M1 setting.
66	DVCD	O	OFTR threshold level/TF gain select output.
67	AVRTM	I	ECC interruption request input (end of output stream of 2060 bytes data) .
68,69	DGND	—	Ground for digital section.
70	SDA(I2C)	I/O	Serial data in/out from/to EEP-ROM & video encoder.
71	SCL	O	Serial clock output to the EEP-ROM & video encoder.
72	STAT	I	CD-DSP status input.
73	X0A	I	Not used.
74	X1A	O	Not used.
75	XSRTM	I	ECC interruption request input (end of block signal).
76	XINT.DEC	I	Interruption request from the Ziva MI-COM.
77	XINT.SER	I	Interruption request from the servo MI-COM.
78	OPEN-SW	I	Disc tray open detect input pin.
79	CLOSE-SW	I	Disc tray close detect input pin.
80	CLAMP-SW	I	Disc changer tray position detect input pin. (Not used)
81	PHOT-IN	I	Disc changer tray position detect photo sensor input pin. (Not used)
82	LOAD.F	O	Loading motor direction control outputs.
83	LOAD.R		
84	CHG.M.R	O	Disc changer motor control output. (Not used)
85	CHG.M.L		
86	HSTX	I	hardware standby pin. (Pulled up)
87-89	MD0-MD2	I	Bus mode setting pins.
90	RSTOUT	I	Reset signal input from the output control MI-COM.
92	X0	I	4 MHz crystal connecting pin.
93	X1	O	
95-102	HAD00-HAD07	I/O	System bus serial data/address I/O pins.
103-116	HA08-HA21	O	System bus address output pins.
117,118	HA22,HA23	O	System bus address output pins for chip select circuit.
120	ALE	O	System bus address latch enable output.

5.6. CD Signal Processor (IC490 MN66261)-DVD Main P.C.B. Ass'y



CD Signal Processor MN66261 (IC490-DVD Main P.C.B.)

CD Signal Processor (IC490 MN66261)-DVD Main P.C.B. Ass'y

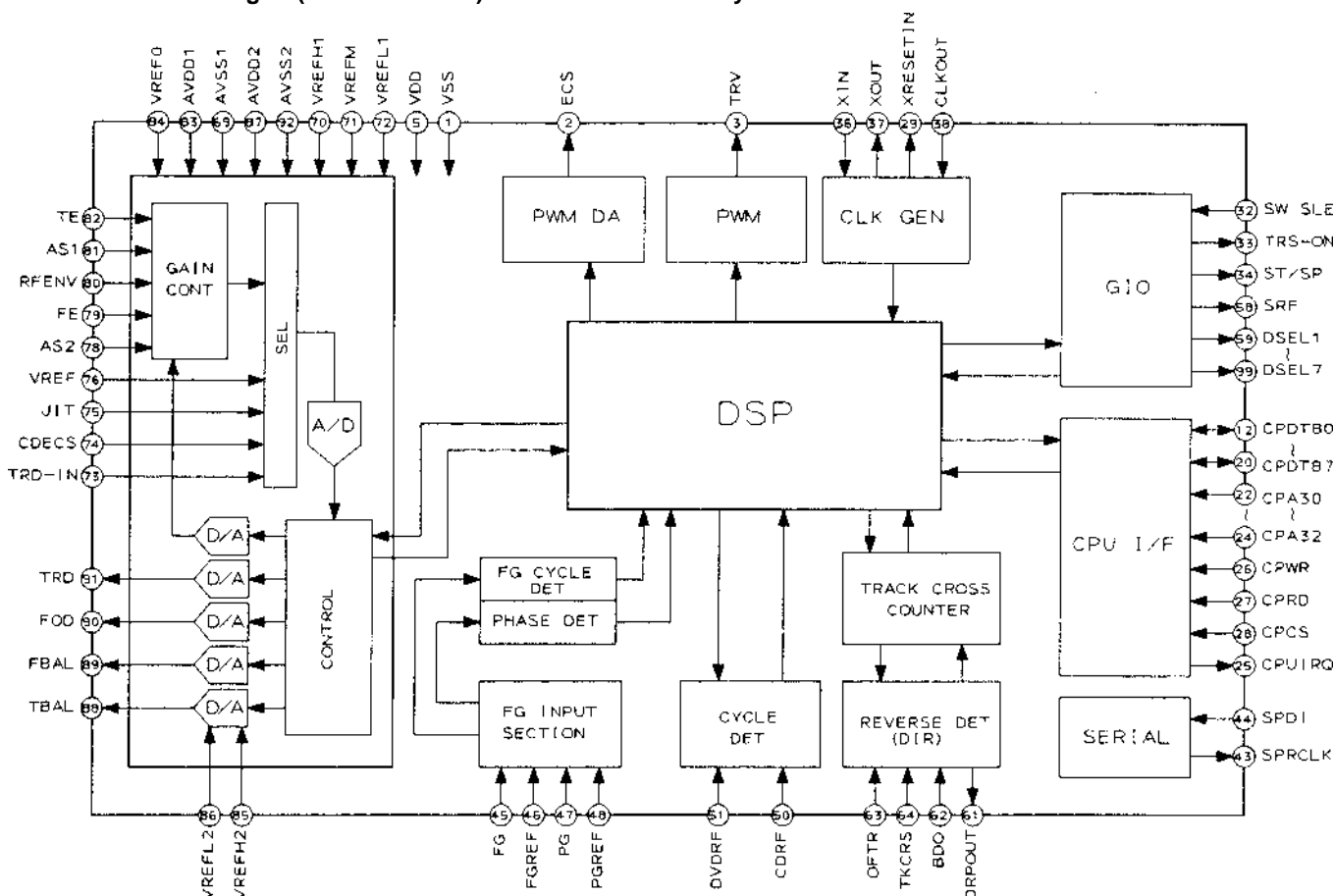
Pin No.	Port Name	I/O	FUNCTION
1	Avss	-	Ground pin for DSL, PLL circuit.
2	IREF	I	Reference current input pin.
3	ARF	I	RF signal input pin.
4	DRF	-	Bias pin for DSL.
5	DSLIF	O	Loop filter pin for DSL.
6	PLLF	I/O	Loop filter pin for PLL.
7	Avdd	-	+5V Power supply pin for DSL, PLL.
8	RSEL	-	RF signal polarity setting pin. (Brightness level: H --> RSEL: H)
9-16	TBUS0 - 7	O	Test pins. Normally, these pins are open circuit.

(to be continued)

CD Signal Processor (IC490 MN66261)-DVD Main P.C.B. Ass'y -- Continued

Pin No.	Port Name	I/O	FUNCTION
17	FLAG	O	Flag output pin.
18	IPFLAG	O	Interpolation flag pin. (H: interpolate)
19	FCLK	O	Frame clock output (from crystal OSC). (fCLK = 7.35 kHz, 14.7 kHz when dubble speed)
20	BYTCK	O	Byte clock out.
21	WDCK	O	Word clock out.
22	/RST	I	Reset input pin (L: reset).
23	TX	O	Digital audio interface output.
24	LDG	O	L-CH deglitch signal output.
25	RDG	O	R-CH deglitch signal output.
26	SRDATA	O	Serial data output.
27	SCK	O	Bit clock output for SRDATA.
28	LRCK	O	Left-right discrimination clock output.
29	XCK	O	Crystal OSC clock output (fXCK = 16.9344 MHz).
30	PMCK	O	1/192 counted down clock signal from the crystal OSC. (fPMCK = 88.2 kHz)
31	CSEL	I	Crystal OSC frequency select pin. (L: 16.9344 MHz, H: 33.8688 MHz)
32	PSEL	-	Test pin (normally, open circuit).
33	X1	I	Crystal connecting pin. (f = 16.9344 MHz or 33.8688 MHz)
34	X2	O	Crystal connecting pin. (f = 16.9344 MHz or 33.8688 MHz)
35	Vss	-	Ground pin.
36	SUBQ	O	Subcode Q output.
37	SQCK	I	External clock input for Subcode Q register.
38	/CLDCK	O	Subcode frame clock signal output. (fCLDCK = 7.35 kHz in normal playback)
39	BLKCK	O	Subcode block clock signal. (fBLOCK = 75 Hz in normal playback)
40	DEMPH	O	De-emphasis control output. (H: de-emphasis on)
41	MEMP	I	Emphasis signal input for digital audio interface.
42	MLD	I	MI-COM command LOAD signal input. (L: LOAD)
43	MCLK	I	MI-COM command CLOCK signal input. (Data will be latched with rising edge of the pulse)
44	MDATA	I	MI-COM command DATA input.
45	DMUTE	I	Muting input.
46	SMCK	O	1/2 counted down crystal OSC signal output when MSEL = H. 1/4 counted down crystal OSC signal output when MSEL = L.
47	STAT	O	Status signal output (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK).
48	CRC	O	Subcode CRC check output. (H: OK, L: no good)
49	SUBC	O	Subcode serial output data.
50	SBCK	I	Clock input for subcode serial output.
51	/TRON	I	Tracking servo on signal. (L: tracking on)
52	CLVS	O	Spindle servo phase synchronization judge output. (H: CLV, L: rough servo)
53	PC	O	Spindle motor on signal (L = on).
54	ECM	O	Spindle motor drive signal output (forced mode, 3-state).
55	ECS	O	Spindle motor drive signal output (servo error signal, 3-state).
56	Vdd	-	+5V power supply.
57	/TEST	I	Test pin (normally, H).
58	SSEL	I	Output mode select pin for SUBQ pin. (H: Q-code buffer is used)
59	MSEL	I	Output frequency select pin for SMCK pin. (H: SMCK = 8.4672 MHz, L: 4.2336 MHz)
60	RESY	O	Re-synchronization signal of the frame synchronization signal. (H: synchronized, L: not synchronized)
61	DO	I	Drop out signal (H: drop out)
62	EFM	O	EFM signal output.
63	PCK	O	PLL extraction clock output. (fPCK = 4.3218 MHz in normal playback)
64	PDO	O	Phase comparison signal between EFM and PCK signal.

5.7. Servo Processing IC (IC300 MN67700)-DVD Main P.C.B. Ass'y



Servo Processing IC MN67700 (IC300-DVD Main P.C.B.)

Servo Processing IC (IC300 MN67700)-DVD Main P.C.B. Ass'y

Pin No.	Port Name	I/O	FUNCTION
1	Vss	-	Ground pin for digital circuit.
2	ECS	O	Spindle motor drive signal output.
3	TRV	O	Traverse (sled motor) drive signal output.
4,6-11	N.C	-	No connection.
5,21,39,55	Vdd	-	Power supply for digital circuit.
12-15,17-20	CPDT80-87	I/O	CPU I/F data I/O pins.
16,35,60	Vss	-	Ground for digital circuit.
22-24	CPA30-32	I	CPU I/F address input pins.
25	CPUIRQ	O	CPU interruption signal output.
26	CPWR	I	CPU I/F write strobe input pin.
27	CPRD	I	CPU I/F read strobe input pin.
28	CPCS	I	CPU I/F chip select input pin.
29	XRESETIN	I	Reset signal input. (L: reset)
30	CRCOK	I	ID check signal input pin from the DEM/ECC MI-COM.
31	GIO01	-	No connection.
32	SW SLE	I	Traverse innermost position detect signal input.
33	TRS-ON	O	Tracking servo on signal. (H: tracking servo on)
34	ST/SR	O	Spindle motor drive (start/stop) control output (H: start).
35	Vss	-	Ground for digital circuit.

(to be continued)

Servo Processing IC (IC300 MN67700)-DVD Main P.C.B. Ass'y -- Continued

Pin No.	Port Name	I/O	FUNCTION
36	XIN	I	Crystal connecting pin (40 MHz).
37	XOUT	O	Crystal connecting pin (40 MHz).
38	CLKOUT	O	Clock output (1/2 counted down of the crystal OSC).
40	SPEN	O	Serial enable output pin.
41	SPWCLK	O	Serial write signal synchronization clock.
42	SPDO	O	Serial data output pin.
43	SPRCLK	O	Serial clock output pin.
44	SPDI	I	Serial data input pin.
45	FG	I	FG (frequency generator) signal input pin.
46	FGREF	I	FG (frequency generator) reference signal input pin.
47	PG	I	PG (pulse generator) signal input pin. (VCO/3456 XCK = 27 MHz)
48	PGREF	I	PG (pulse generator) reference signal input pin. (XCK/3456 XCK = 27 MHz)
49,56,57,77	N.C	-	No connection.
50	CDRF	I	CD-RF signal input.
51	DVDRF	I	DVD-RF signal input.
52-54	MON0-2	O	Internal monitoring signal.
58	SRF	O	Head AMP gain select control.
59,66,95-99	DSEL1-7	O	VCD setting pins.
61	DRPOUT	O	Drop out signal output. (H: drop out)
62	BDO	I	Black drop out signal input. (H: black drop out)
63	OFTR	I	Off track signal input. (H: off track)
64	TKCRS	I	Track cross signal input pin.
65	RSV1	I	Test pin (normally open).
67	RSVO	I	Test pin (normally open).
68	TESTA	I	Test mode setting pin (normally open).
69	Avss1	I	Ground for analog circuit.
70	VREFH1	I	AD high level reference voltage input pin (3.75 V).
71	VREFM	I	AD middle reference voltage input pin (2.5 V).
72	VREFL1	I	AD low level reference voltage input pin (1.25 V).
73	TRD-IN	I	Tracking drive voltage input pin. (This pin is connected to 91 pin.)
74	CDECS	I	CD spindle motor drive signal input.
75	JIT	I	Jitter level signal input.
76	VREF	I	Reference voltage input.
78	AS2	I	PD all addition signal input.
79	FE	I	Focus error signal input.
80	RFENV	I	RF envelope signal input.
81	AS1	I	Addition signal of inner 4 divided PD.
82	TE	I	Tracking error signal input.
83	AVdd1	I	Power supply for analog circuit.
84	VREF0	I	Analog reference voltage input (2.5 V).
85	VREFH2	I	Analog high level reference voltage input pin (3.75 V).
86	VREFL2	I	Analog low level reference voltage input pin (1.25 V)
87	AVdd2	I	Power supply for analog circuit.
88	TBAL	O	Tracking balance adjust output.
89	FBAL	O	Focus balance adjust output.
90	FOD	O	Focus drive signal output.
91	TRD	O	Tracking drive signal output.
92	AVss2	I	Ground pin for analog circuit.
93	TESTD	I	Test mode setting pin (normally open).
94	MINTST	I	Test mode setting pin (normally open).
100	PWMCTL	I	PWM output control signal input (normal: L)

5.8. DVD Sync/ECC/Formatter (IC500 CYC13D000)-DVD Main P.C.B. Ass'y

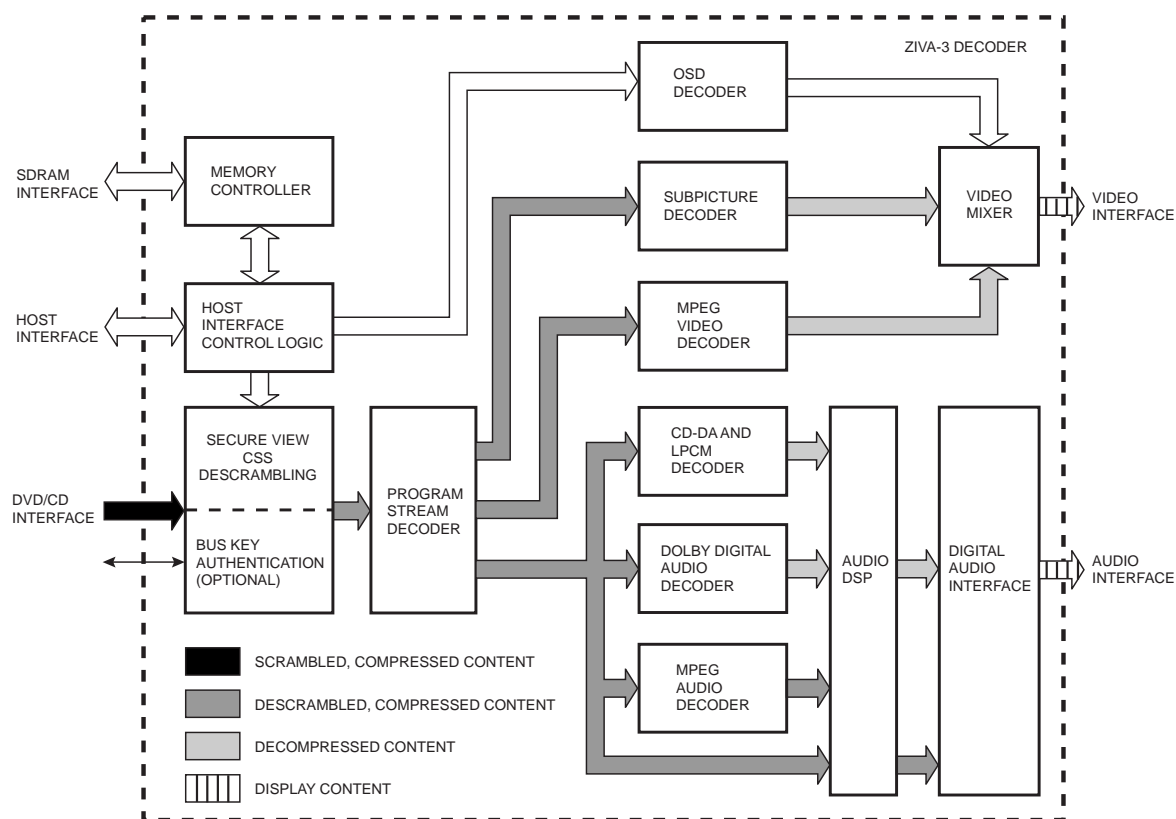
Pin No.	Port Name	I/O	FUNCTION
1,12,26,35,46, 52,63,73,81, 95,105,118, 131,142,156, 170,182,195	VSS1-18	–	Ground pins.
2	SEL0	–	Test mode select pins.
3	SEL1		
4-6,8,10,10 11,14-22,28 29,116,117 119,125,126 132,171-174 194,197-206	TEST9-46	–	Test mode output pins. (Leave them open)
7	AVRTM	O	End of output stream of 2060 bytes data to CSS.
9	XSRTM	O	End of block signal.
13,25,33,45,53, 62,72,140,157, 169,196,208	VDD5-1to 5-12	–	+5 V power supply pin.
23	MLD	O	Microprocessor command load signal for CD-DA section. (L: load).
24	MCLK	O	Microprocessor command clock signal for CD-DA section. (data is attached on rising edge)
25	VDD5-2	–	+5 V power supply pin.
26	VSS3	–	Ground pin.
27	MDATA	O	Microprocessor command data for CD-DA section.
30	DEMPH	I	De-emphasis control input (H: on).
31	DMUTE	O	Muting output for CD-DA section.
32	STAT	I	Status signal (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK) from CD-DA, STAT also goes to CPU.
34	PLLCLK	I	27 MHz clock input pin.
36	CHNDATA	I	Inverted bit data, which is changed on the falling edge of PLLCLK.
37	SDTIO	I/O	Serial bit data I/O.
38	ASPSCK	O	296ns clock (27 MHz/8) output.
39	SEN	O	High enable CPU to write data to 8 read-channel registers.
40	PLLOK	O	DVD frame sync (H: O.K)
41	LDON	O	Turn on the Laser diode.
42	XDVD	O	DVD mode control output.
43	XCD2	O	2X CD mode control output.
44	XCD4	O	4X CD mode control output.
47-51,54-56	SRMDT0-7	I/O	SRAM data bus.
57-61,64-71 74-77	SRMADR0-16	O	SRAM address bus.
78	XSRMCE	O	Chip enable signal to SRAM.
79	XSRMOE	O	Output enable signal to SRAM.
80	XSRMWE	O	Write enable signal to SRAM.
83-90	SDMDT0-7	I/O	SDRAM data bus.
91-93 96-103,106	SDMADR0-11	O	SDRAM address bus.
107	$\overline{\text{SDMRAS}}$	O	SDRAM row address strobe output.
108	$\overline{\text{SDMCAS}}$	O	SDRAM column address strobe output.
109	$\overline{\text{SDMWE}}$	O	SDRAM write enable output.

(to be continued)

DVD Sync/ECC/Formatter (IC500 CYC13D000)-DVD Main P.C.B. Ass'y -- Continued

Pin No.	Port Name	I/O	FUNCTION
110	SDMDQML	O	SDRAM lower byte input/output mask.
111	SDMCLK	O	Clock signal output to SDRAM.
112	SDMCS	O	SDRAM chip select control.
113	SDMDQML	O	SDRAM upper byte input/output mask.
115	SDMCKE	O	SDRAM clock enable.
120	XDSCO	O	Chip select signal to the SERVO MI-COM.
121	CRCOK	O	Sector IDs are O.K.
122-124	CPUADR0-2	O	(Video/Audio) HAL [2:0], V/A decoder, CPU address bus.
127-130 133-139 143-147	CPUADT0-15	I/O	CPU address/data bus.
141	XRESET	I	Global reset input.
148-152	CPUADT16-20	I	CPU address bus.
153	XALE	I	Address latch enable input.
154	XRE	I	Read strobe.
155	XINTO	O	ECC interrupt request.
158	XWEH	I	Write strobe signal.
159	XWAIT	O	CPU wait state control.
168	XHSTCS	O	Decipher chip select.
176	STENABLE	I	Stream data request.
177-181 185-187	STD0-7	O	Output stream data bus.
183	GENCLK	I	27 MHz clock input.
188	STCLK	O	Output stream data transfer clock, falling edge active, 6.75 MHz.
189	STVALID	O	Output stream data valid.
190	XVCS	O	Latched video decoder chip select.
191	XVDS	O	CPU read/write strobe.
192	HRXW	O	CPU write strobe, XWEH
193	ASCK	O	Latched audio decoder chip select.
207	SELCPU	I	1: data corresponds to CPUADT15-8. 0: data corresponds to CPUADT7-0.

5.9. Advanced DVD decoder with integrated Audio DSP (IC700 ZIVA-3)-DVD Main P.C.B. Ass'y



Advanced DVD decoder with integrated Audio DSP ZIVA3 (IC700-DVD Main P.C.B.)

Advanced DVD decoder with integrated Audio DSP (IC700 ZIVA-3)-DVD Main P.C.B. Ass'y

Pin No.	Port Name	I/O	FUNCTION
1,52,129 133,138,141 147,153,156 174,190	PIO0-10	I/O	Programmable I/O pins.
2-4,6,8-11	HDATA0-7	I/O	8 bit bi-directional host data bus.
5,12,17,27 36,40,47,55 61,65,69,75 81,87,91,95 101,107,113 117,123,134 149,160,181 193	VDD1-29	–	+3.3 V power supply pins.
7,14,19,29 38,42,49,57 63,67,71,77 83,89,93,97 103,109,115 119,125,136 146,151,162 170,183,195 199	VSS1-29	–	Ground pins.
13	RESET	I	Hardware reset pin.
15	WAIT/DTACK	O	Transfer not complete / data acknowledge.
16	INT	O	Host interrupt.
21-26,28,30	HDATA8-15	I/O	Programmable I/O pins. Input mode after reset.
31-35,37,39 41,43-46	HADDR12-23	I/O	Programmable I/O pins. Output mode after reset.
51,130	NC	–	No connection.
53,54,56,58 59,60,62,64 66,68,70,72 73,74,76,78	MDATA0-15	I/O	Memory data.
79	LDQM	O	SDRAM LDQM.
80	UDQM	O	SDRAM UDQM.
82	MWE	O	SDRAM write enable.
84	SD-CLK	O	SDRAM system clock.
85	SD-CAS	O	Active low SDRAM column address.
86	SD-RAS	O	Active low SDRAM row address.
88,90	SDCS0,1	O	Active low SDRAM bank select.
92	EDO-CAS	O	EDO column address (not used).
94	EDO-RAS	O	EDO row address (not used).
96,98-100 102,104-106 108,110-112	MADDR0-11	O	Memory address output.
114,115,116 120-122,124 126,127	HADDR3-11	O	Memory address output (not used).
128	ROM-CS	O	Not used.

(to be continued)

Advanced DVD decoder with integrated Audio DSP (IC700 ZIVA-3)-DVD Main P.C.B. Ass'y -- Continued

Pin No.	Port Name	I/O	FUNCTION
131,132,135 137,139,140 142,143,145	VDDA-F	–	Connect to +3.3 V power supply line.
148,150,152 154,155	VDATA0-7	O	Video data bus.
157	HSYNC	I/O	Horizontal sync.
158	VSNC	I/O	Vertical sync.
159	DA-IEC	O	Bit stream data in IEC-1937 or PCM data out in IEC-958 format.
161,163-165	DA-DATA0-3	O	PCM data out, eight channels. Serial audio samples relative to DA-BCK clock.
166	DA-LRCK	O	PCM left/right clock. Identifies the channel for each audio sample.
167	DA-BCK	O	PCM bit clock output.
169	DA-XCK	I/O	Audio master frequency clock.
171	DAI-DATA	I	PCM input DATA (not used).
172	DAI-LRCK	I	PCM input LRCK (not used).
173	DAI-BCK	I	PCM input BCK (not used).
175	CLKSEL	I	Clock select pin. (H: internal, L: external)
176	A-VDD	–	+3.3 V power supply for analog section.
177	VCLK	O	Video clock. (27 MHz)
178	SYSCLK	I	System clock input. Decoder requires an external 27 MHz TTL oscillator.
179	A-VSS	–	Analog ground for PLL.
180	DVD-DATA0 /CD-DATA	I	Serial CD data.
182	DVD DATA1 /CD LRCK	I	DVD DATA1 input or CD-LRCK input.
184	DVD-DATA2 /CD BCK	I	DVD DATA2 input or CD bit clock input.
185	DVD-DATA3 /CD-C2PO	I	DVD DATA3 input. Asserted HIGH indicates a corrupted byte.
186-189	DVD-DATA4-7 CDG 4-7	I	DVD parallel compressed data from DVD DSP or CDG-SDATA/ VSFY/S0S1/SCLK signal input.
191	VREQUEST	O	Video request. Decoder asserts VREQUEST to indicate that the video input buffer has available space.
192	VSTROBE	I	Video strobe signal input.
194	AREQUEST	O	Audio request. Decoder asserts AREQUEST to indicate that the audio input buffer has available space.
196	V-DACK	I	Video data acknowledge (in synchronous mode). Asserted when DVD is valid.
198	A-DACK	I	Audio data acknowledge.
200	ERROR	I	Error in input data. If error signal is not available from the DSP, it must be grounded.
202-204	HADDR0-2	I	Host address bus. 3-bit address bus selects one of eight host interface registers.
205	DTACKSEL	I	Tie HIGH to select WAIT signal, LOW to select DTACK signal. (Motorola 68 K mode)
206	CS	I	Host chip select. Host asserts CS to select the decoder for a read or write operation.
207	R/W	I	Read/write strobe in M mode. Write strobe in I mode. Host asserts R/W LOW to select write and LOW to select read.
208	RD	I	Read strobe in I mode. Must be held HIGH in M mode.

6. BLOCK DIAGRAMS

6. BLOCK DIAGRAMS

6.1. Main Unit (1/2)

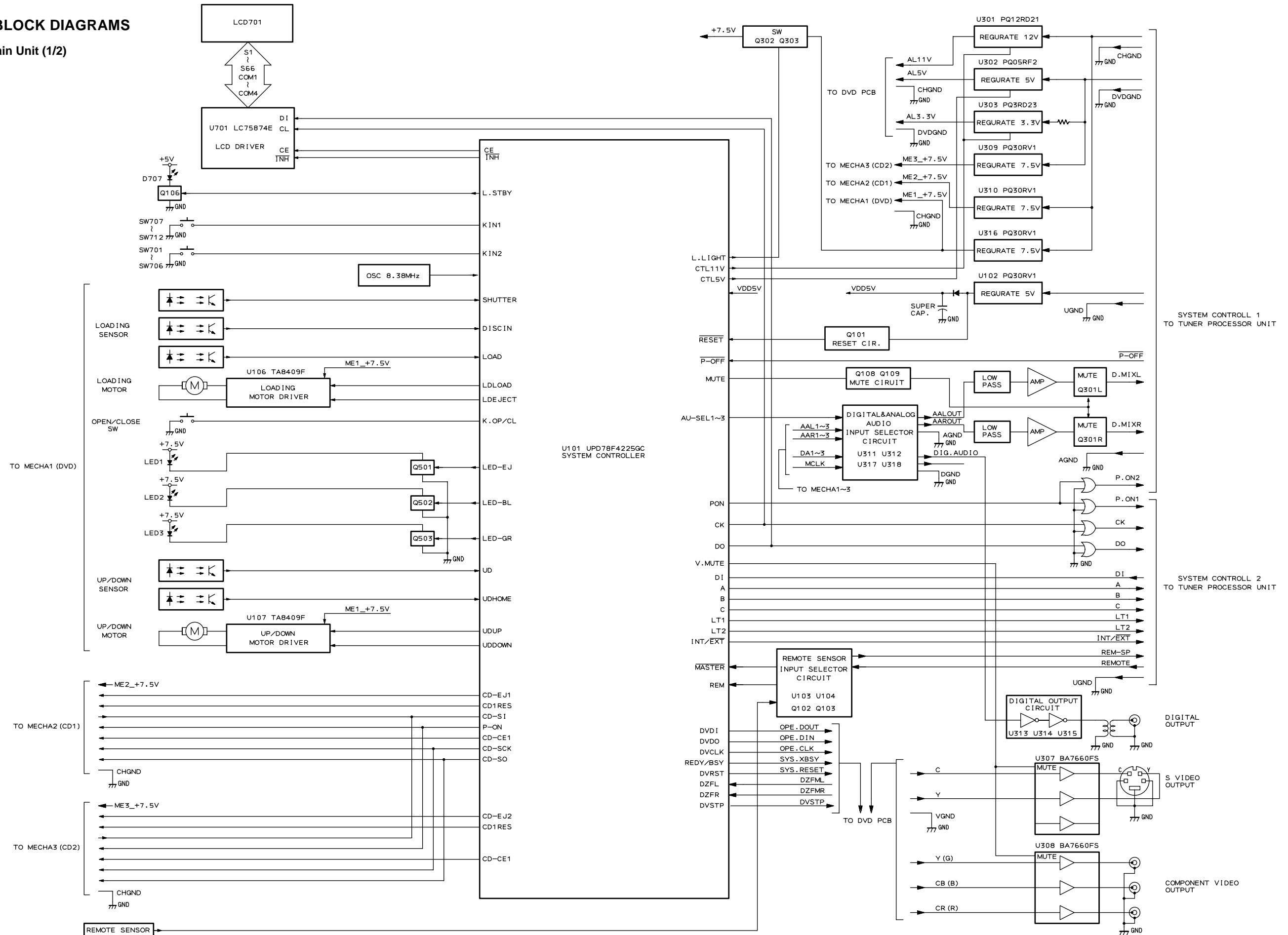


Fig. 6.1

6.2. Main Unit (2/2)

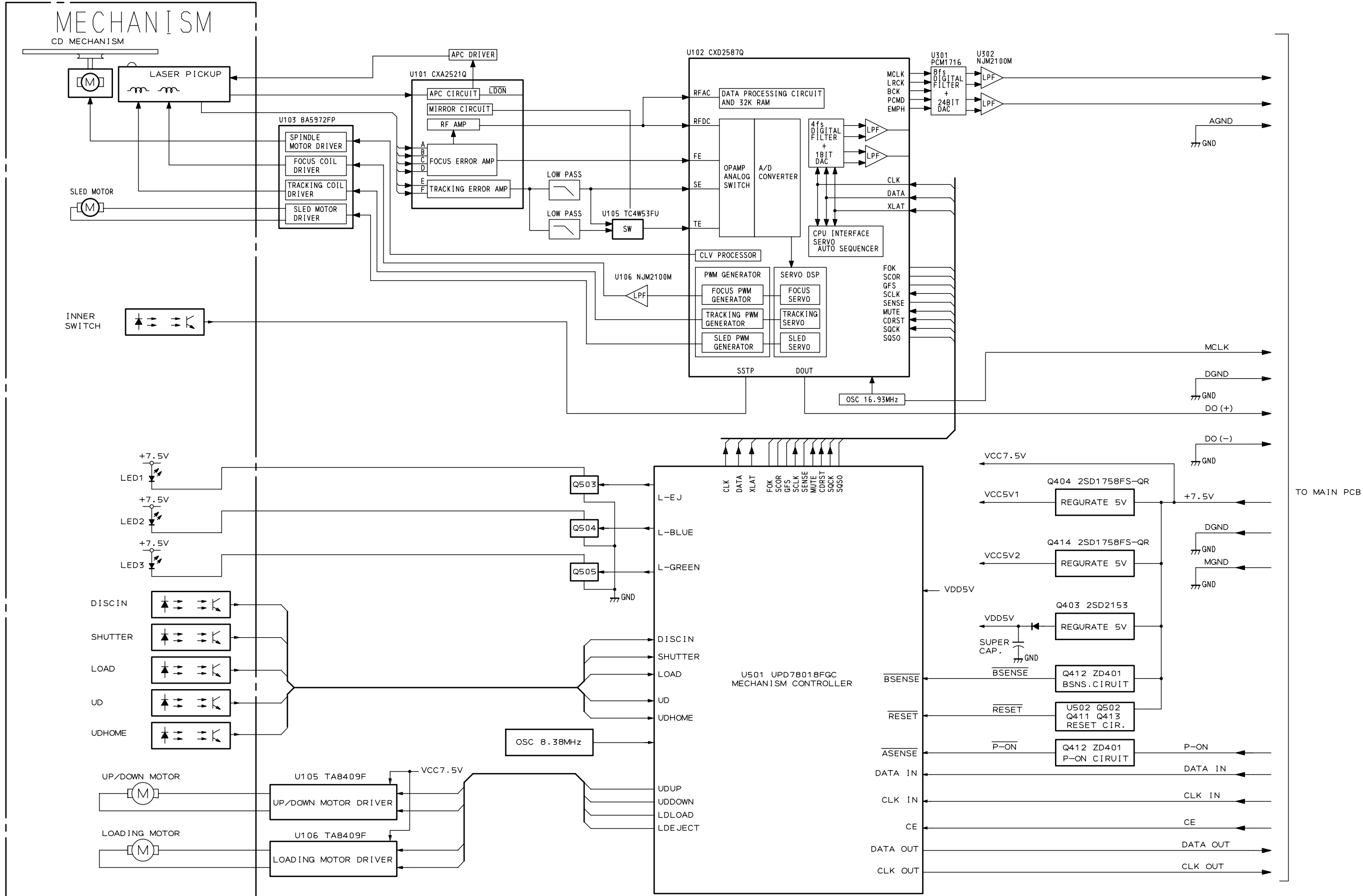


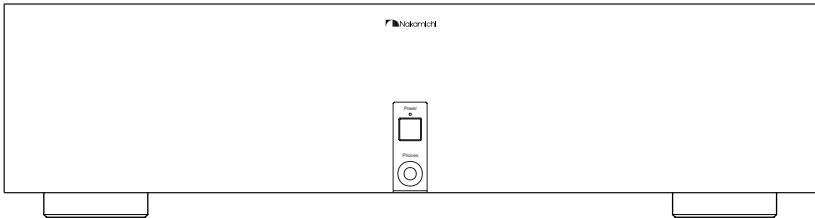
Fig. 6.2



To the cover page of this manual.

A/V Tuner/Processor

A/V Tuner/Processor Unit Section



CONTENTS

1. MECHANISM ASS'Y AND PARTS LIST	2-2
1.1. Synthesis (A/V Tuner/Processor Unit)	2-2
2. ELECTRICAL PARTS LIST	2-4
2.1. Digital P.C.B. Ass'y	2-4
2.2. P. Supply P.C.B. Ass'y	2-4
2.3. PSW-LED P.C.B. Ass'y	2-5
2.4. Headphone P.C.B. Ass'y	2-5
2.5. HS1 P.C.B. Ass'y	2-5
2.6. HS2 P.C.B. Ass'y	2-5
2.7. HS3 P.C.B. Ass'y	2-5
2.8. HS4 P.C.B. Ass'y	2-5
2.9. Trans-S P.C.B. Ass'y	2-5
2.10. AC LF P.C.B. Ass'y	2-5
2.11. Video P.C.B. Ass'y	2-5
2.12. Analog P.C.B. Ass'y	2-6
3. IC BLOCK DIAGRAMS	2-7
4. BLOCK DIAGRAM	2-12
SPECIFICATIONS (See the end of this manual.)	

SCHEMATIC DIAGRAMS (See the separate volume.)

1. MECHANISM ASS'Y AND PARTS LIST

1.1. Synthesis (A/V Tuner/Processor Unit)

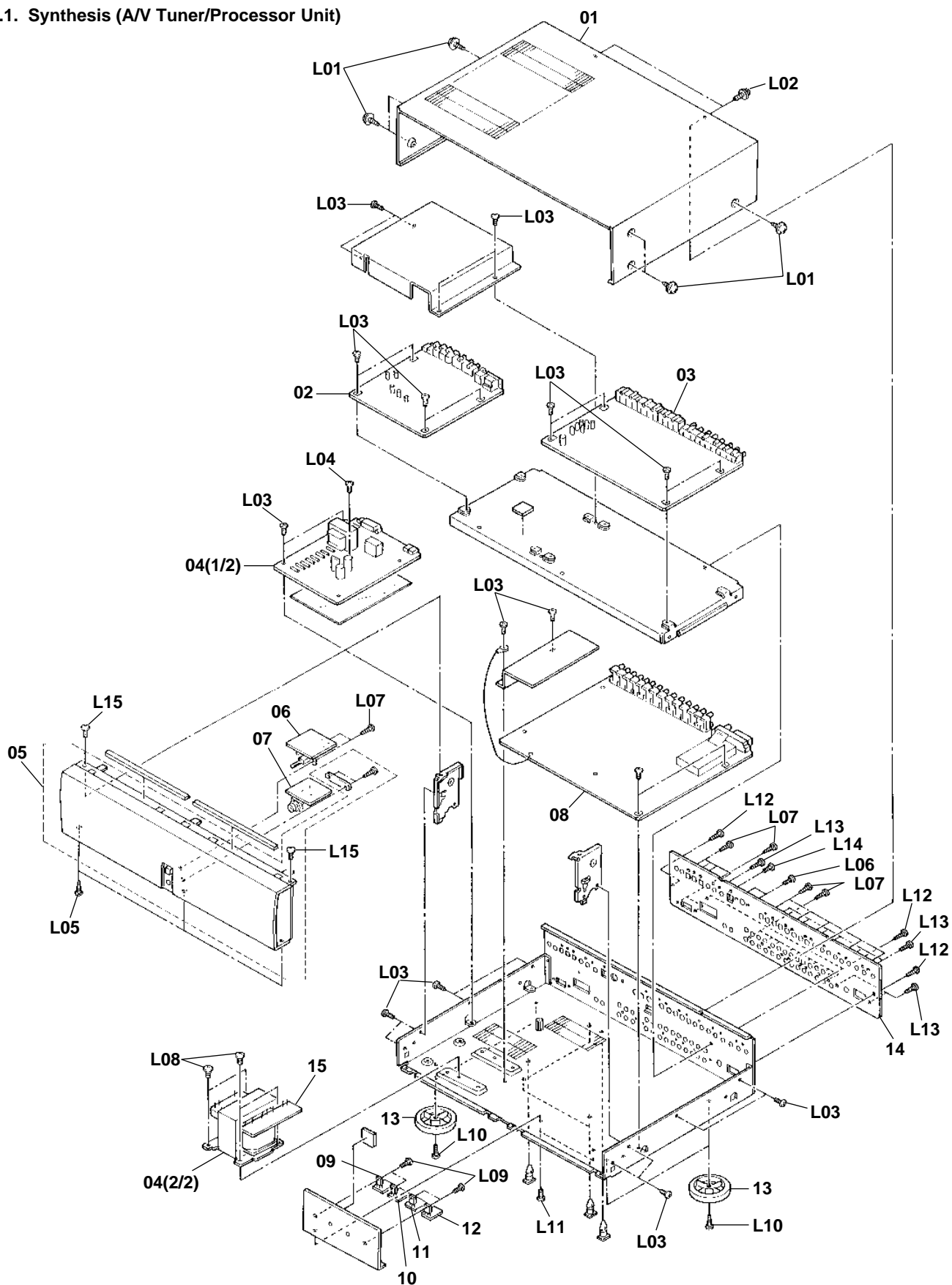


Fig. 1.1

1. MECHANISM ASS'Y AND PARTS LIST

SS-12 A/V Tuner/Processor Unit Section

1.1. Synthesis (A/V Tuner/Processor Unit)

Schematic Ref. No.	Part No.	Description	Q'ty
	—	Synthesis (A/V Tuner/Processor Unit)	1
01	0H08392A	Top Cover HB	1
02	BA10135A	Digital P.C.B Ass'y	1
03	BA10137A	Video P.C.B Ass'y NTSC (JPN, USA, CAN, KR, TW)	1
	BA10147A	Video P.C.B. Ass'y PAL (UK, OTR, AUS, EP, CH, DA, HK)	1
04	BA10136A	P. Supply P.C.B Ass'y UL (USA, CAN)	1
	BA10144A	P. Supply P.C.B Ass'y DM (JPN)	1
	BA10145A	P. Supply P.C.B Ass'y EP (UK, AUS, EP, CH, HK)	1
	BA10146A	P. Supply P.C.B Ass'y DU (OTR, DA, TW)	1
	BA10416A	P. Supply P.C.B Ass'y KR (KR)	1
05	HA08446A	Front Panel Ass'y HB SS-12	1
06	BA10138A	PSW-LED P.C.B. Ass'y OTR (Except JPN)	1
	BA10220A	PSW-LED P.C.B. Ass'y DM (JPN)	1
07	BA10139A	Headphone P.C.B Ass'y (JPN, OTR, USA, CAN, DA, TW)	1
	BA10270A	Headphone P.C.B Ass'y EP (UK, AUS, EP, CH, HK, KR)	1
08	BA10134A	Analog P.C.B Ass'y UL (OTR, USA, CAN, CH, DA, HK, KR TW)	1
	BA10142A	Analog P.C.B Ass'y DM (JPN)	1
	BA10143A	Analog P.C.B Ass'y EP (UK, AUS, EP)	1
09	BA10229A	HS4 P.C.B. Ass'y	1
10	BA10228A	HS3 P.C.B. Ass'y	1
11	BA10194A	HS1 P.C.B. Ass'y	1
12	BA10195A	HS2 P.C.B. Ass'y	1
13	0H08470A	55 Foot A	4
14	0H08770A	Rear Sheet HB DM (JPN)	1
	0H08771A	Rear Sheet HB UL (USA, CAN)	1
	0H08772A	Rear Sheet HB DU (OTR, DA, TW)	1
	0H08773A	Rear Sheet HB EP (UK, AUS, EP, CH, HK)	1
	0H08991A	Rear Sheet HB KR (KR)	1
15	BA10177A	Trans-S P.C.B. Ass'y (UK, AUS, EP, CH, HK, KR)	1
—	0J08423A	Foot Sheet (20)	4
—	BA10271A	AC LF P.C.B. Ass'y (UK, AUS, EP, CH, HK, KR)	1
L01	0E04146A	BT4x8 + Pan	
L02	0E04147A	BT3x8 + Binding	
L03	0E00877A	ST3 x 5 + Binding	
L04	0E00992A	M3x4 + Binding	
L05	0E04222A	BT3x8 +Binding Projected	
L06	0E04187B	M3x6 + Flat (Black)	
L07	0E03749A	PT3x8 + Binding (Black)	
L08	0E03438A	ST4x6 + Binding	
L09	0E00766A	M3x8 + Binding	
L10	0E00857A	BT3x6 + Biniding	
L11	0E00896A	M3x6 + Binding	
L12	0E03283A	ST3 x 6 + Binding (Black)	
L13	0E00921A	BT3x8 + Binding (Black)	
L14	0E04188B	M2.6x6 + Flat (Black)	
L15	0E00868A	BT3x8 + Binding	
—	0E03656A	PT2.6x8 + Binding (Black) (for vltge selector) (OTR, DA)	

2. ELECTRICAL PARTS LIST

NOTES: 1. Abbreviations

TR – Transistor, SID – Silicon Diode, ZD – Zener Diode, Varicap – Variable Capacitance Diode

RK – Carbon Resistor, RM – Metal Film Resistor, RF – Fail Safe Type Resistor,

RC – Cement Resistor, CE – Electrolytic Capacitor, CML – Mylar Capacitor,

CC – Ceramic Capacitor, CPP – PP Capacitor, CMM – Metalized Mylar Capacitor,

CSP – Polystyrene Capacitor, C – Mica Capacitor, CT – Tantalum Capacitor

2. Description of capacitor: 10 16V = 10μ 16V

3. Parts marked with * show chip parts.

2.1. Digital P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA10135A	Digital P.C.B Ass'y
U801	0B11603A	IC TC74HCU04AF
U802	0B12881A	IC TC74HC151AF*
U803	0B12883A	IC LC89055W*
U804	0B12786A	IC CS5360-KS*
U805	0B12885A	IC YSS912*
U806	0B12884A	IC TC55812BJ-15*
U807,808	0B12783A	IC AD1855*
U809	0B12783A	IC AD1855*
U810	0B13396A	IC TC74VHC153AF*
U811,812	0B10809A	IC NJU3712M*
U813	0B10809A	IC NJU3712M*
U814,815	0B12880A	IC HD74HC137FP*
U816,817	0B10877A	IC TC74HC165AF*
U818	0B10877A	IC TC74HC165AF*
U819	0B12791A	IC PQ20VZ1U*
U820,821	0B10765A	IC NJM2114M*
U822	0B10765A	IC NJM2114M*
U823,824	0B11603A	IC TC74HCU04AF
U825,826	0B10645A	IC NJM2100M*
U827,828	0B11615A	TR TC74HC08AF*
U829	0B11615A	TR TC74HC08AF*
U830	0B11603A	IC TC74HCU04AF
Q801,802	0B14205A	TR DTC314TK*
Q803	0B14002A	TR DTA114EK*
Q804,805	0B14011A	TR DTC114EK*
ZD801,802	0B10485A	ZD RD5.6UJN2*
ZD803,804	0B10485A	ZD RD5.6UJN2*
ZD805,806	0B10485A	ZD RD5.6UJN2*
ZD807,808	0B10485A	ZD RD5.6UJN2*
ZD809,810	0B10485A	ZD RD5.6UJN2*
ZD811,812	0B10485A	ZD RD5.6UJN2*
D801,802	0B12249A	SID 1SS133
L801,802	0B51392A	Inductor 47uH
L803,804	0B51369A	Inductor 10mH
L805	0B51392A	Inductor 47uH
X801	0B90902A	X'tal 12.288MHz
CP801,802	0B10807A	IC Tos Link TORX178A
CP803	0B12811A	Tos Link TOTX178A
CP804	0B10824A	IC Photocoupler PC918X
JK801	0B85452A	13P Mini Socket
JK802	0B80668A	DIN 13P Socket
PJ801	0B85544A	Pin Jack 3P AU O
PJ804,805	0B80774A	Mini Jack H

2.2. P. Supply P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA10136A	P. Supply P.C.B Ass'y UL (USA, CAN)			
	BA10144A	P. Supply P.C.B Ass'y DM (JPN)			
	BA10145A	P. Supply P.C.B Ass'y EP (UK, AUS, EP, CH, HK)			
	BA10146A	P. Supply P.C.B Ass'y DU (OTR, DA, TW)			
	BA10416A	P. Supply P.C.B Ass'y KR (KR)			
ICP401	0B11248A	IC Protector ICP-N5 0.25A	CN5	0B85405A	3PConnector Ass'y CN-5
U401	0B11240A	IC NJM78L05A	CN6	0B85406A	8PConnector Ass'y CN-6
U402	0B12907A	IC PQ12RF1	CN14	0B85414A	6PConnector Ass'y CN-14
U406	0B17033A	IC NJM78M12FA	CN17	0B85528A	1P Connector Ass'y CN-17
Q401	2B10073A	TR 2SD1761E/D	CN20	0B85456A	1P Connector Ass'y CN-20
Q402,403	0B06100A	TR 2SC945	CN21	0B85529A	1P Connector Ass'y CN-21 (Except KR)
Q404	0B06100A	TR 2SC945	CN22	0B85530A	1P Connector Ass'y CN-22 (JPN, OTR, USA, CAN, DA, TW)
Q405,406	0B10068A	TR DTC114ES	CN23	0B85531A	1P Connector Ass'y CN-23
Q407	0B10058A	TR DTA114ES	CN24	0B85532A	1P Connector Ass'y CN-24/28 (UK, AUS, EP, CH, HK)
Q408	0B06100A	TR 2SC945	CN25	0B85533A	1P Connector Ass'y CN-25 (UK, AUS, EP, CH, HK)
ZD401	0B12314A	ZD MTZ12V B	CN26	0B85462A	1P Connector Ass'y CN-26 (OTR, DA, TW)
D401,402	0B12586A	SID 1N4002	CN27	0B85463A	1P Connector Ass'y CN-27 (OTR, DA, TW)
D403,404	0B12586A	SID 1N4002	CN28	0B85460A	1P Connector Ass'y CN-24/28 (OTR, DA, TW)
D405	0B12249A	SID 1SS133	CN30	0B85475A	1P Connector Ass'y CN-30 (OTR, DA, TW)
D406,407	0B12586A	SID 1N4002	CN31	0B85476A	1P Connector Ass'y CN-31 (OTR, DA, TW)
D410,411	0B12874A	SID 2W02G	CN32	0B85477A	1P Connector Ass'y CN-32 (OTR, DA, TW)
D412	0B10543A	SID GBU8D	CN38	0B85497A	1P Connector Ass'y CN-38/42/43
T1	0B50342A	Sub Transformer DM/UL (JPN, USA, CAN)	CN45	0B85521A	1-2P Connector A/37)
	0B50343A	Sub Transformer EP/OTR (Except JPN, USA, CAN)	F401	0B90872A	Fuse T 5AL250V (Except KR)
	0B50344A	Power Transformer DM/UL (JPN, USA, CAN)	F402	0B90853A	FU.F 5A 125V (JPN, OTR, USA, CAN, DA, TW)
	0B50345A	Power Transformer FP/OTR (Except JPN, USA, CAN)		0B90870A	Fuse T 3.15AL250V (UK, AUS, EP, CH, HK, KR)
R403	0B24083A	RF 180 1W		0B90849A	Fuse F 2A 250V (JPN, OTR, USA, CAN, DA, TW)
R404	0B24442R	RF 22 1W		0B90868A	Fuse T 2AL250V (UK, AUS, EP, CH, HK, KR)
R409	0B20057A	RK 4.7M 1/2W J (JPN)	F403	0B90849A	Fuse F 2A 250V (JPN, OTR, USA, CAN, DA, TW)
	0B21652R	RK 4.7M 1/2W (USA, CAN)		0B90868A	Fuse T 2AL250V (UK, AUS, EP, CH, HK, KR)
R422	0B80082A	Jumper Wire 5mm (JPN, OTR, USA, CAN, DA, TW)	F404	0B90849A	Fuse F 2A 250V (JPN, OTR, USA, CAN, DA, TW)
C446	0B41825A	CC 4700P 400V (Except JPN)		0B90868A	Fuse T 2AL250V (UK, AUS, EP, CH, HK, KR)
	0B41826A	CC 4700P 250V (JPN)			
C449,450	0B47117A	CC 0.1 50V Z (UK, AUS, EP, CH, HK, KR)	F405	0B90851A	Fuse F 3A 250V (JPN, OTR, USA, CAN, DA, TW)
CN1	0B85527A	1P Connector Ass'y CN-1		0B90870A	Fuse T 3.15AL250V (UK, AUS, EP, CH, HK, KR)
CN2	0B85402A	12P Connector Ass'y CN-2			
CN3	0B85403A	6PConnector Ass'y CN-3			
CN4	0B85404A	8PConnector Ass'y CN-4			

2. ELECTRICAL PARTS LIST

SS-12 A/V Tuner/Processor Unit Section

Schematic Ref. No.	Part No.	Description	2.4. Headphone P.C.B. Ass'y			2.10. AC LF P.C.B. Ass'y		
Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
F406	0B90851A	Fuse F 3A 250V (JPN, OTR, USA, CAN, DA, TW)		BA10139A	Headphone P.C.B Ass'y (JPN, OTR, USA, CAN, DA, TW)		BA10271A	AC LF P.C.B. Ass'y (UK, AUS, EP, CH, HK, KR)
	0B90870A	Fuse T 3.15A 250V (UK, AUS, EP, CH, HK, KR)		BA10270A	Headphone P.C.B Ass'y EP (UK, AUS, EP, CH, HK, KR)	CN22	0B85530A	1P Connector Ass'y CN-22
F407	0B90846A	Fuse 1A 250V F (JPN, OTR, USA, CAN, DA, TW)				CN48	0B85547A	1P Connector Ass'y CN-48
	0B90865A	Fuse 1A 250V T (UK, AUS, EP, CH, HK, KR)	C4	0B41298A	CML 0.1 50V J (UK, AUS, EP, CH, HK, KR)	INLET1 L1	0B85362A	AC Inlet EP
F408	0B90846A	Fuse 1A 250V F (JPN, OTR, USA, CAN, DA, TW)	HJ101	0B85360A	HeadPhone Jack		0B85543A	AC Line Filter
	0B90865A	Fuse 1A 250V T (UK, AUS, EP, CH, HK, KR)	CN47	0B85542A	1P Connector Ass'y CN-46/47 (UK, AUS, EP, CH, HK, KR)	2.11. Video P.C.B. Ass'y		
F409	0B90846A	Fuse 1A 250V F (JPN, OTR, USA, CAN, DA, TW)	2.5. HS1 P.C.B. Ass'y			Schematic Ref. No.	Part No.	Description
	0B90865A	Fuse 1A 250V T (UK, AUS, EP, CH, HK, KR)	Schematic Ref. No.	Part No.	Description		BA10137A	Video P.C.B Ass'y NTSC (JPN, USA, CAN, KR, TW)
F410	0B90846A	Fuse 1A 250V F (JPN, OTR, USA, CAN, DA, TW)		BA10194A	HS1 P.C.B. Ass'y		BA10147A	Video P.C.B. Ass'y PAL (UK, OTR, AUS, EP, CH, DA, HK)
	0B90865A	Fuse 1A 250V T (UK, AUS, EP, CH, HK, KR)	U403	0B10554A	IC PQ05RF1	U901	0B12877A	IC BA7664FV*
INLET1	0B85361A	AC Inlet UL (USA, CAN)	CN18	0B85455A	3P Connector Ass'y CN-18/19	U902,903	0B12875A	IC TC4051BP
OUTLET1	0B85359A	2P AC Outlet (JPN, OTR, USA, CAN, DA, TW)	2.6. HS2 P.C.B. Ass'y			U904,905	0B12875A	IC TC4051BP
	0B85417A	AC Outlet (UK, AUS, EP, CH, HK)	Schematic Ref. No.	Part No.	Description	U906,907	0B12875A	IC TC4051BP
PJ401,402	0B80774A	Mini Jack H		BA10195A	HS2 P.C.B. Ass'y	U908,909	0B12862A	IC BA7660FS*
RY401	0B90907A	Relay OSZ-SH-112DM	U404	0B11751A	IC NJM7815FA	U910	0B12862A	IC BA7660FS*
	0B70285A	Voltage Switch (OTR, DA, TW) (1)	CN19	0B85455A	3P Connector Ass'y CN-18/19	U911	0B11146A	IC TC4053BP
2.3. PSW-LED P.C.B. Ass'y			2.7. HS3 P.C.B. Ass'y			U912	0B12862A	IC BA7660FS*
Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	U913	0B06270A	IC TC4069UBP
	BA10138A	PSW-LED P.C.B. Ass'y OTR (Except JPN)		BA10228A	HS3 P.C.B. Ass'y	U914	0B10809A	IC NJU3712M*
	BA10220A	PSW-LED P.C.B. Ass'y DM (JPN)	U917	0B10554A	IC PQ05RF1	U915	0B10816A	IC M35013-001
ED401	0B12806A	LED Green	CN34	0B85495A	3P Connector Ass'y CN-34	U916	0B06270A	IC TC4069UBP
ED402	0B10825A	LED Amber GL3HS43	2.8. HS4 P.C.B. Ass'y			U918	0B17001A	IC NJM79M05FA
	0B90924A	Capacitor Cover (Except JPN)	Schematic Ref. No.	Part No.	Description	Q901	0B10060A	TR DTA143ES
				BA10229A	HS4 P.C.B. Ass'y	Q902,903	0B10820A	TR 2SC2058S
			U405	0B11752A	IC NJM7915FA	Q904	0B10820A	TR 2SC2058S
			CN35	0B85455A	3P Connector Ass'y CN-18/19	Q905	0B10068A	TR DTC114ES
2.9. Trans-S P.C.B. Ass'y			2.9. Trans-S P.C.B. Ass'y			Q906	0B10820A	TR 2SC2058S
Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Q907	0B10174A	TR 2SC2669 O,Y
	BA10177A	Trans-S P.C.B. Ass'y				Q908	0B10094A	TR 2SA1015 (Y)
CN2	0B85402A	12P Connector Ass'y CN-2				Q909,910	0B10078A	TR 2SC2240 GR
						ZD901	0B10821A	ZD MTZJ2.0B
						D901,902	0B12249A	SID 1SS133
						D903,904	0B12249A	SID 1SS133
						D905,906	0B12249A	SID 1SS133
						D907,908	0B12249A	SID 1SS133
						D909	0B12836A	SID 1SR35-400A
						L901	0B51415A	Coil 15uH
						X901	0B90908A	X'tal 14.31818MHz (JPN, USA, CAN, KR, TW)
							0B90909A	X'tal 17.734475MHz (UK, OTR, AUS, EP, CH, DA, HK)
						PJ901,902	0B85364A	3P Pin Jack AU Y
						PJ903	0B85363A	2P Pin Jack AU Y
						PJ904,905	0B85365A	3P S Jack W/SW
						PJ906	0B85365A	3P S Jack W/SW

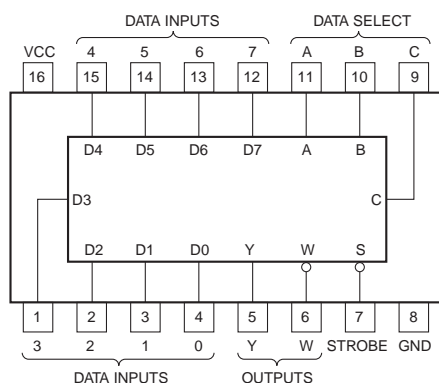
2. ELECTRICAL PARTS LIST

SS-12 A/V Tuner/Processor Unit Section

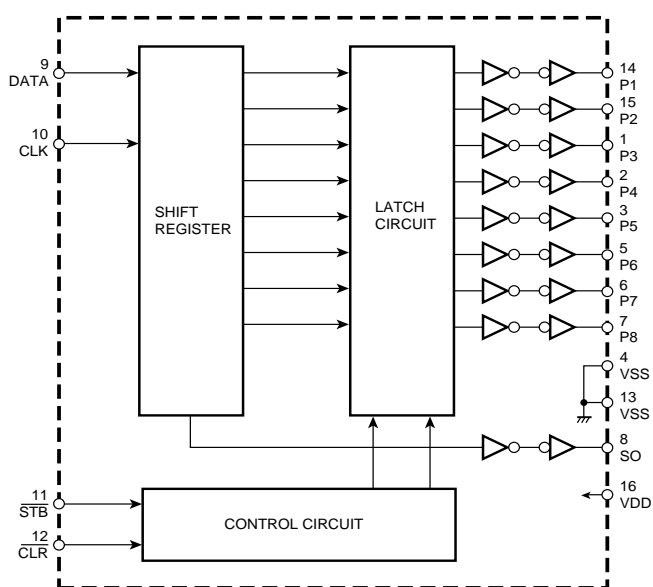
2.12. Analog P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
			C312,313	0B47027A	CML 470P 50V J (UK, AUS, EP)
	BA10134A	Analog P.C.B Ass'y UL (OTR, USA, CAN, CH, DA, HK, KR, TW)	C314,315	0B47027A	CML 470P 50V J (UK, AUS, EP)
	BA10142A	Analog P.C.B Ass'y DM (JPN)	C316,317	0B47027A	CML 470P 50V J (UK, AUS, EP)
	BA10143A	Analog P.C.B Ass'y EP (UK, AUS, EP)	PJ101	0B85450A	6P Pin Jack AU W R (JPN, OTR, USA, CAN, CH, DA, HK, KR, TW)
U104	0B06124A	IC NJM4558D		0B85545A	6P Pin Jack AU W R (UK, AUS, EP)
U106	0B06124A	IC NJM4558D			
U107,108	0B10812A	IC LC78211	PJ102	0B85450A	6P Pin Jack AU W R (JPN, OTR, USA, CAN, CH, DA, HK, KR, TW)
U109	0B10814A	IC LC78213			
U110,111	0B11713A	IC UPC4570C		0B85545A	6P Pin Jack AU W R (UK, AUS, EP)
U112,113	0B11713A	IC UPC4570C			
U114,115	0B11713A	IC UPC4570C			
U116,117	0B11713A	IC UPC4570C			
U118,119	0B12879A	IC TC9459N	PJ103	0B85450A	6P Pin Jack AU W R (JPN, OTR, USA, CAN, CH, DA, HK, KR, TW)
U120	0B12879A	IC TC9459N			
U121,122	0B12878A	IC TC9184AP			
U123,124	0B11713A	IC UPC4570C			
U125,126	0B11713A	IC UPC4570C		0B85545A	6P Pin Jack AU W R (UK, AUS, EP)
U127,128	0B10879A	IC NJM2114D			
U129	0B10879A	IC NJM2114D	PJ104	0B85450A	6P Pin Jack AU W R (JPN, OTR, USA, CAN, CH, DA, HK, KR, TW)
U130	0B10743A	IC NJM4556D			
U131	0B06124A	IC NJM4558D			
U133	0B12841A	IC LC72722PM* (UK, AUS, EP)		0B85545A	6P Pin Jack AU W R (UK, AUS, EP)
U134	0B06169A	IC TC4066BP	PJ105	0B85449A	4P Pin Jack AU W R (JPN, OTR, USA, CAN, CH, DA, HK, KR, TW)
U135	0B11713A	IC UPC4570C			
Q101	0B06299A	TR 2SC2878		0B85546A	4P Pin Jack AU W R (UK, AUS, EP)
Q102	0B10058A	TR DTA114ES			
Q103	0B10068A	TR DTC114ES	TU101	BG09939A	Tuner Pack DM (JPN)
Q104	0B06299A	TR 2SC2878		BG09946A	Tuner Pack EP (Except JPN)
Q105	0B10058A	TR DTA114ES			
Q106	0B10068A	TR DTC114ES			
Q107,108	0B06299A	TR 2SC2878			
Q109	0B10058A	TR DTA114ES			
Q110	0B10068A	TR DTC114ES			
Q111,112	0B06299A	TR 2SC2878			
Q115	0B06299A	TR 2SC2878			
Q118,119	0B06299A	TR 2SC2878			
Q120	0B06299A	TR 2SC2878			
Q123,124	0B06299A	TR 2SC2878			
Q125	0B06100A	TR 2SC945			
Q126,127	0B10104A	TR DTC114TS			
Q128	0B10068A	TR DTC114ES			
Q129	0B06100A	TR 2SC945			
Q130	0B10058A	TR DTA114ES			
Q131	0B10068A	TR DTC114ES			
L101	0B51183A	Inductor 100uH			
L102,103	0B51178A	Coil 39uH			
X101	0B90919A	X'tal 4.332MHz (UK, AUS, EP)			
R355	0B80082A	Jumper Wire 5mm (JPN)			
R356	0B80082A	Jumper Wire 5mm (Except JPN)			
R363,364	0B09677A	RK 1K 1/6W J (UK, AUS, EP)			
R365,366	0B09677A	RK 1K 1/6W J (UK, AUS, EP)			
R367	0B09677A	RK 1K 1/6W J (UK, AUS, EP)			
C283	0B40074A	CE 10 16V (UK, AUS, EP)			
C284	0B47117A	CC 0.1 50V Z (UK, AUS, EP)			
C286,287	0B41708A	CC 22P 50V J (UK, AUS, EP)			
C288	0B47117A	CC 0.1 50V Z (UK, AUS, EP)			
C310,311	0B47027A	CML 470P 50V J (UK, AUS, EP)			

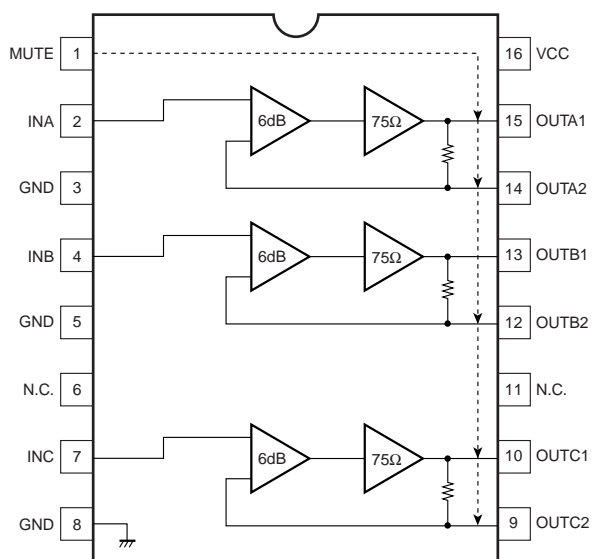
3. IC BLOCK DIAGRAMS



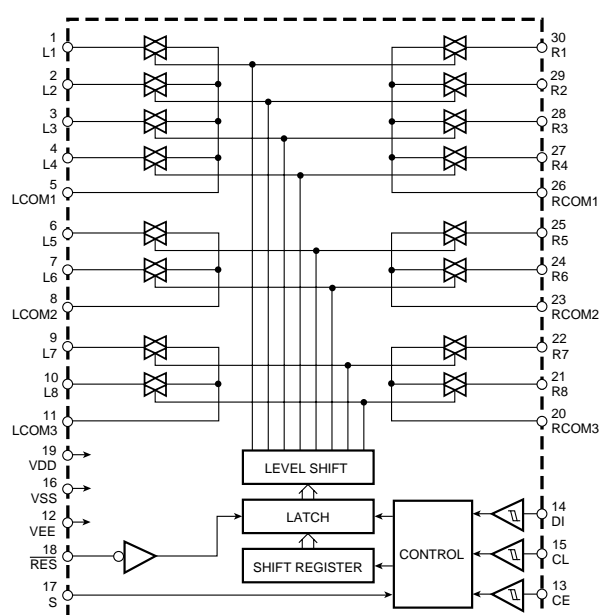
Selector TC74HC151AF (U802)



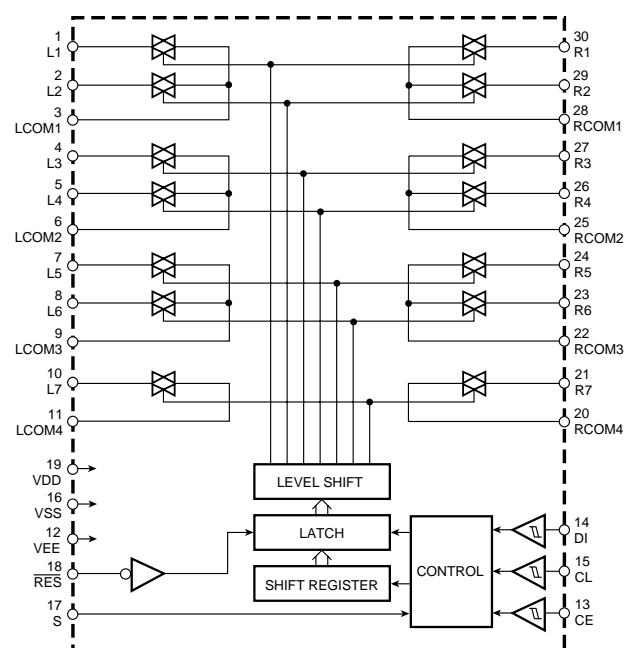
8-bit Serial-to-parallel Converter NJU3712M
(IC811-813, 914)



75Ω Driver BA7660FS (U908-910, 912)

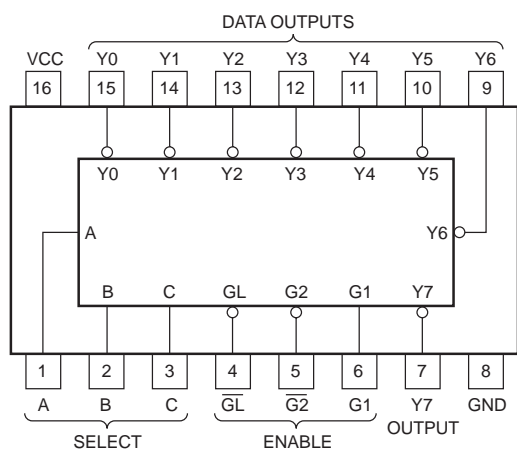


Function Switch LC78211 (U107, 108)

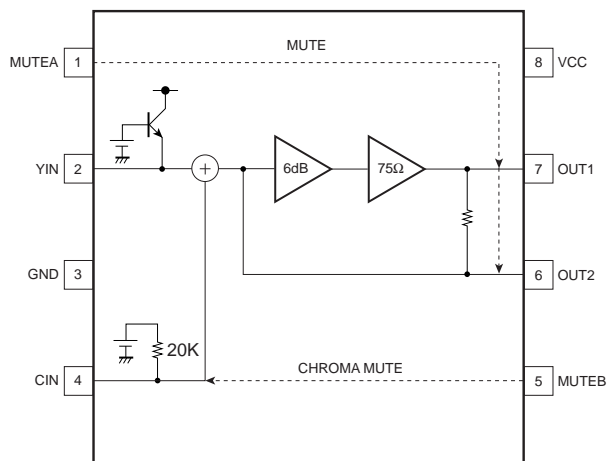


Function Switch LC78213 (U109)

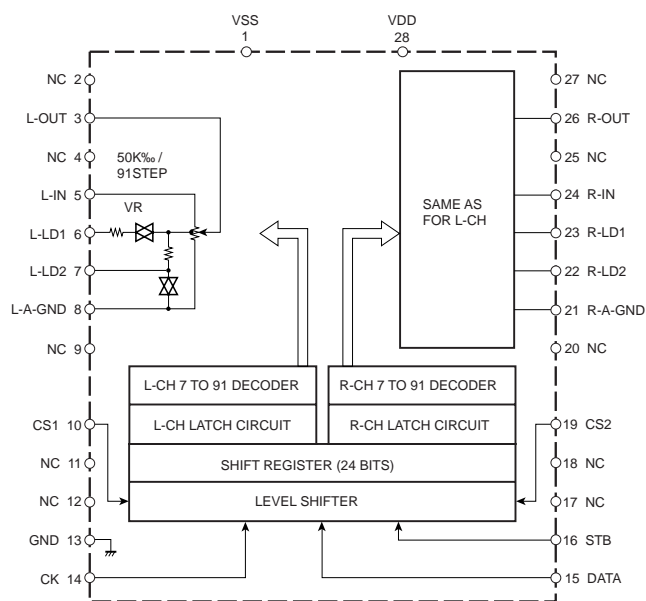
3. IC BLOCK DIAGRAMS



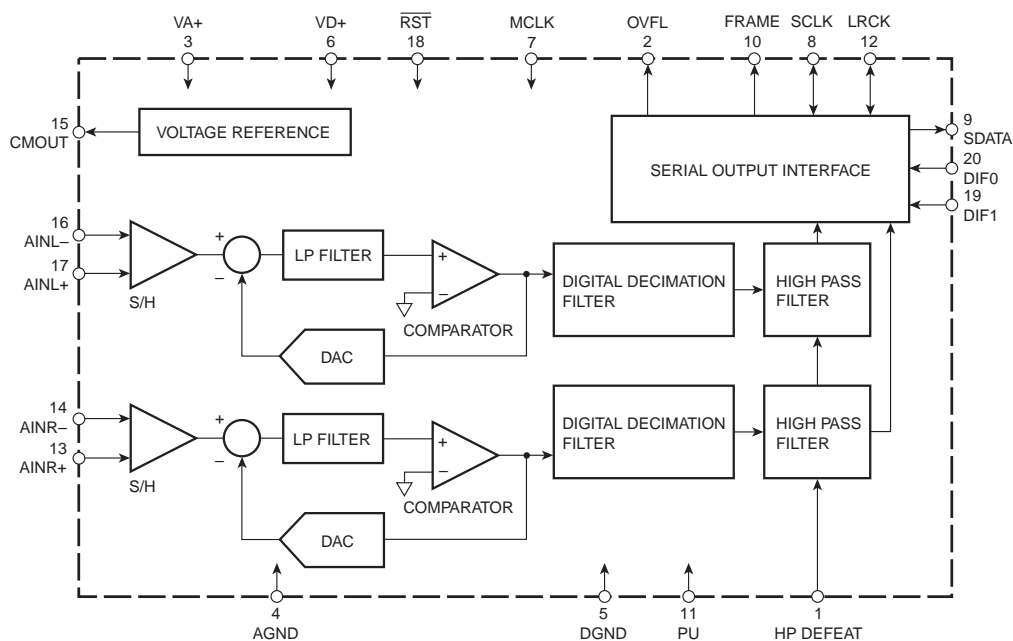
Decoder HD74HC137FP (U814, 815)



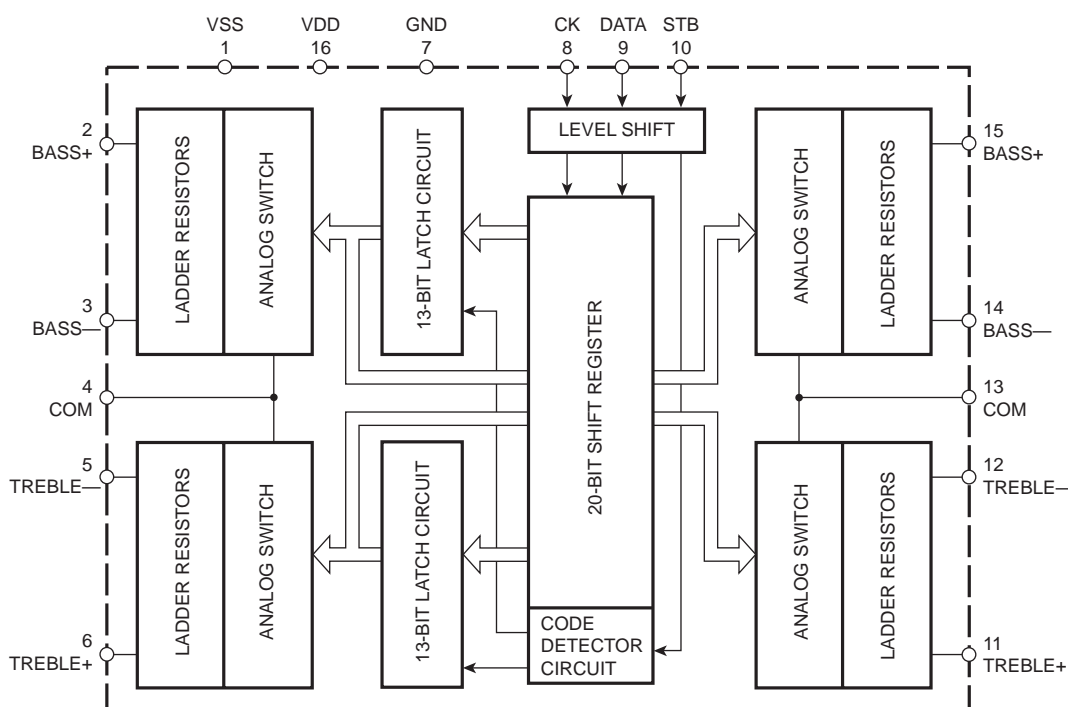
75Ω Driver (Y/C Mixing Type) BA7664FV (U901)



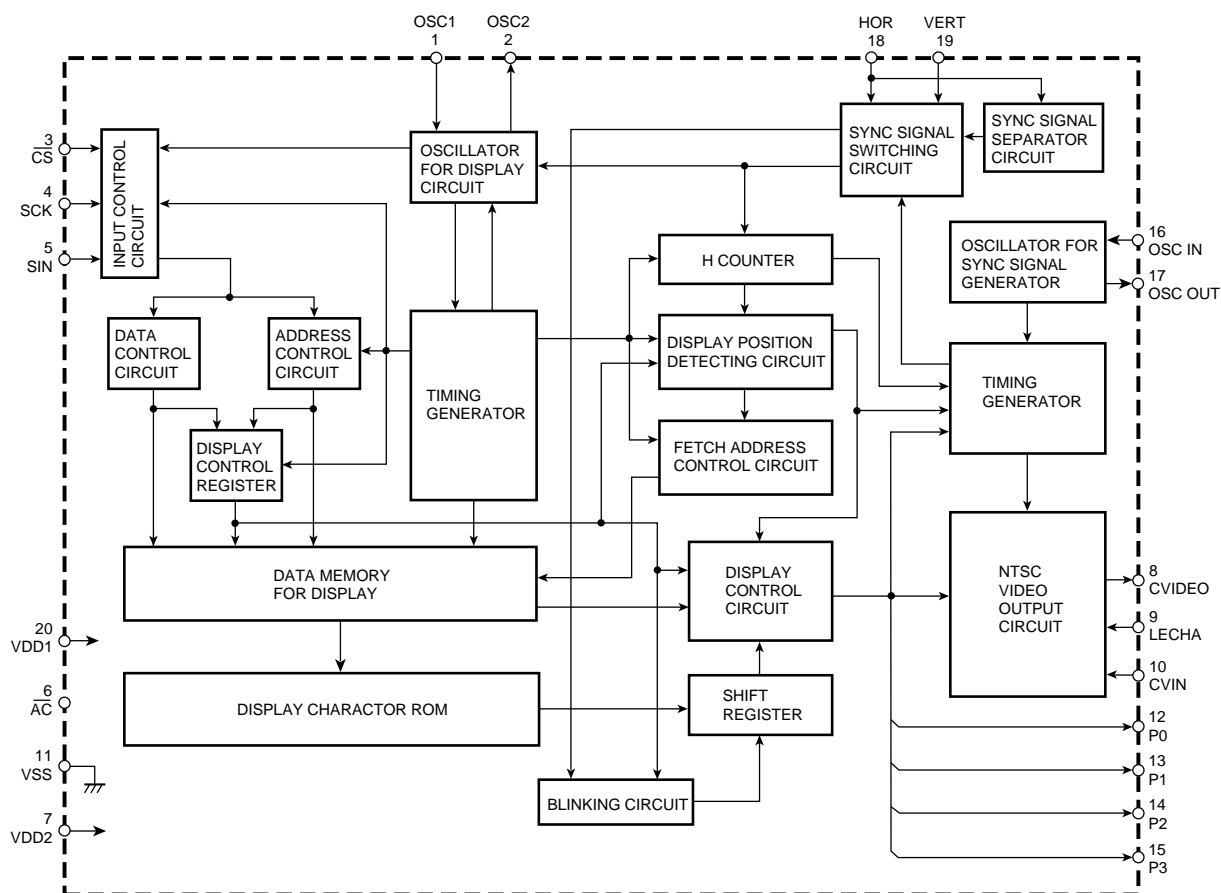
Electronic Volume TC9459N (U118, 119, 120)



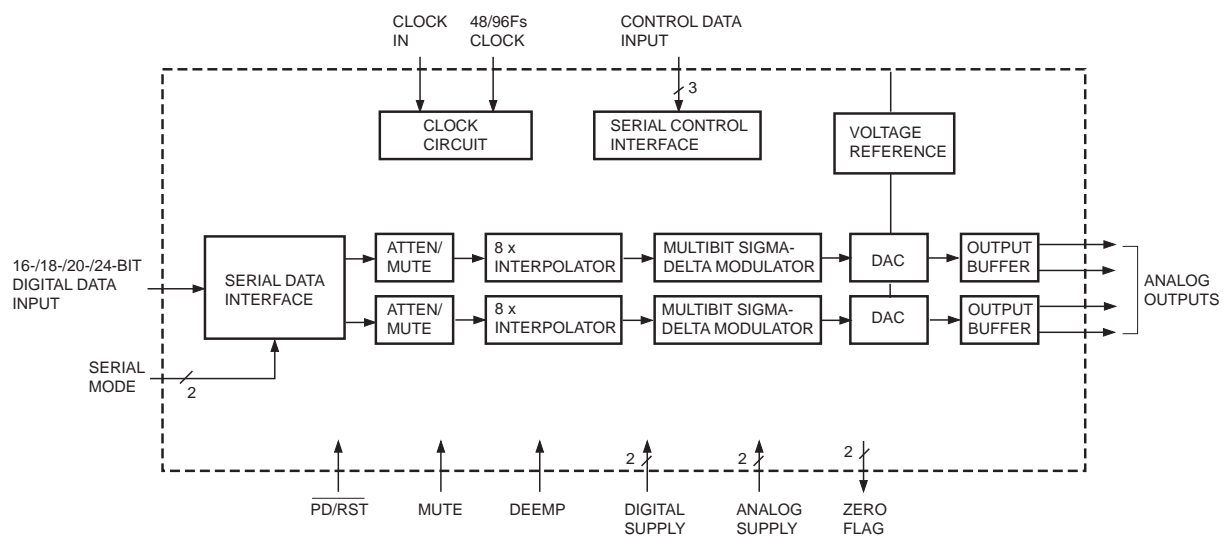
Δ-Σ Audio A/D Converter CS5360-KS (U804)



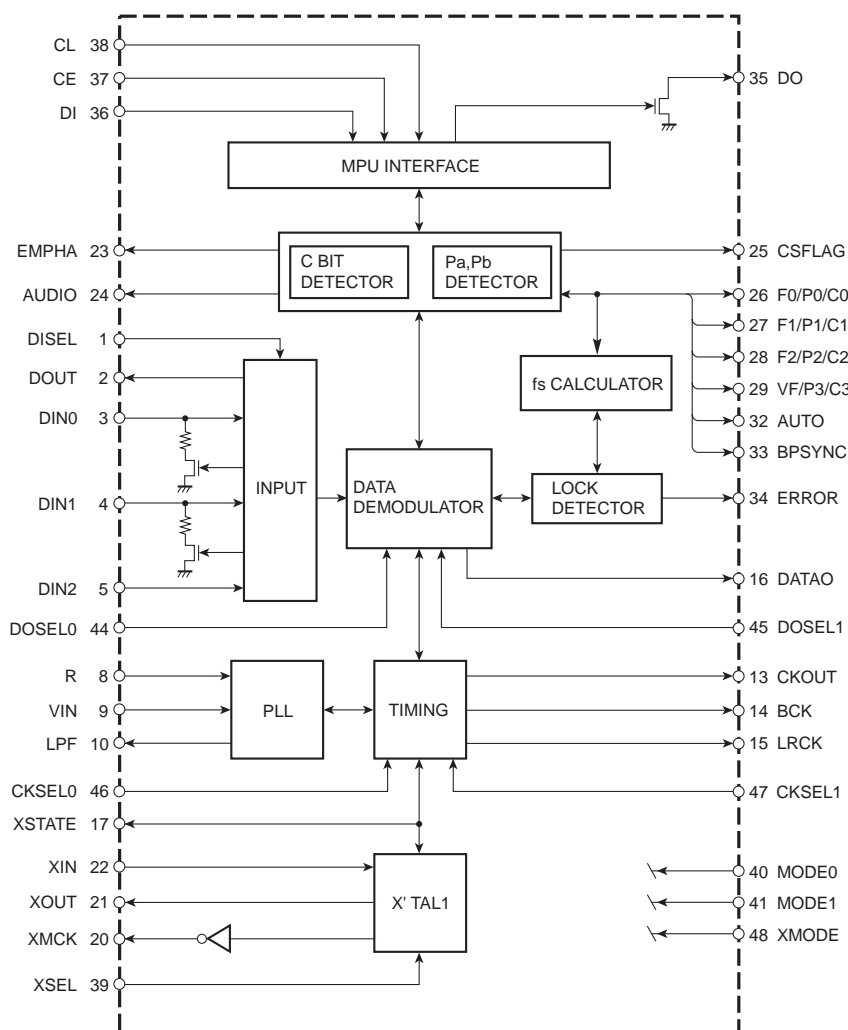
Electronic Tone Controller TC9184AP (U121, 122)



Character/Pattern Display Controller M35013-001(U915)



A/D Converter AD1855 (U807-809)

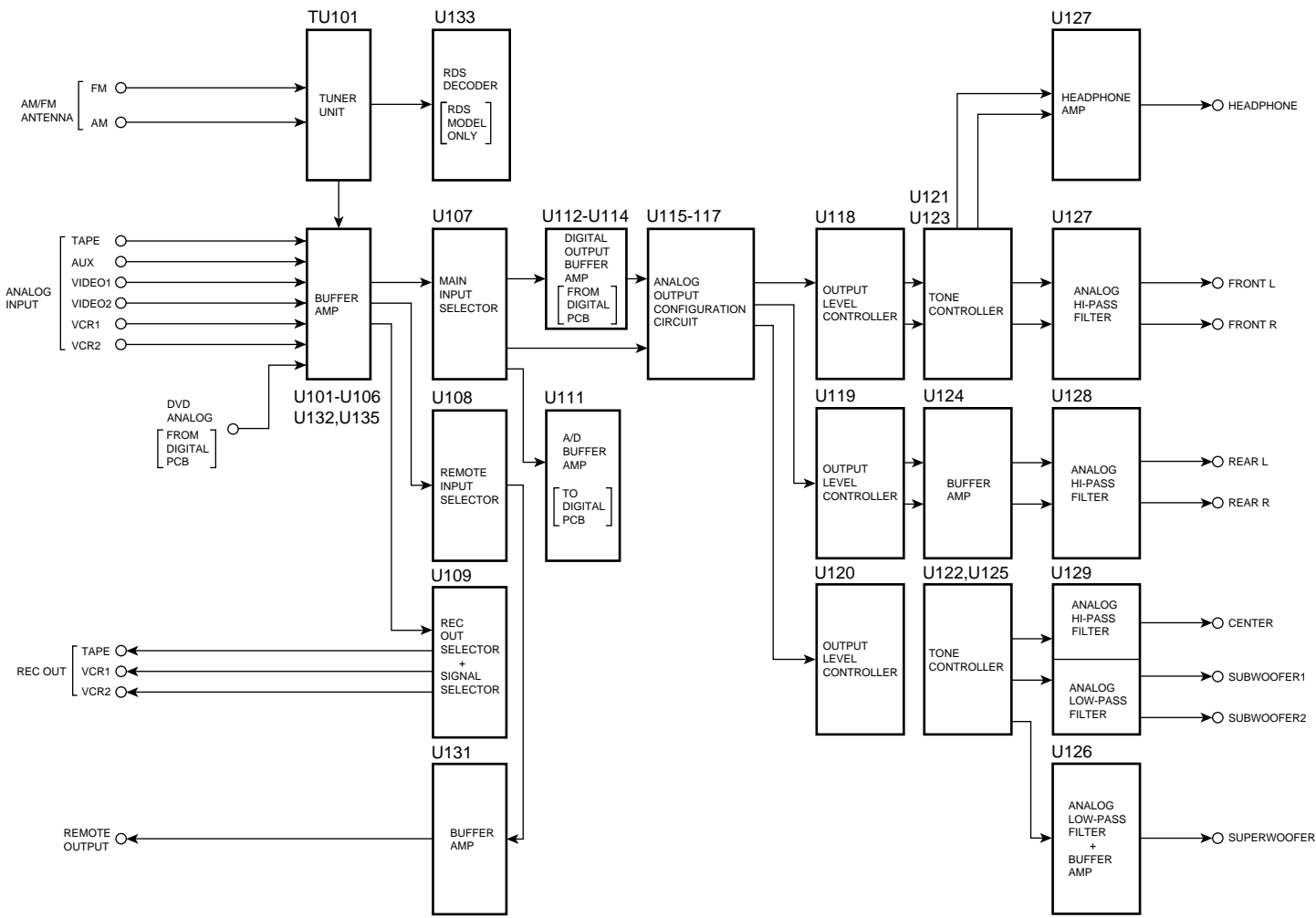


Digital audio interface receiver LC89055W (U803)

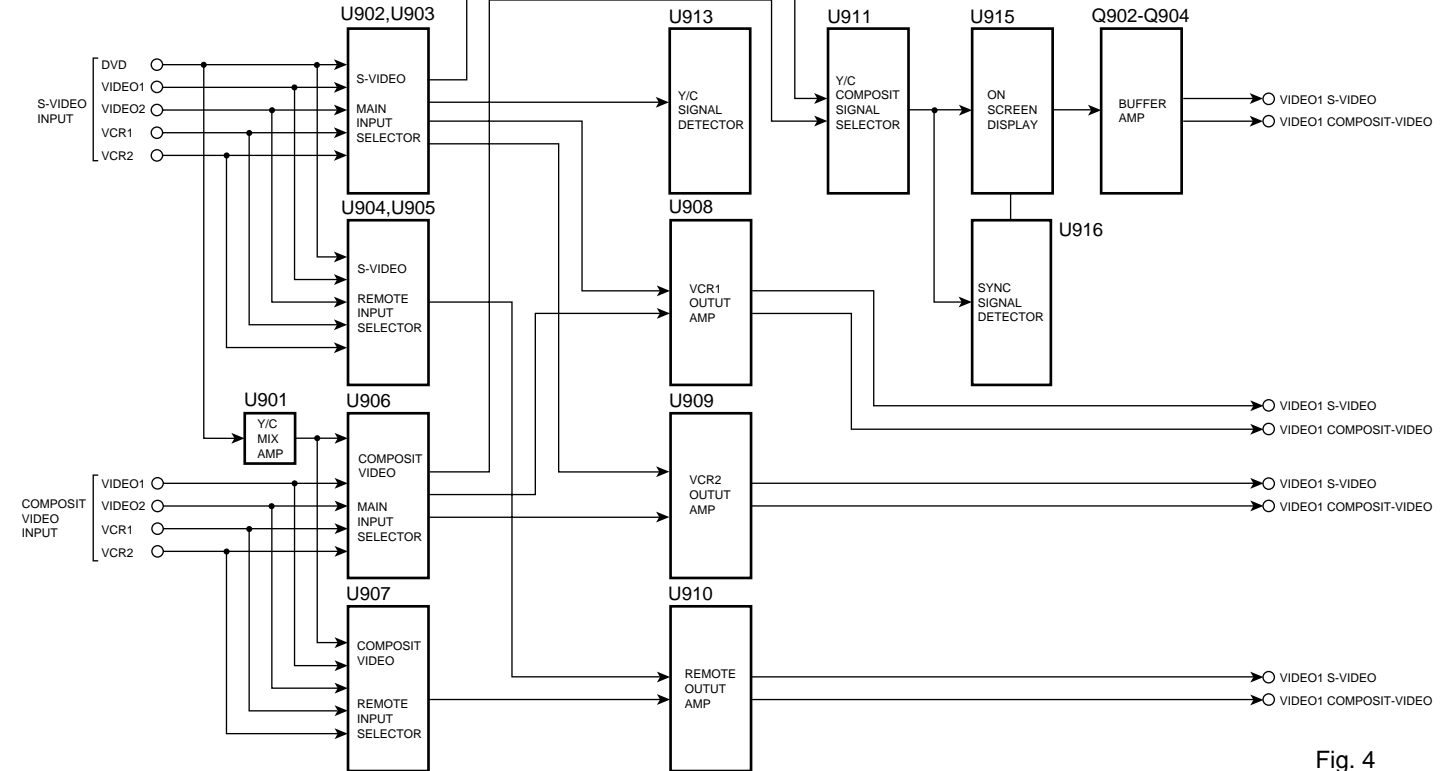
4. BLOCK DIAGRAM

4. BLOCK DIAGRAM

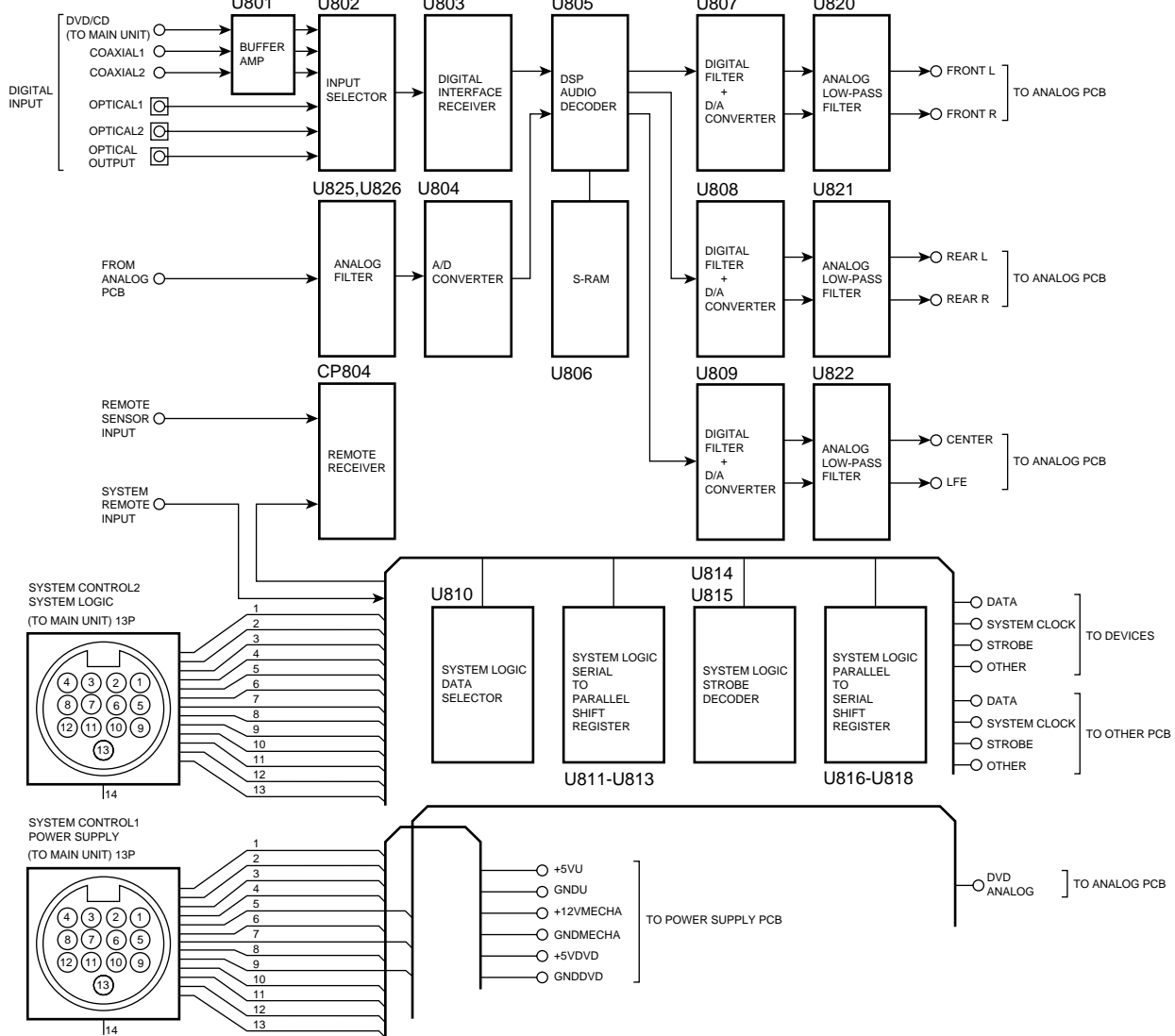
ANALOG PART (ANALOG P.C.B.)



VIDEO PART (VIDEO P.C.B.)



DIGITAL PART (DIGITAL P.C.B.)



POWER SUPPLY PART (POWER SUPPLY P.C.B.)

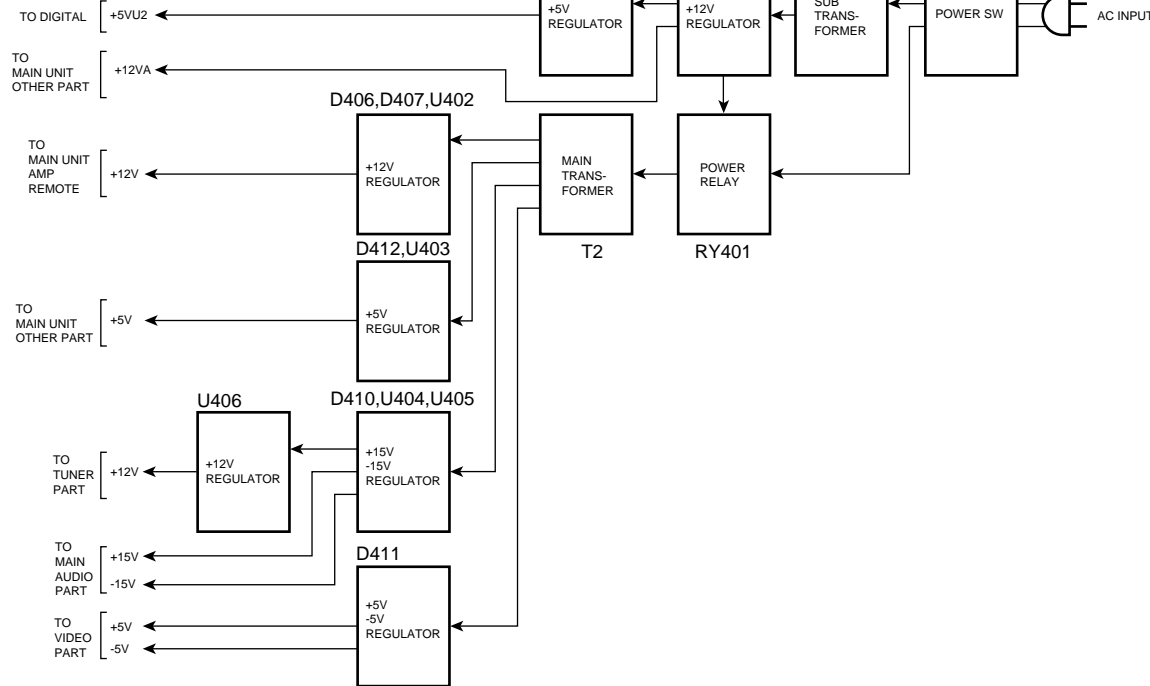
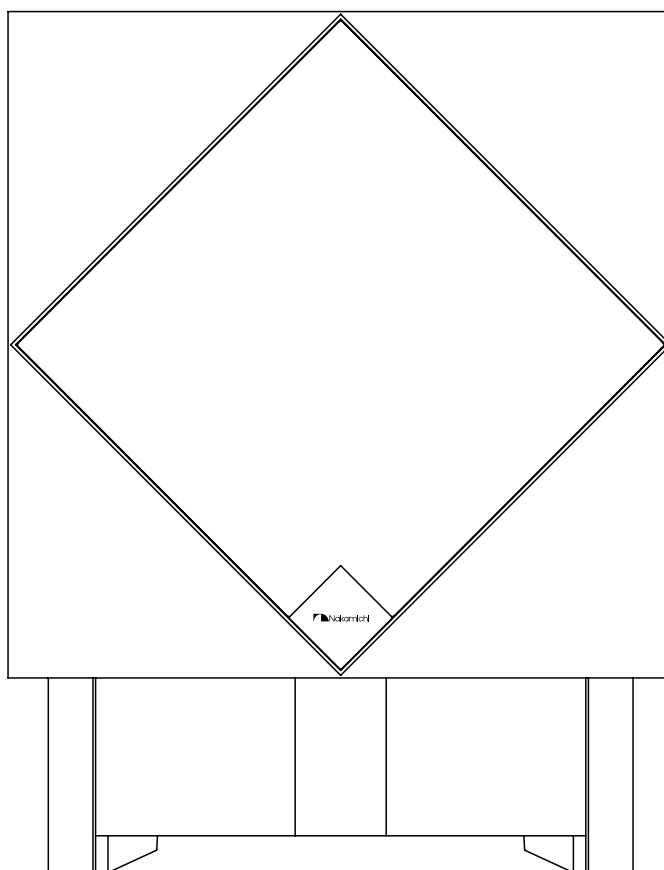


Fig. 4

◀ To the cover page of this manual.

Subwoofer

Subwoofer Section



CONTENTS

1. ELECTRICAL ADJUSTMENTS	3-2
1.1. Parts Location for Electrical Adjustment (Subwoofer L/R Unit)	3-2
1.2. Adjustment Procedure (Subwoofer L/R Unit)	3-3
2. MECHANISM ASS'Y AND PARTS LIST	3-4
2.1. Subwoofer Synthesis	3-4
2.2. PA L Ass'y 4CH/PA R Ass'y 3CH (A01)	3-5
2.2.1. PA L Ass'y 4CH (A01)	3-5
2.2.2. PA R Ass'y 3CH (A01)	3-6
3. ELECTRICAL PARTS LIST	3-7
3.1. AMP P.C.B. 4CH Ass'y	3-7
3.2. AMP P.C.B. 3CH Ass'y	3-7
3.3. SP 6P P.C.B. Ass'y	3-8
3.4. SP 4P P.C.B. Ass'y	3-8
3.5. Input L P.C.B. Ass'y	3-8
3.6. Input R P.C.B. Ass'y	3-8
3.7. PS P.C.B. Ass'y	3-8
3.8. T. PRI P.C.B. Ass'y	3-8
3.9. Inlet P.C.B. Ass'y	3-8
3.10. REM P.C.B. Ass'y	3-8
3.11. V.SEL P.C.B.	3-8

SPECIFICATIONS (See the end of this manual.)

SCHEMATIC DIAGRAM AND MOUNTING DIAGRAMS (See the attached sheet.)

1. ELECTRICAL ADJUSTMENTS

1.1. Parts Location for Electrical Adjustment (Subwoofer L/R Unit)

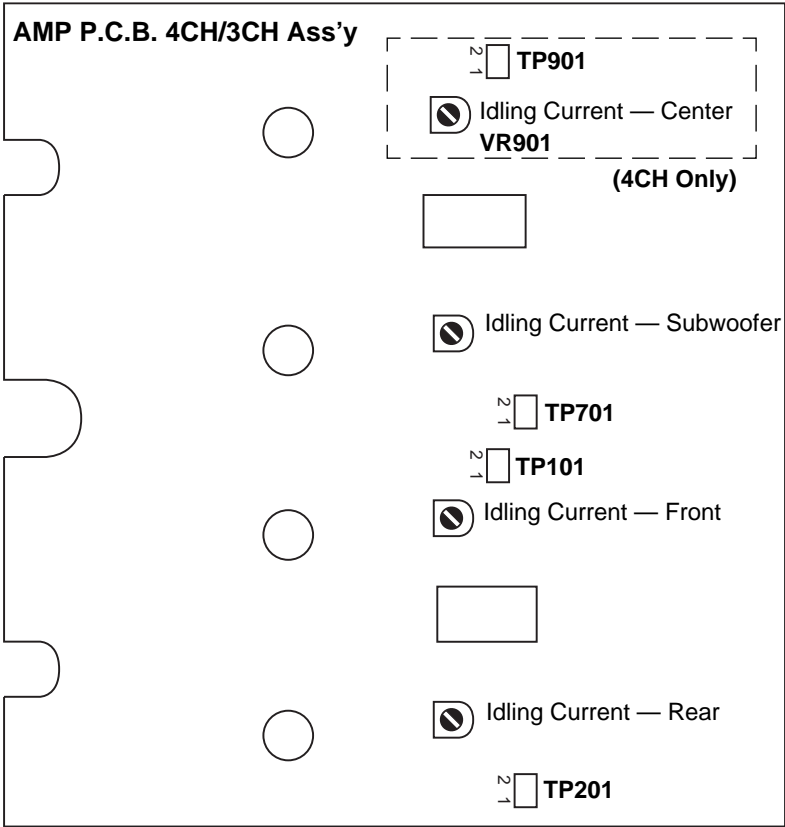


Fig. 1.1

1.2. Adjustment Procedure (Subwoofer L/R Unit)

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-	REMARKS MENT
1	Preparation				1. Insert shorting plugs into input jacks (Front L/R, Center, Rear L/R) on the Subwoofer L/R unit. 2. Remove the PA Chassis. 3. Turn ON the power of the Subwoofer L/R unit and allow 15 minutes before starting adjustment.
2	Idling Current Adjustment		DC Milli-voltmeter between pins of Test Point	VR101 (Front)	1. Connect the DC milli-voltmeter between pins of TP101. 2. Adjust VR101 to obtain $4.4 \pm 1 \text{ mV}$ on the DC milli-voltmeter.
				VR201 (Rear)	1. Connect the DC milli-voltmeter between pins of TP201. 2. Adjust VR201 to obtain $4.4 \pm 1 \text{ mV}$ on the DC milli-voltmeter.
				VR901 (Center)	(AMP P.C.B. 4CH Ass'y Only) 1. Connect the DC milli-voltmeter between pins of TP901. 2. Adjust VR901 to obtain $4.4 \pm 1 \text{ mV}$ on the DC milli-voltmeter.
				VR701 (Subwoofer)	1. Connect the DC milli-voltmeter between pins of TP701. 2. Adjust VR701 to obtain $4.4 \pm 1 \text{ mV}$ on the DC milli-voltmeter.

2. MECHANISM ASS'Y AND PARTS LIST

2.1. Synthesis (Subwoofer)

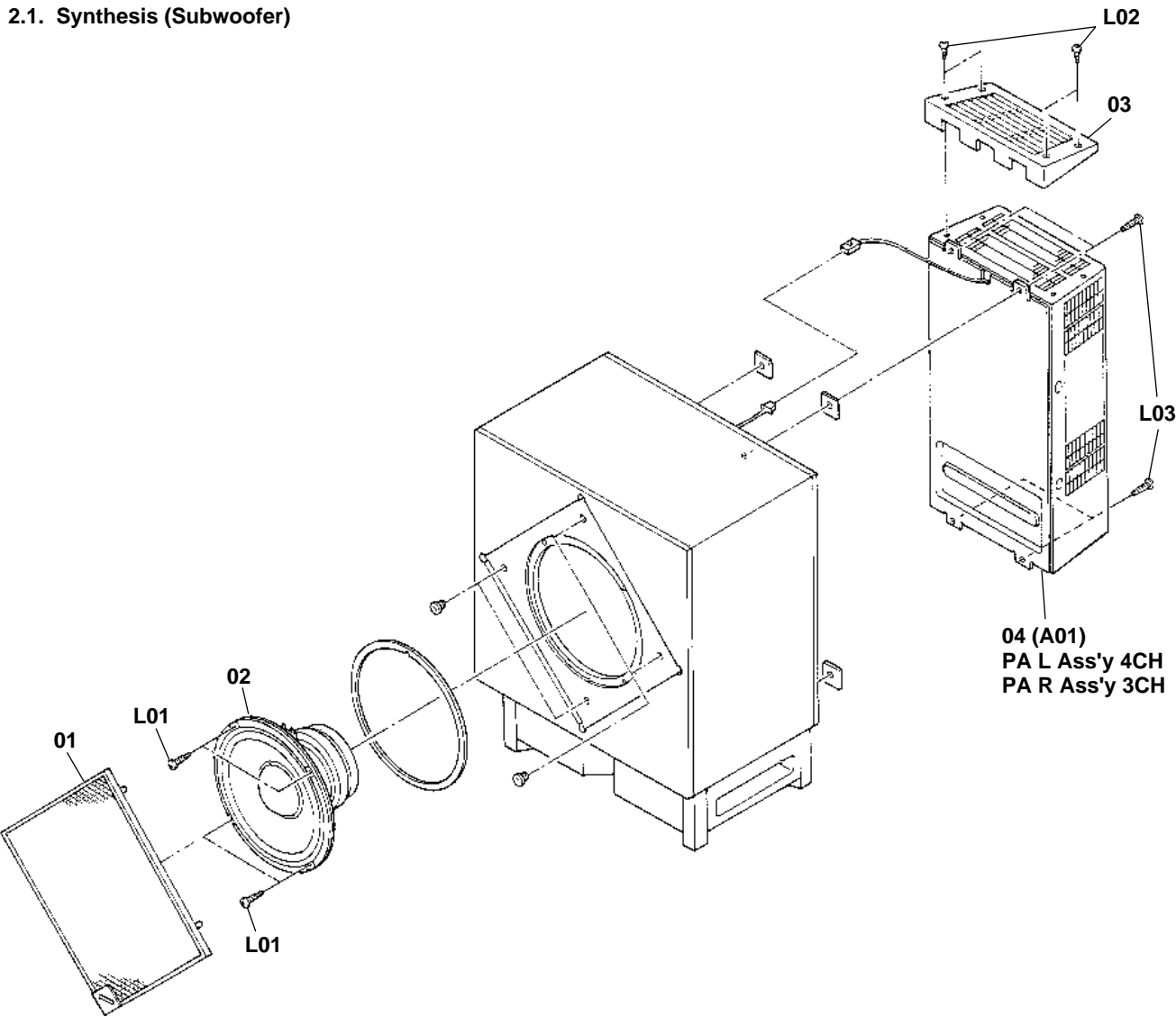


Fig. 2.1

2.1. Synthesis (Subwoofer)

Schematic Ref. No.	Part No.	Description	Q'ty
—	—	Synthesis (Subwoofer)	1
01	CB00729A	Grille Ass'y Subwoofer	1
02	CB00627A	Sub Woofer Speaker S800L05	1
03	0H08368D	Power Amp Cover	2
04	—	PA L Ass'y 4CH	1
—	—	PA R Ass'y 3CH	1
—	CB00634A	Cord Ass'y Woofer	1
L01	2E00133A	Tapping 4x12 + Binding	
L02	0E03281A	ST3x8 + Binding (Black)	
L03	0E04141A	4x6 + Pan Tapping	

2.2. PA L Ass'y 4CH/PA R Ass'y 3CH (A01)

2.2.1. PA L Ass'y 4CH (A01)

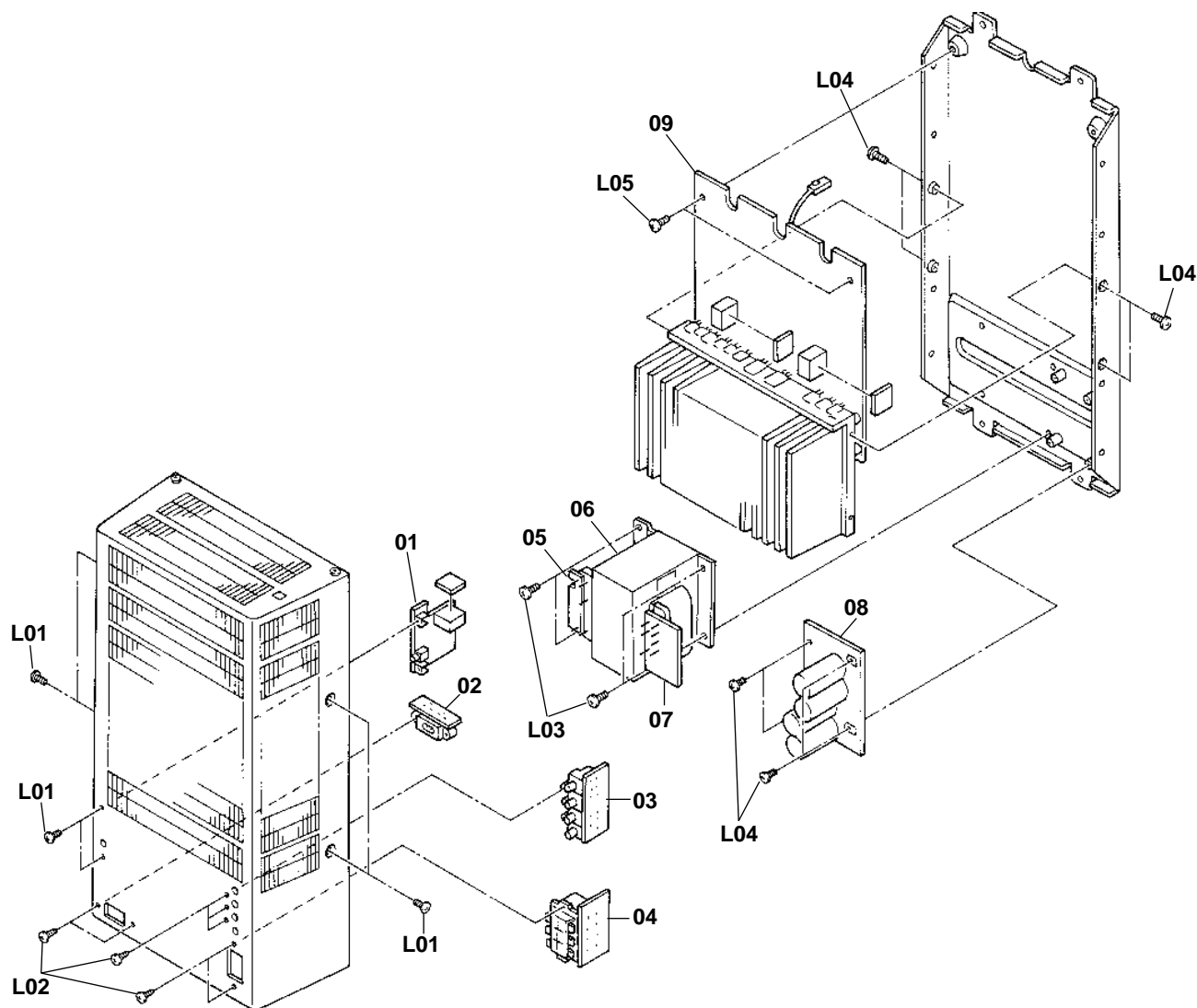


Fig. 2.2.1

2.2.1. PA L Ass'y 4CH (A01)

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.	Part No.	Description	Q'ty
A01	—	PA L Ass'y 4CH	1	07	BA10129A	T.SEC P.C.B. Ass'y	1
01	BA10125A	REM P.C.B. Ass'y (JPN)	1	08	BA10122A	PS P.C.B. Ass'y	1
	BA10206A	REM P.C.B. Ass'y Except DM (Except JPN)	1	09	BA10121A	AMP P.C.B. 4CH Ass'y (UK, AUS, EP, CH, HK, KR)	1
02	BA10193A	Inlet P.C.B. Ass'y Except UL (Except USA, CAN)	1		BA10214A	AMP P.C.B. 4CH Ass'y (JPN, OTR, USA, CAN, DA, TW)	1
	BA10204A	Inlet P.C.B. Ass'y UL (USA, CAN)	1	—	BA10130A	V.SEL P.C.B. Ass'y (OTR, DA, TW)	1
03	BA10127A	Input L P.C.B. Ass'y (UK, AUS, EP, CH, HK, KR)	1	—	0B10199A	TR2SC3421 [Q105, Q205, Q705, Q905]	1
	BA10218A	Input L P.C.B. Ass'y (JPN, OTR, USA, CAN, DA, TW)	1	—	0B12859A	TR2SD2386 [Q707]	1
04	BA10217A	SP 6P P.C.B. Ass'y (JPN, OTR, USA, CAN, DA, TW)	1	—	0B12861A	TR2SB1557 [Q708]	1
	BA10124A	SP 6P P.C.B. Ass'y (UK, AUS, EP, CH, HK, KR)	1	—	0B12914A	TRTR 2SB1626 [Q1008, Q208, Q908]	1
05	BA10205A	T. PRI P.C.B. Ass'y Except CE (JPN, USA, CAN)	1	—	0B12915A	TRTR 2SD2495 [Q107, Q207, Q907]	1
	BA10128A	T.PRI P.C.B. Ass'y (Except JPN, USA, CAN)	1	L01	0E03281A	ST3x8 + Binding (Black)	1
06	0B50338A	Power Transformer DM (JPN)	1	L02	0E03749A	PT3x8 + Binding (Black)	1
	0B50339A	Power Transformer DU (OTR, DA, TW)	1	L03	0E03438A	ST4x6 + Binding	1
	0B50340A	Power Transformer EP (UK, AUS, EP, CH, HK, KR)	1	L04	0E00964A	M3x5 + Binding	1
	0B50341A	Power Transformer UL (USA, CAN)	1	L05	0E00877A	ST3x5 + Binding	1

2.2.2. PA R Ass'y 3CH (A01)

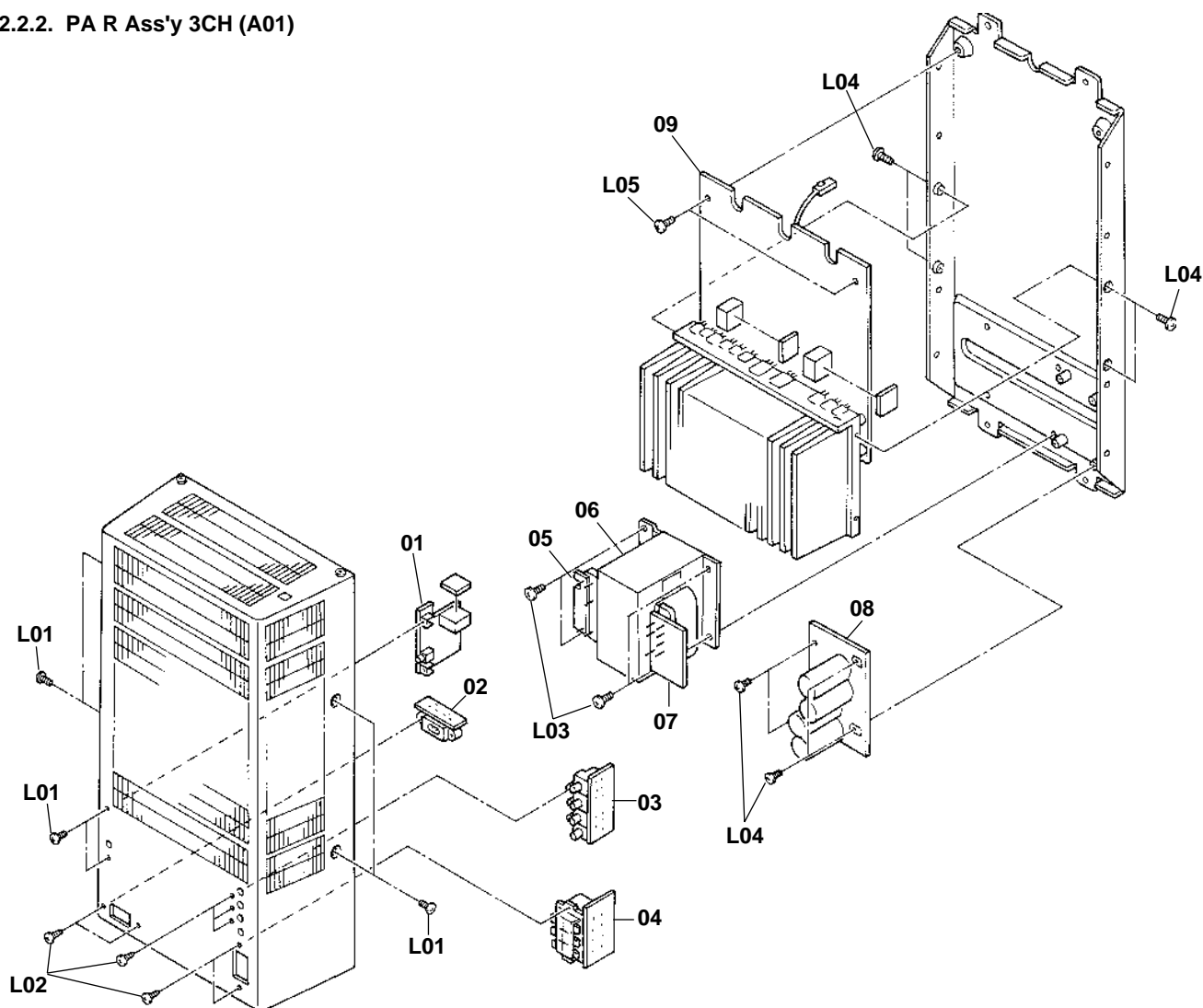


Fig. 2.2.2

2.2.2. PA R Ass'y 3CH (A01)

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.	Part No.	Description	Q'ty
A01	—	PA R Ass'y 3CH	1	07	BA10129A	T.SEC P.C.B. Ass'y	1
01	BA10125A	REM P.C.B. Ass'y (JPN)	1	08	BA10122A	PS P.C.B. Ass'y	1
	BA10206A	REM P.C.B. Ass'y Except DM (Except JPN)	1	09	BA10215A	AMP P.C.B 3CH Ass'y (JPN, OTR, USA, CAN, DA, TW)	1
02	BA10193A	Inlet P.C.B. Ass'y Except UL (Except USA, CAN)	1		BA10120A	AMP P.C.B. 3CH Ass'y (UK, AUS, EP, CH, HK, KR)	1
	BA10204A	Inlet P.C.B. Ass'y UL (USA, CAN)	1	—	BA10130A	V.SEL P.C.B. Ass'y (OTR, DA, TW)	1
03	BA10126A	Input R P.C.B. Ass'y (UK, AUS, EP, CH, HK, KR)	1	—	0B10199A	TR2SC3421 [Q105, Q205, Q705]	1
	BA10219A	Input R P.C.B. Ass'y (JPN, OTR, USA, CAN, DA, TW)	1	—	0B12859A	TR2SD2386 [Q707]	1
04	BA10216A	SP 4P P.C.B. Ass'y (JPN, OTR, USA, CAN, DA, TW)	1	—	0B12861A	TR2SB1557 [Q708]	1
	BA10123A	SP 4P P.C.B. Ass'y (UK, AUS, EP, CH, HK, KR)	1	—	0B12914A	TRTR 2SB1626 [Q1008, Q208]	1
05	BA10205A	T. PRI P.C.B. Ass'y Except CE (JPN, USA, CAN)	1	—	0B12915A	TRTR 2SD2495 [Q107, Q207]	1
	BA10128A	T. PRI P.C.B. Ass'y (Except JPN, USA, CAN)	1	L01	0E03281A	ST3x8 + Binding (Black)	
06	0B50338A	Power Transformer DM (JPN)	1	L02	0E03749A	PT3x8 + Binding (Black)	
	0B50339A	Power Transformer DU (OTR, DA, TW)	1	L03	0E03438A	ST4x6 + Binding	
	0B50340A	Power Transformer EP (UK, AUS, EP, CH, HK, KR)	1	L04	0E00964A	M3x5 + Binding	
	0B50341A	Power Transformer UL (USA, CAN)	1	L05	0E00877A	ST3x5 + Binding	

NOTES:

1. Abbreviations
TR – Transistor, SID – Silicon Diode, ZD – Zener Diode, Varicap – Variable Capacitance Diode
RK – Carbon Resistor, RM – Metal Film Resistor, RF – Fail Safe Type Resistor,
RC – Cement Resistor, CE – Electrolytic Capacitor, CML – Mylar Capacitor,
CC – Ceramic Capacitor, CPP – PP Capacitor, CMM – Metalized Mylar Capacitor,
CSP – Polystyrene Capacitor, C – Mica Capacitor, CT – Tantalum Capacitor
2. Description of capacitor: 10 16V = 10μ 16V
3. Parts marked with * show chip parts.

Schematic Ref. No.	Part No.	Description
	BA10121A	AMP P.C.B. 4CH Ass'y (UK, AUS, EP, CH, HK, KR)
	BA10121A	AMP P.C.B. 4CH Ass'y (JPN, OTR, USA, CAN, DA, TW)
IP401	OB11638A	IC Protector ICP-N20 0.8A
U501	OB11246A	IC UPC1237H
Q101,102	OB06142A	TR 2SC2240
Q103	OB06142A	TR 2SC2240
Q104	OB10221A	TR 2SA1145 Y
Q106	OB10222A	TR 2SC2705 Y
Q109	OB06142A	TR 2SC2240
Q110	OB10050A	TR 2SA970BL
Q201,202	OB06142A	TR 2SC2240
Q203	OB06142A	TR 2SC2240
Q204	OB10221A	TR 2SA1145 Y
Q206	OB10222A	TR 2SC2705 Y
Q209	OB06142A	TR 2SC2240
Q210	OB10050A	TR 2SA970BL
Q501	OB06013A	TR 2SA733
Q701,702	OB06142A	TR 2SC2240
Q703	OB06142A	TR 2SC2240
Q704	OB10221A	TR 2SA1145 Y
Q706	OB10222A	TR 2SC2705 Y
Q709	OB06142A	TR 2SC2240
Q901,902	OB06142A	TR 2SC2240
Q903	OB06142A	TR 2SC2240
Q904	OB10221A	TR 2SA1145 Y
Q906	OB10222A	TR 2SC2705 Y
Q909	OB06142A	TR 2SC2240
Q910	OB10050A	TR 2SA970BL
ZD501	OB12150A	ZD RD5.6V JS B2
D101,102	OB12249A	SID 1SS133
D103	OB12249A	SID 1SS133
D201,202	OB12249A	SID 1SS133
D203	OB12249A	SID 1SS133
D407	OB12249A	SID 1SS133
D501,502	OB12249A	SID 1SS133
D503,504	OB12249A	SID 1SS133
D505	OB12249A	SID 1SS133
D601	OB12249A	SID 1SS133
D701,702	OB12249A	SID 1SS133
D703	OB12249A	SID 1SS133
D901,902	OB12249A	SID 1SS133
D903	OB12249A	SID 1SS133
L101	OB50336A	Coil 0.8uH
L201	OB50336A	Coil 0.8uH
L701	OB50336A	Coil 0.8uH
L901	OB50336A	Coil 0.8uH
VR101	OB32188A	Semi VR 200 Top
VR201	OB32188A	Semi VR 200 Top
VR701	OB32188A	Semi VR 200 Top
VR901	OB32188A	Semi VR 200 Top
R118,119	OB09177R	RF 47 1/4W
R120,121	OB24028A	RF 0.22 1W
R128	OB24388A	RF 5.6 1W
R129	OB24122A	RF 10 2W

3. ELECTRICAL PARTS LIST

SS-12 Subwoofer Section

3.3. SP 6P P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA10124A	SP 6P P.C.B. Ass'y (UK, AUS, EP, CH, HK, KR)
	BA101217A	SP 6P P.C.B. Ass'y (JPN, OTR, USA, CAN, DA, TW)
C119L	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
C120L	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
C219L	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
C220L	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
C919L	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
C920L	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
CN601	0B85353A	6P Speaker Terminal

3.4. SP 4P P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA10123A	SP 4P P.C.B. Ass'y (UK, AUS, EP, CH, HK, KR)
	BA101216A	SP 4P Ass'y (JPN, OTR, USA, CAN, DA, TW)
C119R	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
C120R	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
C219R	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
C220R	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
CN611	0B85354A	4P Speaker Terminal

3.5. Input L P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA10127A	Input L P.C.B. Ass'y (UK, AUS, EP, CH, HK, KR)
	BA101218A	Input L P.C.B. Ass'y (JPN, OTR, USA, CAN, DA, TW)
C101	0B41288A	CML 0.015 50V J (UK, AUS, EP, CH, HK, KR)
C201	0B41288A	CML 0.015 50V J (UK, AUS, EP, CH, HK, KR)
C701	0B41288A	CML 0.015 50V J (UK, AUS, EP, CH, HK, KR)

Schematic Ref. No.

Part No.

Description

C901	0B41288A	CML 0.015 50V J (UK, AUS, EP, CH, HK, KR)
PJ301	0B85351A	4P Pin Jack

3.6. Input R P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA10126A	Input R P.C.B. Ass'y (UK, AUS, EP, CH, HK, KR)
	BA101219A	Input R P.C.B. Ass'y (JPN, OTR, USA, CAN, DA, TW)
C101	0B41288A	CML 0.015 50V J (UK, AUS, EP, CH, HK, KR)
C201	0B41288A	CML 0.015 50V J (UK, AUS, EP, CH, HK, KR)
C701	0B41288A	CML 0.015 50V J (UK, AUS, EP, CH, HK, KR)
PJ311	0B85352A	3P Pin Jack

3.7. PS P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA10122A	PS P.C.B. Ass'y
D401,402	0B10520A	SID GBU6D
C402,403	0B42852A	CE 6800 35V
C404,405	0B42852A	CE 6800 35V

3.8. T. PRI P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA10128A	T. PRI P.C.B. Ass'y (Except JPN, USA, CAN)
	BA10205A	T. PRI P.C.B. Ass'y Except CE (JPN, USA, CAN)
F401	0B90830A	Fuse RP 4A 125V (JPN, USA, CAN)
F401	0B90868A	Fuse T 2AL250V (Except JPN, USA, CAN)

3.9. Inlet P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA10193A	Inlet P.C.B. Ass'y Except UL (Except USA, CAN)
	BA10204A	Inlet P.C.B. Ass'y UL (USA, CAN)
	0B85361A	AC Inlet UL (USA, CAN) (1)
	0B85362A	AC Inlet EP (Except USA, CAN) (1)

3.10. REM P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA10125A	REM P.C.B. Ass'y (JPN)
	BA10206A	REM P.C.B. Ass'y Except DM (Except JPN)
C401	0B41825A	CC 4700P 400V (Except JPN)
C401	0B41826A	CC 4700P 250V (JPN)
D601	0B12249A	SID 1SS133
PJ601	0B80774A	Mini Jack H

3.11. V.SEL P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA10130A	V.SEL P.C.B. Ass'y (OTR, DA, TW)
	0B70285A	Voltage Switch (1)

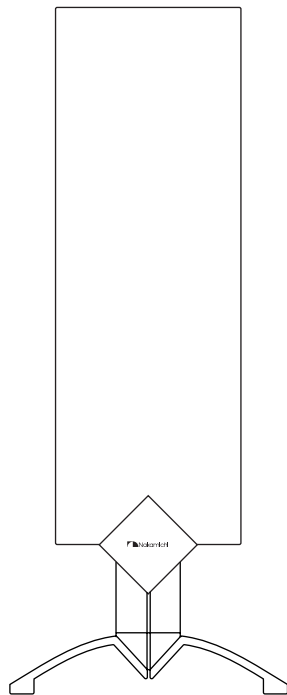


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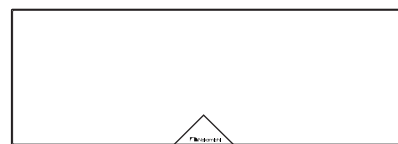
Satellite Speaker

Satellite Speaker Section

- Satellite Speaker (Front/Rear)
- Center Speaker



Front/Rear Speaker



Center Speaker

CONTENTS

1. MECHANISM ASS'Y AND PARTS LIST	4-2
1.1. Satellite Ass'y (Front/Rear)	4-2
1.2. Center SP Ass'y	4-3

SPECIFICATIONS (See the end of this manual.)

1. MECHANISM ASS'Y AND PARTS LIST

1.1. Satellite Ass'y (Front/Rear)

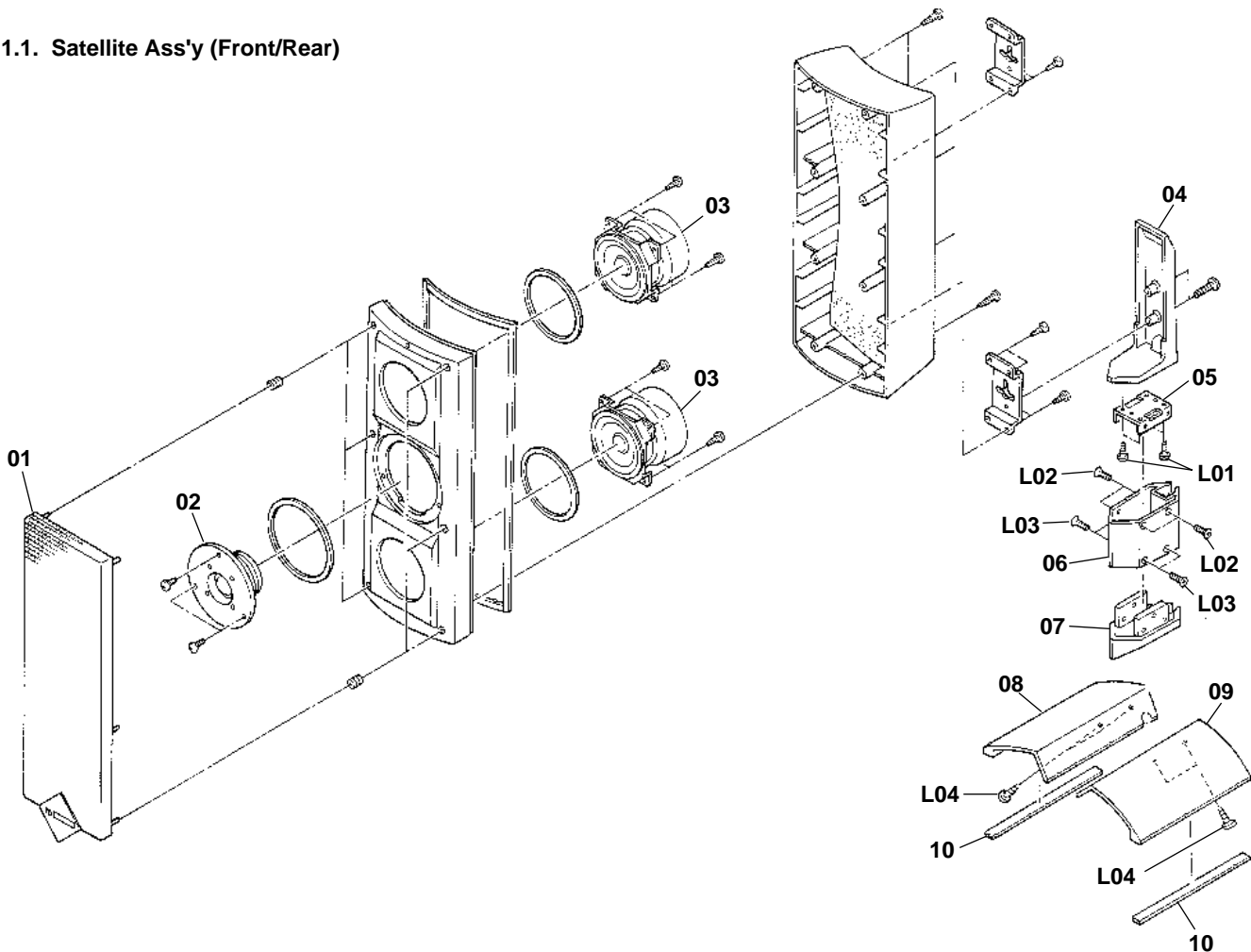


Fig. 1.1

1.1. Satellite Ass'y (Front/Rear)

Schematic Ref. No.	Part No.	Description	Q'ty
	—	Satellite Ass'y (Front/Rear)	4
01	CB00689A	Satellite Grille Ass'y	1
02	CB00638A	Satellite Tweete1	1
03	CB00637A	Satellite Woofer Speaker S350F02	2
04	0H08822C	Stand Holder Speaker	1
05	0J08722B	S Holder fix Plate	1
06	0H08796B	Stand Pole	1
07	0H08791D	Base Joint	1
08	0H08794B	Stand Base Speaker L	1
09	0H08795B	Stand Base Speaker R	1
10	0J08794A	Base Cushion Speaker S	2
L01	0E04243A	PT4x8 + Binding	
L02	0E03753A	M4x8 + Oval Countersunk	
L03	0E04323A	BT4x10 + Oval Countersunk	
L04	0E03972A	BT4x12 + Binding	

1.2. Center SP Ass'y

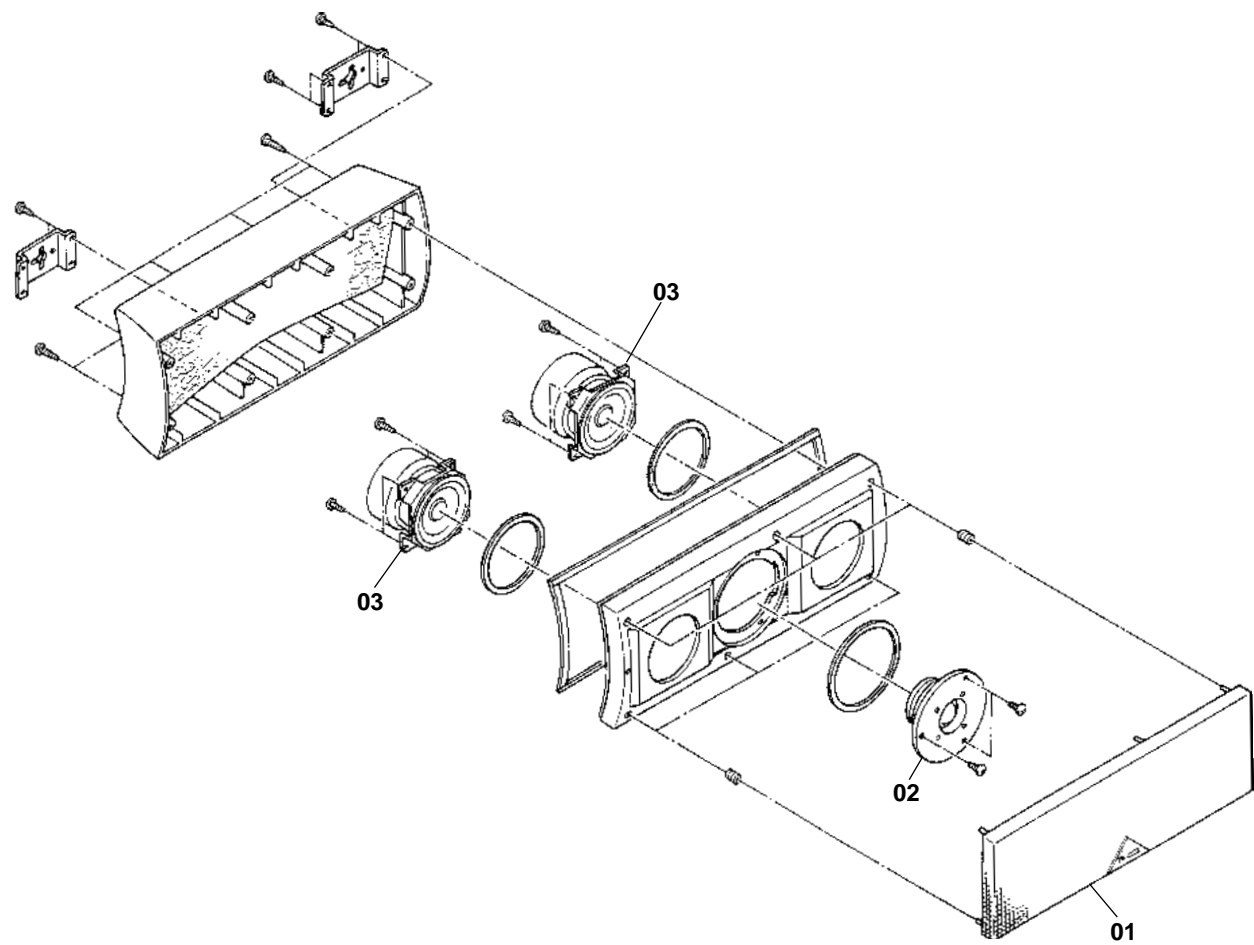


Fig. 1.2

1.2. Center SP Ass'y

Schematic Ref. No.	Part No.	Description	Q'ty
	—	Center SP Ass'y	1
01	CB00690A	Grille Ass'y Center	1
02	CB00638A	Satellite Tweete1	1
03	CB00637A	Satellite Woofer Speaker S350F02	2



SPECIFICATIONS

● CD Player Section

Outputs (SONY TYPE-3, Vol 49) (1 kHz, 0 dB)

Rec Output Level 2.0 V \pm 2 dB (Tr. No. 1)

Total Harmonic Distortion + Noise (SONY TYPE-3, Vol 49)

1 kHz 0 dB Less than 0.006% (Tr. No. 1)

Frequency Response (SONY TYPE-3, Vol 49)

Front 200 Hz - 20 kHz -1 dB \pm 2 dB

Subwoofer 20 Hz 1 dB \pm 2 dB

Channel Separation (SONY TYPE-3, Vol 49)

1 kHz 0 dB More than 75 dB (Tr. No. 30,34)

Signal to Noise Ratio More than 95 dB (Tr. No. 23)

(SONY TYPE-3, Vol 49)

De-emphasis (SONY TYPE-3, Vol 49)

1 kHz -0.4 dB \pm 2 dB (Tr. No. 39)

5 kHz -4.5 dB \pm 2 dB (Tr. No. 40)

16 kHz -9 dB \pm 2 dB (Tr. No. 41)

Dynamic Range

1 kHz -60 dB More than 95 dB (Tr. No. 20)

● DVD Section

Outputs (VT-501 T51 C1 1 kHz/C9 30 Hz, Vol 49)

Front, Center, Rear 2.0 V \pm 2 dB

Subwoofer LFE ATT ON 1.2 V \pm 2 dB

LFE ATT OFF 3.8 V \pm 2 dB

Total Harmonic Distortion + Noise (VT-501 T9 C7, Vol 49)

1 kHz 0 dB Less than 0.03%

Frequency Response (VT-501 T50 C1/20 kHz C6/1 kHz, Vol 49)

Front, Center, Rear 20 kHz 0 dB \pm 2 dB

Interruption (PTD5-INT) Not be interrupted at 0.5 mm (T1, C8)

Black Dot (A-BEX TDV-525) Not be interrupted at 0.4 mm (C7)

Fingerprint (A-BEX TDV-525) Not be disturbed by simulated fingerprint at 65 μ m (C13)

Vertical Deviation (A-BEX TDV-532) Not be interrupted at 0.6 mm (C16)

● FM Tuner Section

[Standard Test Condition (S.T.C.)]

RF input levels are given re 75 Ω Antenna Terminal, 1 kHz, 65 dBf.

Modulation Mono: 100%, Stereo: Pilot 10%, Audio Signal: 90%

RF Frequency Except Japan 98.1 MHz

JPN 83.0 MHz

Tuning Range USA, CAN 87.5 - 107.9 MHz 200 kHz steps

JPN 76.0 - 90.0 MHz 100 kHz steps

OTR, EP, HK, TW 87.5 - 108.0 MHz 50 kHz steps

Mono Section

Usable Sensitivity (THD 3%)

JPN Less than 20 dB μ V

Except JPN Less than 30 dB μ V

Quieting Sensitivity (S/N = 50 dB)

JPN	Less than 25 dB μ V
Except Japan	Less than 35 dB μ V
Output Level	460 mV \pm 3 dB
Signal to Noise Ratio	More than 65 dB
Distortion	Less than 1.5%
Frequency Response (@1 kHz 0 dB without IHF-Filter)	
30 Hz	-3 dB \pm 3 dB
15 kHz	-15 dB \pm 3 dB
Seek Stop Level	Within 20 dB μ V to 46 dB μ V
Limiting Sensitivity (Output -3 dB)	Less than 20 dB μ V

Stereo Section

Stereo Separation (1 kHz)

JPN	More than 30 dB
Except JPN	More than 18 dB
Signal to Noise Ratio	More than 60 dB
Distortion	Less than 1.5%

● AM Tuner Section**[Standard Test Condition (S.T.C.)]**

RF input levels are given by Loop Antenna, 90 dB/m

Modulation	30% mod., 400 Hz
RF Frequency	U.S.A. Band - 1000 kHz Europe Band - 999 kHz

Tuning Range

USA, CAN	530 kHz - 1710 kHz 10 kHz step
EP	531 kHz - 1602 kHz 9 kHz step
JPN	522 kHz - 1629 kHz 9 kHz step

Usable Sensitivity (S/N = 20 dB) Less than 64 dB μ VOutput Level 140 mV \pm 3 dBSignal to Noise Ratio (at 0 dB = Above Output Level)
..... More than 40 dB

Distortion Less than 2.0%

Frequency Response (at 400 Hz 0 dB without Filter)

50 Hz	-16 dB \pm 3 dB
3 kHz	-10 dB \pm 5 dB

Seek Stop Level Within 45 dB μ V to 63 dB μ V

● Preamplifier Section

[Standard Test condition (S.T.C.)]

Signal.....	1 kHz
Input AUX	200 mV
Output Pre out	1000 mV

Sensitivity (Output 1000 mV)

Front L/R 1 kHz	200 mV \pm 2 dB
Subwoofer L/R 20 Hz	180 mV \pm 2 dB
Subwoofer 20 Hz	125 mV \pm 2 dB

Signal to Noise Ratio (Input Shorted) More than 82 dB (A-WTD)

Frequency Response (Center: Pro Logic, Ref. 200 Hz)

Front, Center 200 Hz to 20 kHz	0 dB \pm 2 dB
60 Hz	-12 dB \pm 2 dB
Subwoofer L/R 20 Hz	1 dB \pm 2 dB (L/R Input)
240 Hz	-11 dB \pm 2 dB
Subwoofer 20 Hz	+3.5 dB \pm 2 dB
1.6 kHz	-2.5 dB \pm 2 dB

Distortion Less than 0.03%

Separation 1 kHz More than 65 dB

Tone Control (VR. Max.)

Bass Subwoofer 20 Hz	+10 dB \pm 2 dB
	-10 dB \pm 2 dB
Treble Front, Center (at Pro Logic) 20 kHz	
.....	+10 dB \pm 2 dB
	-10 dB \pm 2 dB

Loudness (VR: 30)

Subwoofer 20 Hz	+10 dB \pm 3 dB
Front, Center (at Pro Logic) 20 kHz	+6 dB \pm 3 dB

Output (Input 200 mV)

Remote 1 kHz	280 mV \pm 2 dB
Rec Out 1 kHz	200 mV \pm 2 dB

Maximum Output Level

1% THD	More than 7 V
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● Power Amplifier Section

[Standard Test Condition (S.T.C.)]

Signal.....	1 kHz
Output	1 W

Output Power (1 ch driven, 1 kHz)

Front, Center, Rear 4 Ohms Load	More than 30 W at 0.1% Dist.
Woofer 4 Ohms Load	More than 50 W at 0.1% Dist.

Frequency Response

20 Hz to 20 kHz	0 dB \pm 2 dB
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Distortion (at Rated Power)

20 Hz to 20 kHz	Less than 0.3%
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Signal to Noise Ratio (at Rated Power) More than 95 dB

Input Sensitivity (at Rated Power)

Front, Center, Rear	850 mV \pm 2 dB
Subwoofer	1100 mV \pm 2 dB

● **Speaker Section****Subwoofer**

Enclosure	Bass-reflex type
Driver Unit	20 cm cone/magnetically shielded
Impedance	4 ohms
Rated Power Handling	50 W
Maximum Power Handling	80 W

Front/Center/Rear Speakers

Enclosure	2-way sealed type
Driver Unit	
Midrange/Woofer	8 cm cone/magnetically shielded
Tweeter	2.5 cm soft dome/magnetically shielded
Impedance	4 ohms
Rated Power Handling	30 W
Maximum Power Handling	50 W

● **Remote Control Unit**

Principle	Infrared pulse system
Power Supply	
Main Remote Control	For signal transmission: 3 VDC (1.5 V \times 2)
	For backlighting: 6 VDC (1.5 V \times 4)
Sub Remote Control	3 VDC (1.5 V \times 2)
Dimensions*	
Main Remote Control	210 (W) \times 55 (H) \times 130 (D) mm
	8-1/4 (W) \times 2-3/16 (H) \times 5-1/8 (D) inches
Sub Remote Control	49 (W) \times 26 (H) \times 110 (D) mm
	1-15/16 (W) \times 1 (H) \times 4-5/16 (D) inches
Mass	
Main Remote Control	Approx. 700 g, 1 lb., 9 oz. (including batteries)
Sub Remote Control	Approx. 60 g, 2 oz. (including batteries)

● General

Power Requirements

U.S.A. model	AC120V	60 Hz
Europe model	AC230V	50/60 Hz
OTR model	AC110-120/220-240V	50/60 Hz
JPN model	AC100V	50/60 Hz

Power Consumption

Main Unit	75 W max.
Subwoofer L	340 W max.
Subwoofer R	275 W max.

Dimensions*

Main unit	523 (W) × 523 (H) × 115 (D) mm 20-5/8 (W) × 20-5/8 (H) × 4-1/2 (D) inches
Main Unit (with tabletop stand)	523 (W) × 622 (H) × 215 (D) mm 20-5/8 (W) × 24-1/2 (H) × 8-1/2 (D) inches
A/V Tuner/Processor Unit	430 (W) × 100 (H) × 325 (D) mm 16-15/16 (W) × 3-15/16 (H) × 12-13/16 (D) inches
Subwoofer Unit	380 (W) × 491 (H) × 355 (D) mm 15 (W) × 19-3/8 (H) × 14 (D) inches
Satellite Speaker System	120 (W) × 347 (H) × 116 (D) mm 4-3/4 (W) × 13-11/16 (H) × 4-9/16 (D) inches
Satellite Speaker System	186 (W) × 453 (H) × 160 (D) mm (with tabletop stand) 7-5/16 (W) × 17-7/8 (H) × 6-5/16 (D) inches
Center Speaker	347 (W) × 120 (H) × 116 (D) mm 13-11/16 (W) × 4-3/4 (H) × 4-9/16 (D) inches

Mass

Main Unit	Approx. 10 kg, 22 lbs. 1 oz.
Main Unit (with tabletop stand)	Approx. 11.5 kg, 25 lbs., 6 oz.
AV Tuner/Processor Unit	Approx. 7 kg, 15 lbs., 7 oz.
Subwoofer Unit	Approx. 19 kg, 41 lbs., 14 oz.
Satellite Speaker System	Approx. 2.8 kg, 6 lbs., 3 oz.
Satellite Speaker System	Approx. 3.7 kg, 8 lbs., 3 oz. (with tabletop stand)
Center Speaker	Approx. 2.8 kg, 6 lbs., 3 oz.

Supplied Accessories	IEC R6 (size AA) battery for main remote control × 6 IEC R3 (size AAA) battery for sub remote control × 2 AM loop antenna × 1 Dipole antenna × 1 Antenna adapter × 1 DIN cable (large) × 1 DIN cable (small) × 1 S-Video cable × 1 Coaxial digital cable × 1 RCA pin plug cable (4 plugs) × 1 RCA pin plug cable (3 plugs) × 1 Subwoofer control cable × 2 Speaker cable 5 m × 3
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Speaker cable 15 m × 2
 Main unit tabletop stand × 1
 Satellite speaker tabletop stand × 4
 M5x30 screw × 2
 M5x20 screw × 4
 Top Cover × 1
 For main unit tabletop stand rear cover × 1
 For satellite speaker tabletop stand rear cover × 4
 Speaker cushion × 2
 Main unit installation fitting × 2
 Bracket A × 1
 Bracket B × 1
 M5x20 self-tapping screw × 2
 Speaker fastening screw × 10
 M5x16 self-tapping screw × 6
 M5x8 screw × 6
 M3x12 screw × 4
 Screw with washer × 2
 Main unit template × 1
 Speaker template × 1
 Wall fastening template × 1

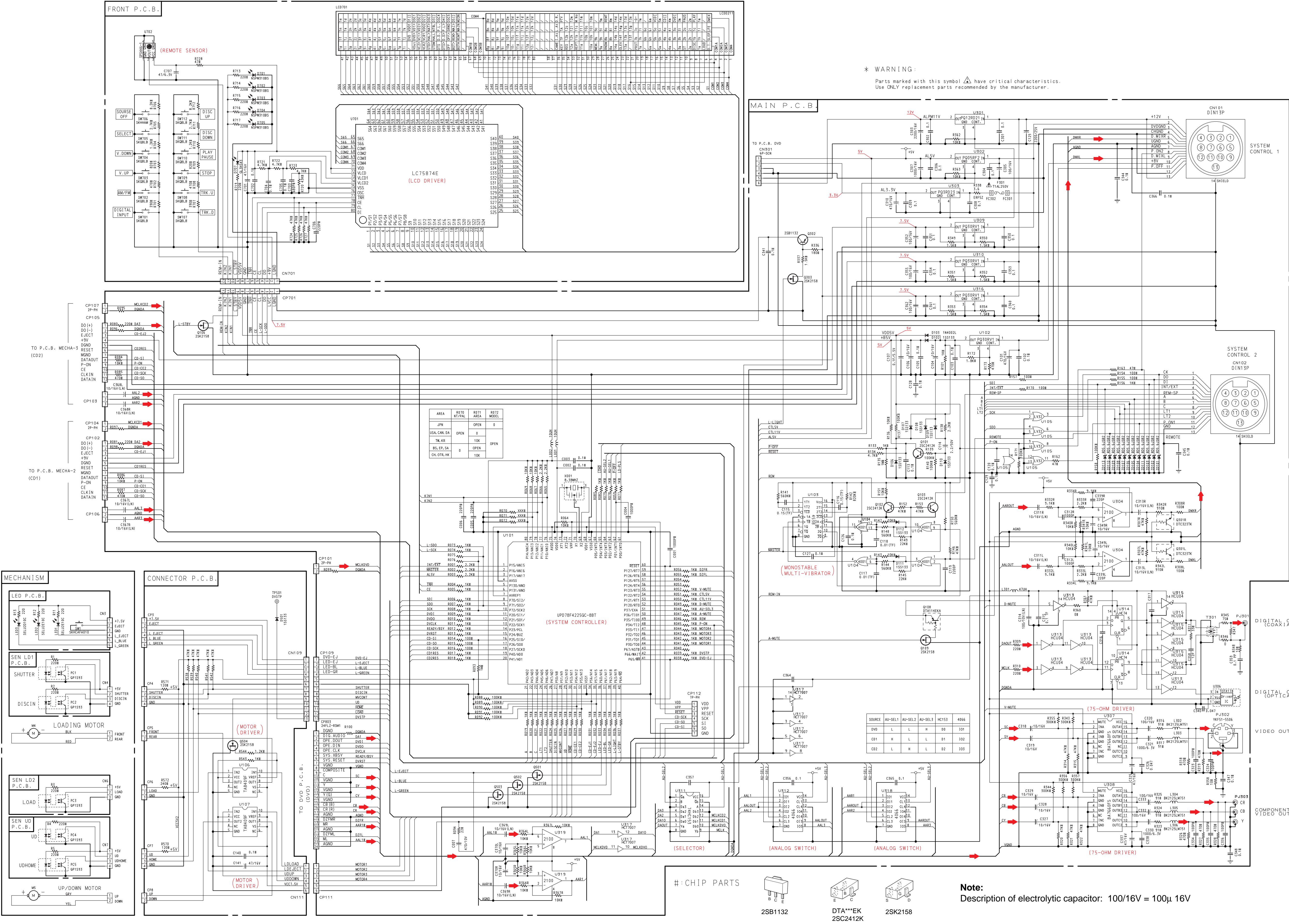
Specifications measured according to EIAJ (Electronic Industries Association of Japan) standards.

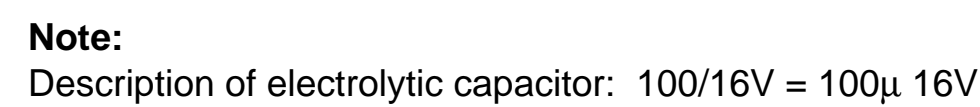
* Dimensions do not include protruding parts. Height is the panel height.

• Specifications and design are subject to change for further improvement without notice.

Nakamichi Corporation	1-153 Suzukicho, Kodaira, Tokyo 187-8501, Japan Phone: 81 (42) 342-1111
Nakamichi America	18375 S Broadwick Street Rancho Dominguez, CA 90220 Phone: 1 (310) 631-2122 Fax: 1 (310) 631-2760
Nakamichi Asia	8/F The Grande Bldg., 398 Kwun Tong Rd., Kowloon, Hong Kong Phone: 852-2357-6690 Fax: 852 -2357-6697
Nakamichi Europe	8th Floor, Hayes Gate House, 27 Uxbridge Road Hayes, Middlesex, UB4 OJN, England Phone: 44-181-581-9191 Fax: 44-181-581-9153
Web Site	http://www.nakamichi.com

Main Unit Section - Main P.C.B. Ass'y/Front P.C.B. Ass'y





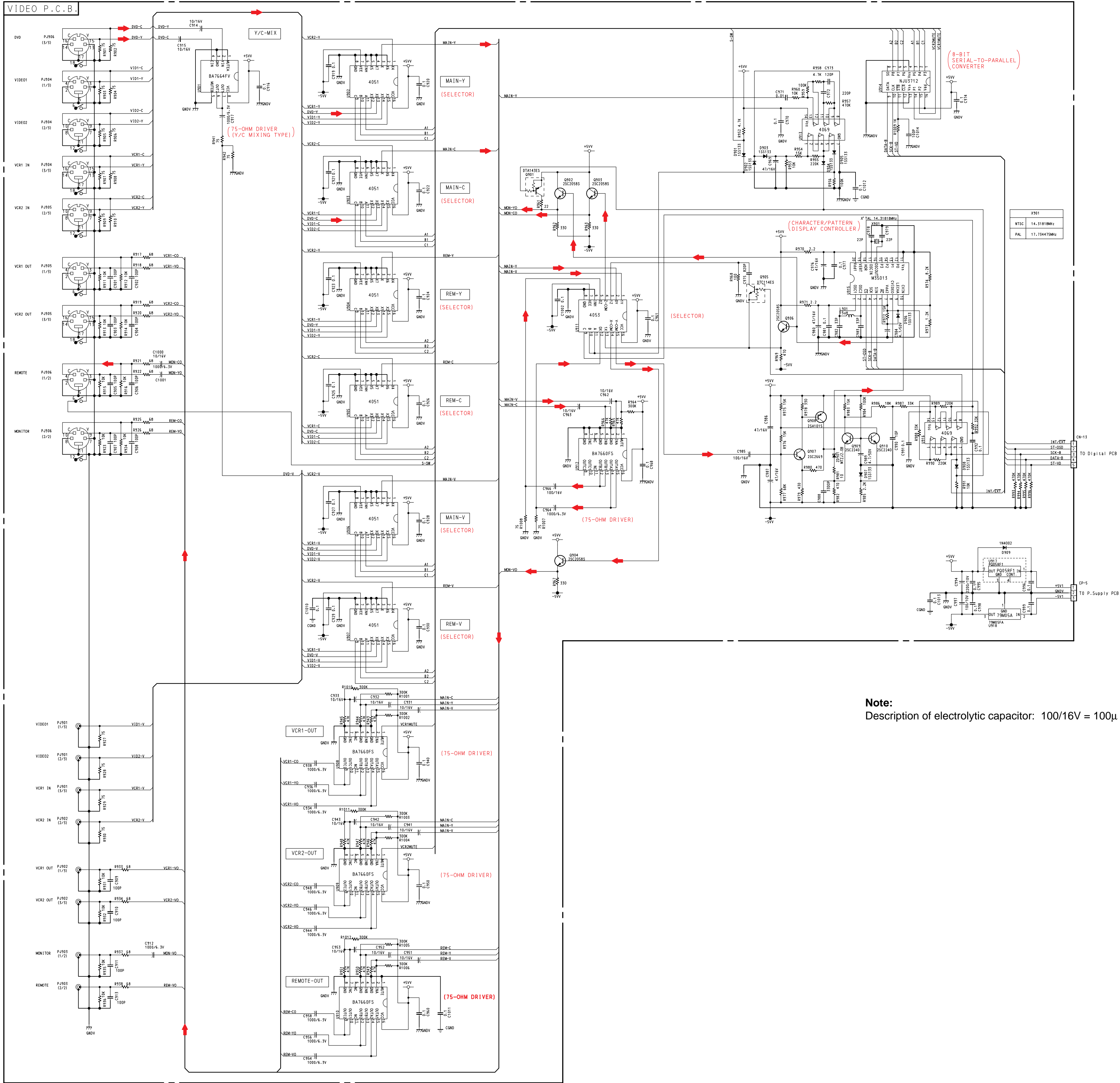
Note:
Description of electrolytic capacitor: 100/16V = 100μ 16V

Main Unit Section - DVD Player Section

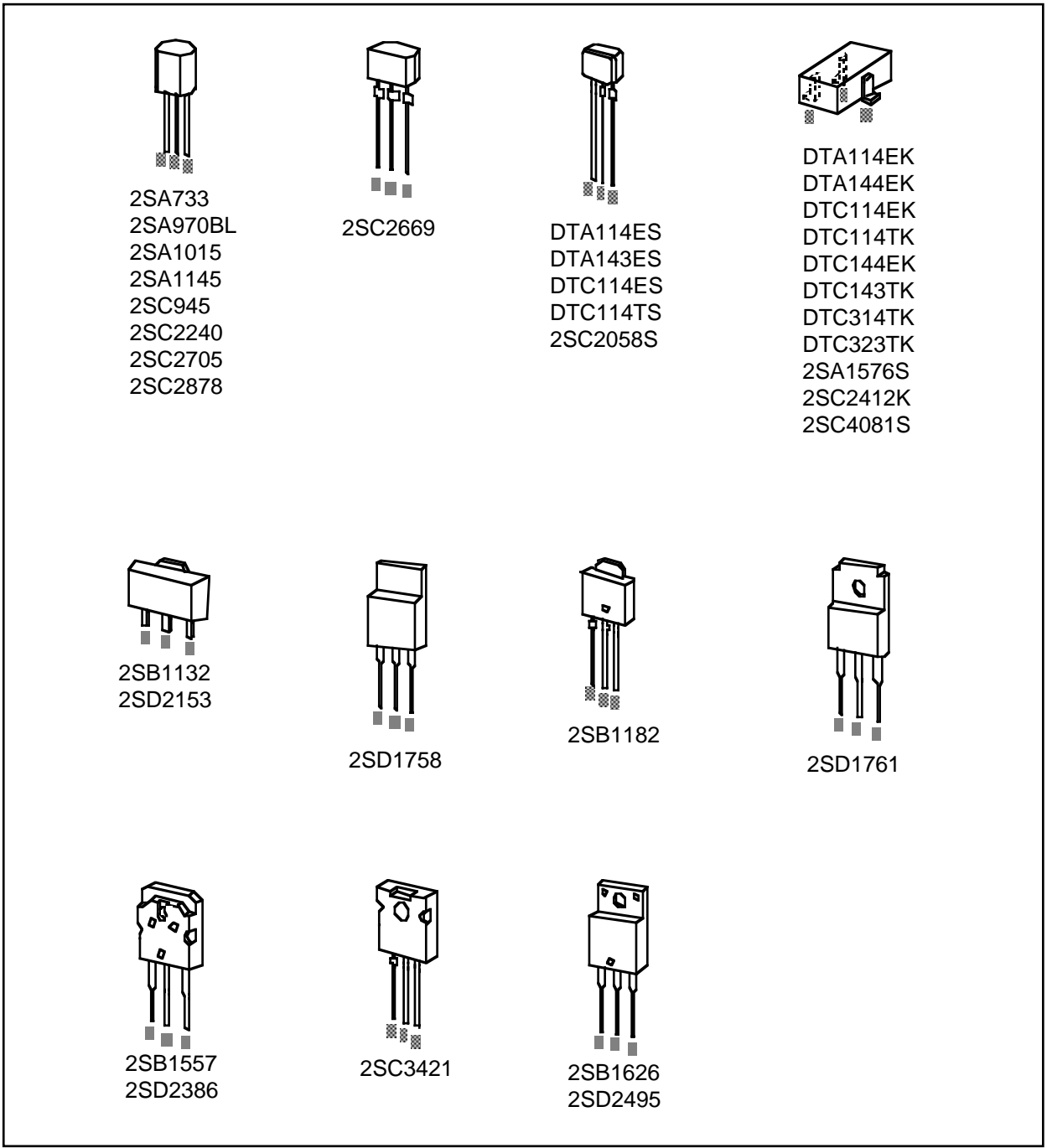
Refer to the printed schematic diagrams.

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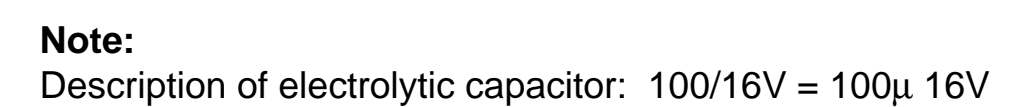
A/V Tuner/Processor Unit (1/4) - Video Section (Same as for SS-10/11/21. For printed one, see SS-10/11/21 Manual.)



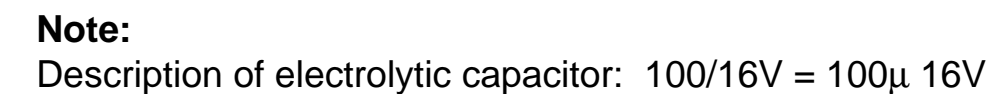
Transistor Shapes



Note:
Description of electrolytic capacitor: 100/16V = 100μ 16V

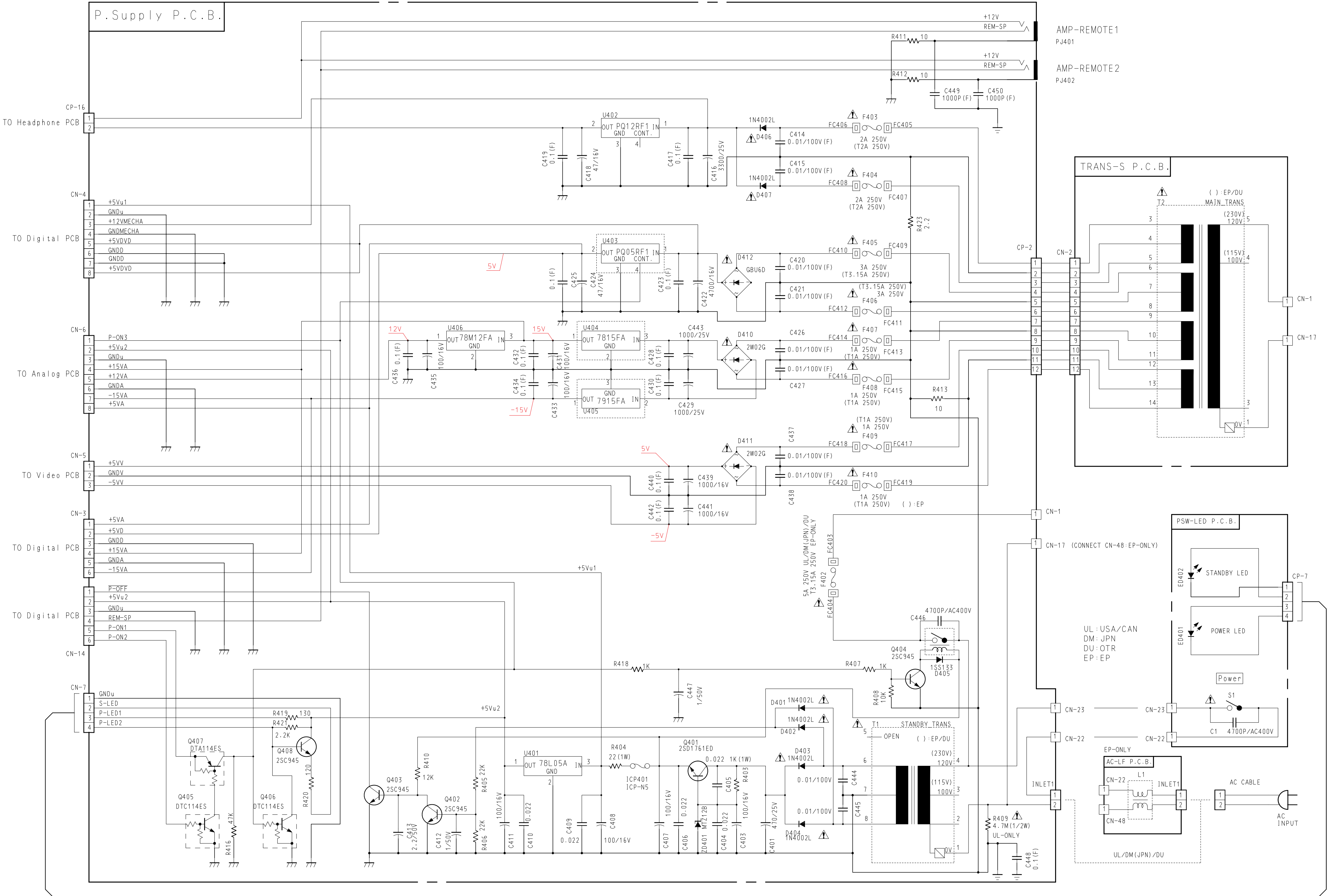


SS-12



(3/4)

A/V Tuner/Processor Unit (4/4) - Power Supply Section (Same as for SS-10/11/21. For printed one, see SS-10/11/21 Manual.)



* WARNING :

Parts marked with this symbol  have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

Note:
Description of electrolytic capacitor: 100/16V = 100μ 16V

