


ONKYO SERVICE MANUAL

5-DISC DVD CHANGER DV-C501

BMDD1N	120V AC, 60Hz
BMUS4P	120-240V AC, 50/60Hz

SAFETY-RELATED COMPONENT

WARNING!!

COMPONENTS IDENTIFIED BY MARK  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBER APPEAR AS SHOWN IN THIS MANUAL.

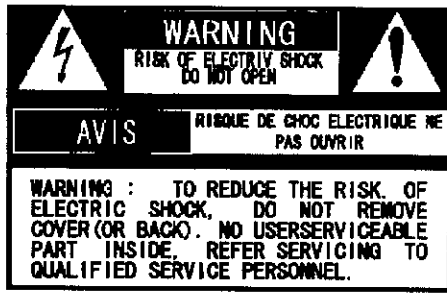
MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.



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SAFETY PRECAUTIONS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

CAUTION : TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION : POUR EVITER LES CHOCS ELECTRIQUE, INTRODUIRE LA LAME LA PLUS LARGE DA LA FICHE DANS LA BORNE CORRESPONDANTE DA LA PRISE ET POUSSER JUSQU' AU FOND.

PRECAUTIONS

Replacing the fuses

For continued protection against risk fire, replace only with same type and same rating fuse.

CIRCUIT No.	PART No.	DESCRIPTION
F901 <MDD1N,MUS4N,MUS4P>	252157	1.25A-UL/T -237

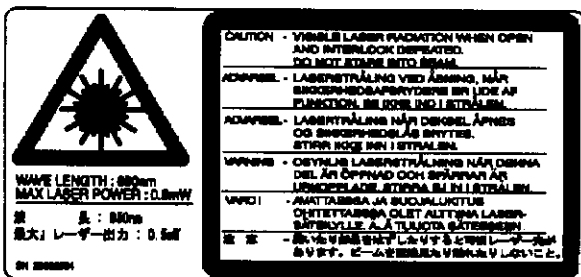


This symbol located near the fuse indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.



Ce symbole indique que le fusible utilise est a rapide. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce dernier est indique la qu le present symbol est appose.

LASER BEAM CAUTION LABEL



When the power supply is being turned on, you may not remove this laser cautions label, radiation of a laser may be received.

Pickup Head consists of a laser diode that is very susceptible to external static electricity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened.

When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode from damage by static electricity.

And also, the LSI and IC are same as above.

SPECIFICATIONS

DVD Changer



Power supply	AC 120 V, 60 Hz (U.S. & Canadian models) AC 100 – 240V, 50/60 Hz (Other area models)
Power consumption	19 W
Weight	6.6 kg, 14.6 lbs
External dimensions (W/H/D)	435 X 121 X 400 mm, 17-1/8" X 4-3/4" X 15-3/4"
Signal system	Standard NTSC (U.S. & Canadian models) PAL/3.58 NTSC (Other area models)
Laser	Semiconductor laser, wavelength 650 nm
Frequency range (digital audio)	DVD linear sound : 48 kHz sampling 4 Hz to 22 kHz 96 kHz sampling 4 Hz to 44 kHz Audio CD : 4 Hz to 20 kHz
Signal-to-noise ratio (digital audio)	More than 96 dB (EIAJ)
Audio dynamic range (digital audio)	More than 90 dB (EIAJ)
Harmonic distortion (digital audio)	Less than 0.01 %
Wow and flutter	Below measurable level (less than ± 0.001 % (W.PEAK)) (EIAJ)
Operating conditions	Temperature: 5°C to 35°C (41 to 95 degrees), Operation status: Horizontal

Outputs

Video output	1.0 V (p-p), 75 ohm, negative sync., pin jack X 1
S video output	(Y) 1.0 V (p-p), 75 ohm, negative sync., Mini DIN 4-pin X 1 (C) 0.286 V (p-p), 75 ohm
Component Video output	(Y) 1.0 V (p-p), 75 ohm, negative sync., pin jack X 1 (Pe)/(Pp) 0.7 V (p-p), 75 ohm
Digital Audio output (optical)	Optical connector X 1
Digital Audio output (coaxial)	0.5 V (p-p), 75 ohm, pin jack X 1
Audio output (analog audio)	2.0 V (rms), 470 ohm, pin jack (L, R) X 1

- Design and specifications are subject to change without notice.

Your DVD Changer can play back the following discs:

	Disc mark	Contents	Disc size	Maximum playback time
DVD videos		Audio + Video (moving pictures)	12 cm	Approx. 4 hours (single sided disc) Approx. 8 hours (double-sided disc)
			8 cm	Approx. 80 minutes (single-sided disc) Approx. 160 minutes (double-sided disc)
			12 cm	Approx. 74 minutes
			8 cm	Approx. 20 minutes
Audio CDs		Audio	12 cm	Approx. 74 minutes
			8 cm (CD single)	Approx. 20 minutes

- You cannot play back discs other than those listed.
- You cannot play back discs such as CD-R, CD-RW, CD-ROM, DVD-RAM, DVD-RW, etc., even though they may be labelled with one of the above logos.
- *U.S. & Canadian models:*
This DVD Changer uses the NTSC color system, and cannot play back DVD videos recorded in any other color system (PAL, SECAM, etc.).
Other area models:
This DVD Changer uses the PAL/NTSC color system, and cannot play back DVD videos recorded in any other color system (SECAM, etc.).
- Avoid using heart-shaped or octagonal discs. Playing irregularly shaped discs may damage the DVD Changer's internal mechanism.

LOCATION OF MECHANISM PARTS

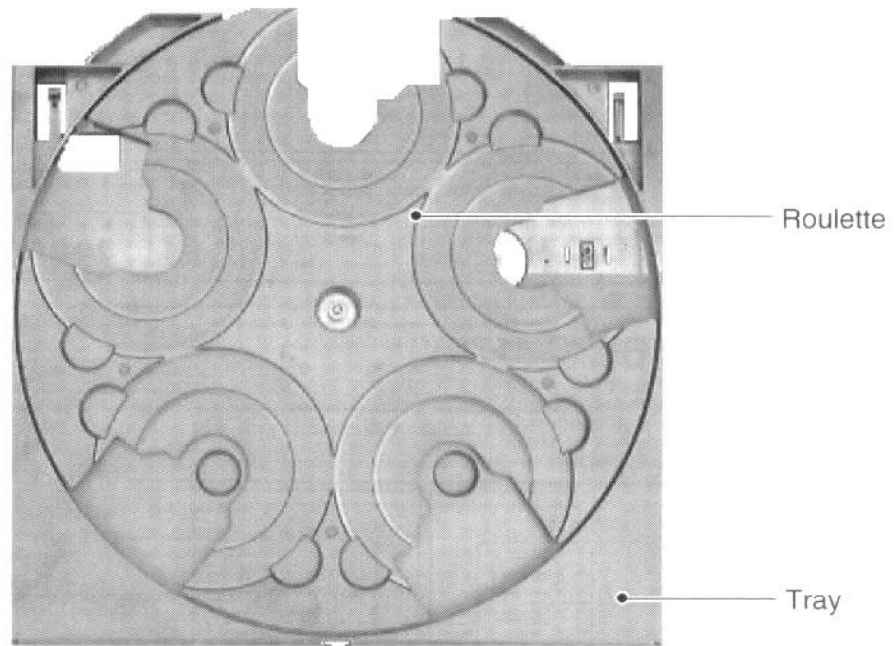


Fig. 1-2-1. Mechanism chassis assembly (Top side)

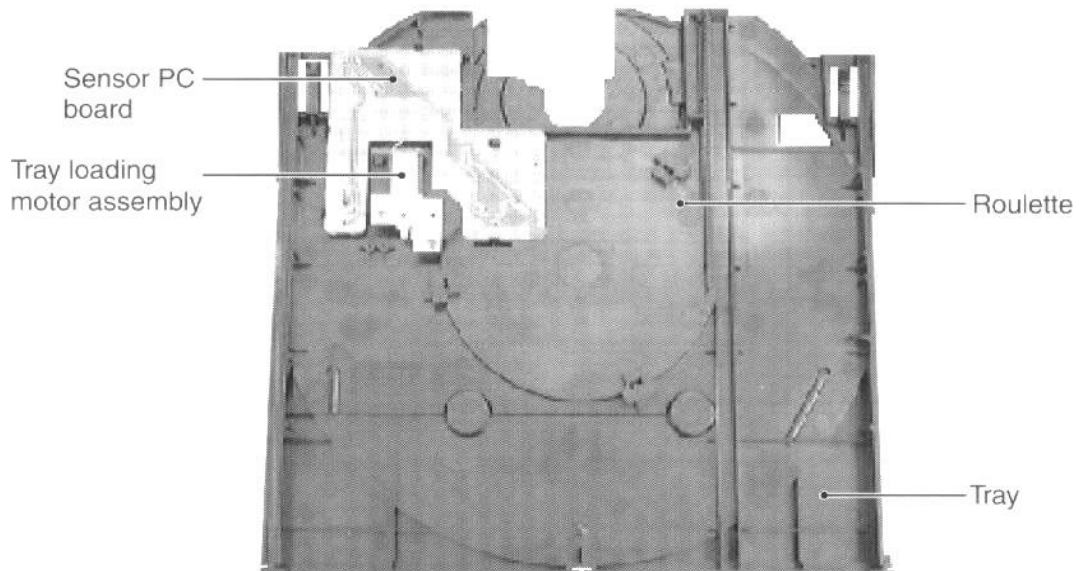


Fig. 1-2-2. Mechanism chassis assembly (Bottom side)

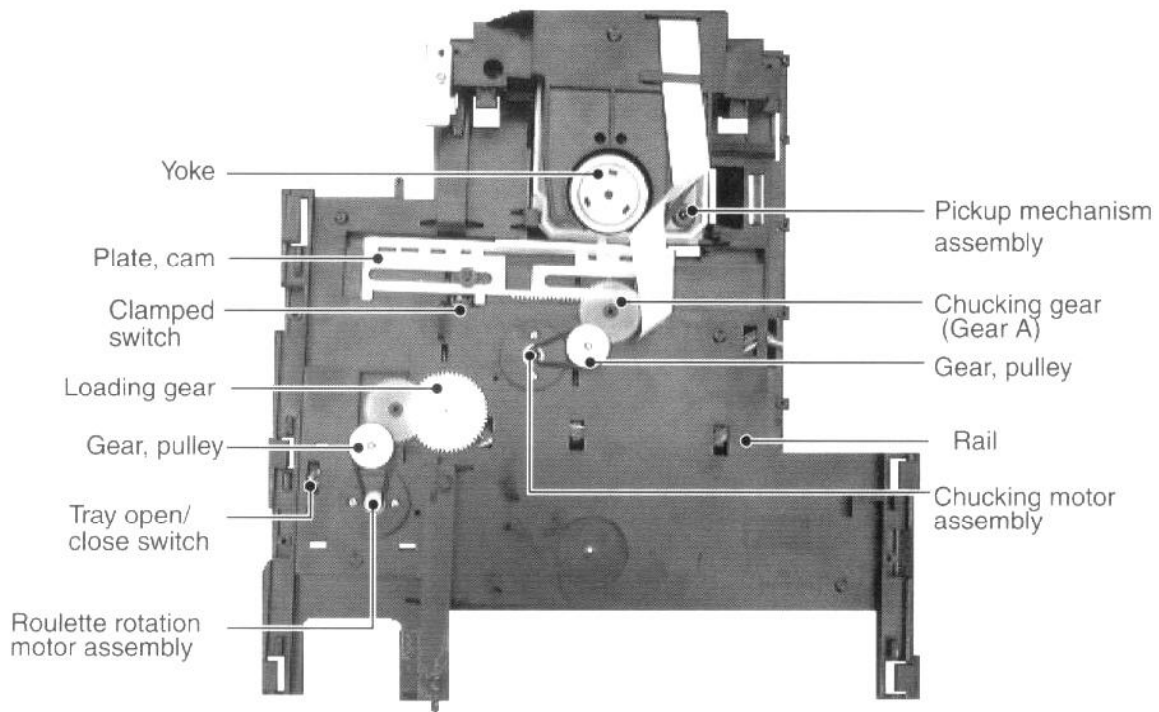


Fig. 1-2-3. Mechanism chassis assembly (Top side)

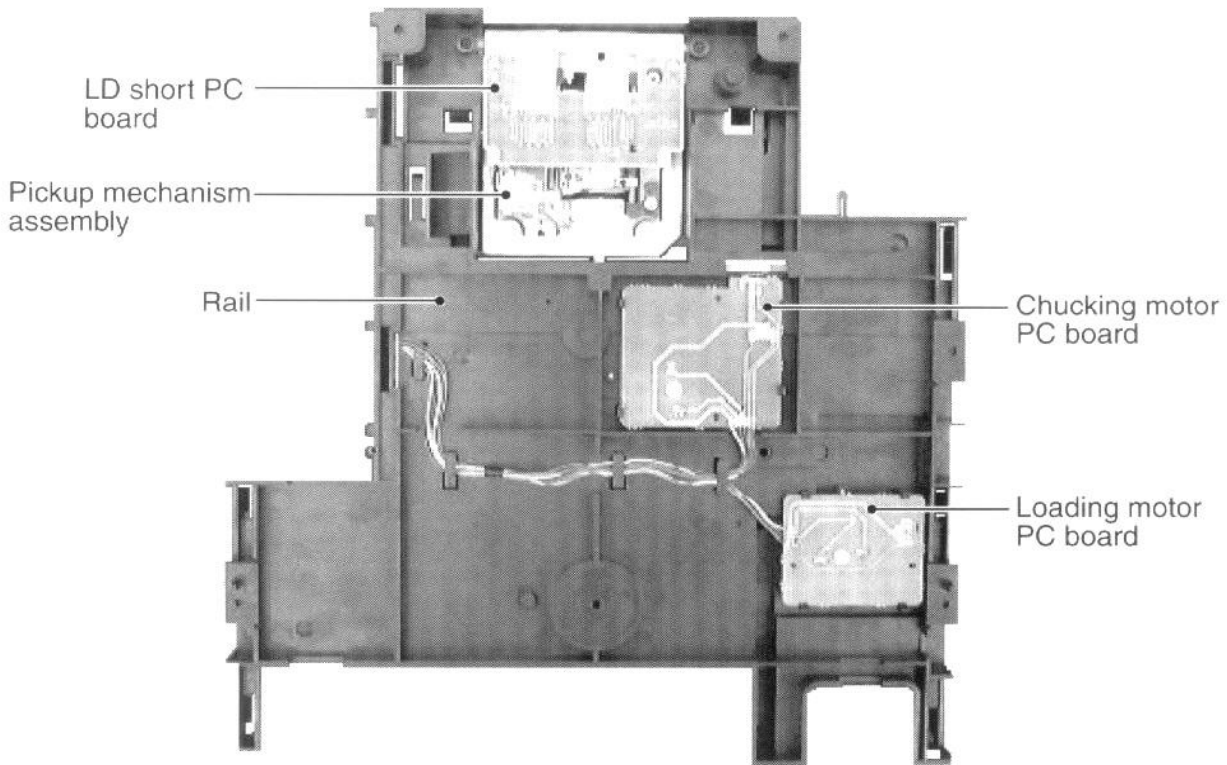


Fig. 1-2-4. Mechanism chassis assembly (Bottom side)

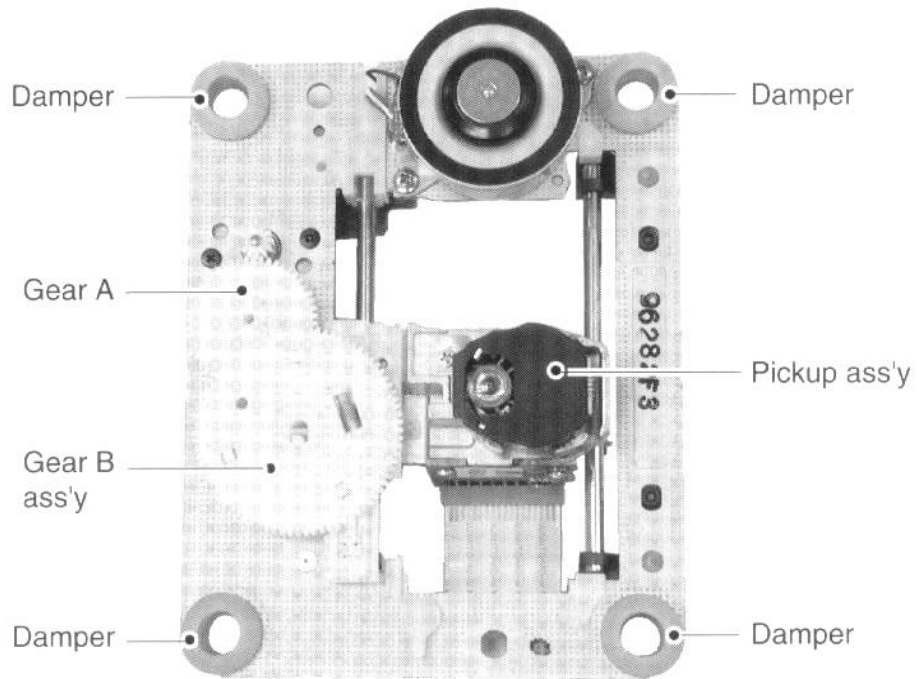


Fig. 1-2-5. Pickup mechanism chassis assembly (Top side)

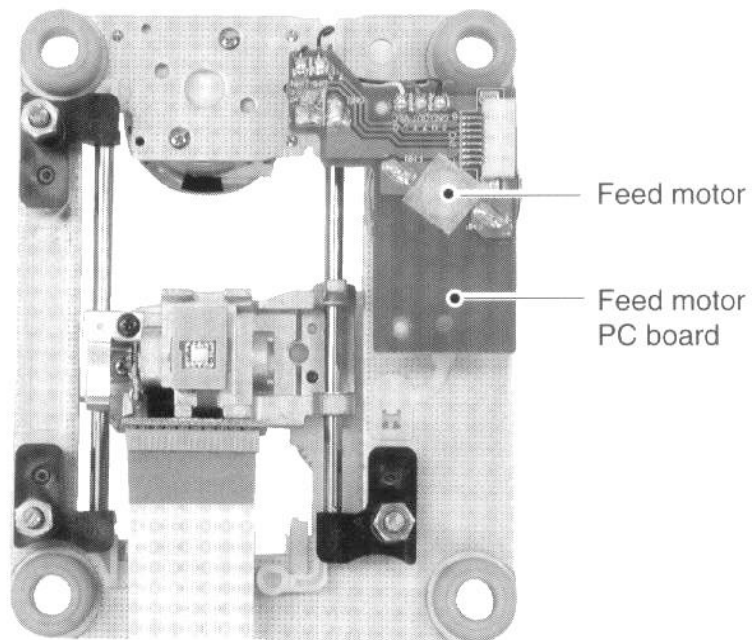


Fig. 1-2-6. Pickup mechanism chassis assembly (Bottom side)

REPLACEMENT OF MECHANICAL PARTS

1-1. Cabinet Replacement

1-1-1. Top Cover

1. Remove five screws (1) and remove the top cover (2).

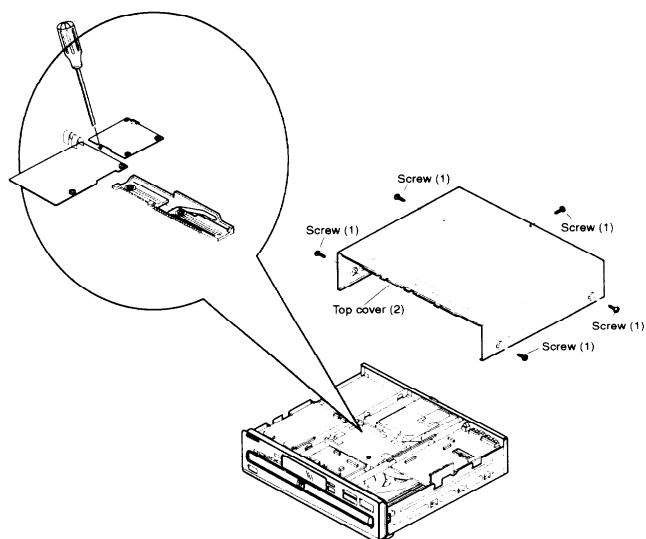


Fig. 2-1-1.

1-1-2. Tray Panel

1. Eject the tray (1).
2. Twist the tray panel (2) a little in the arrow A direction with the tray (1) held to release four claws and lift up the tray panel (2) in the arrow B direction, then the tray panel (2) is removed.
3. When mounting the tray panel (2), insert the tray panel (2) along the groove of the both sides of the tray (1) until it clicks.

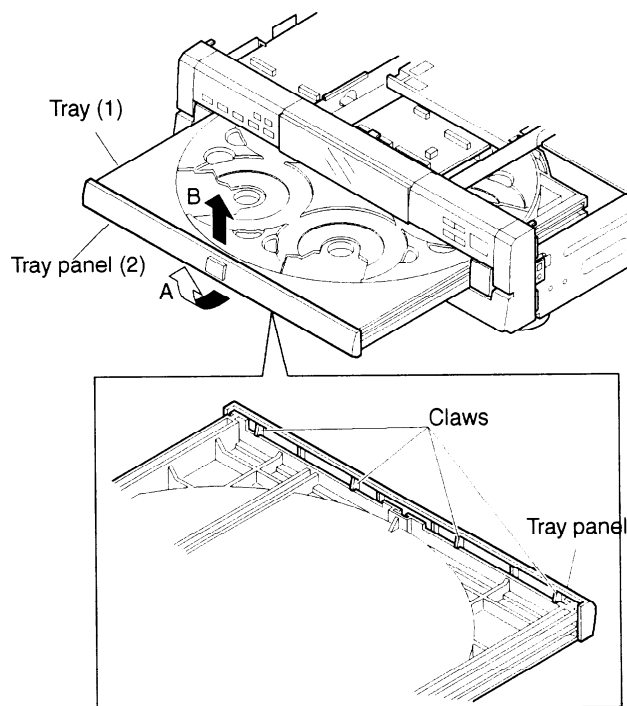


Fig. 2-1-2.

1-1-3. Front Panel and Front Bracket

1. Pull out the tray and remove three screws, holding the front panel.
2. Remove the front panel (1).
2. Disconnect two FFCs (2).
3. Remove three screws (3) and remove the front bracket (4).
4. Release three claws of both sides the front bracket.

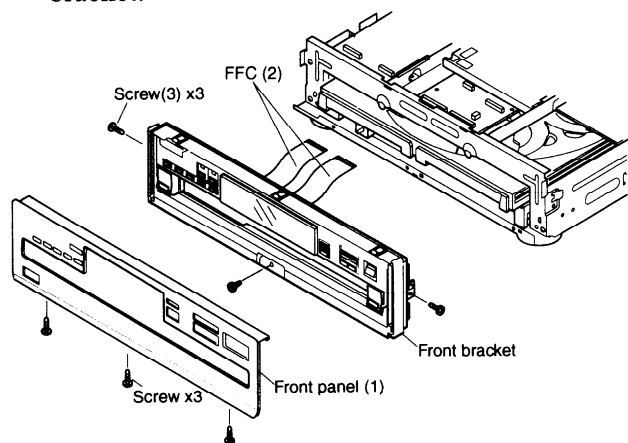


Fig- 2-1-3

1-1-4. Rear Panel

1. Remove 16 screws (1) and remove the rear panel (2).

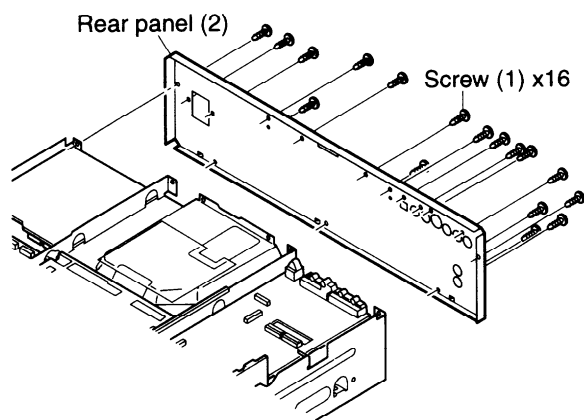


Fig. 2-1-4

1-2. PC Board Replacement

1-2-1. Main PC Board

1. Peel off the three tapes (1).
2. Disconnect six FFCs (2) and one connector (3).

Note

* Before disconnecting the FFC from the main PC board, pull out the round bottom cover (attached with both-side adhesive tape) and be sure to short-circuit the LD-SHORT J001 by a clip or soldering.

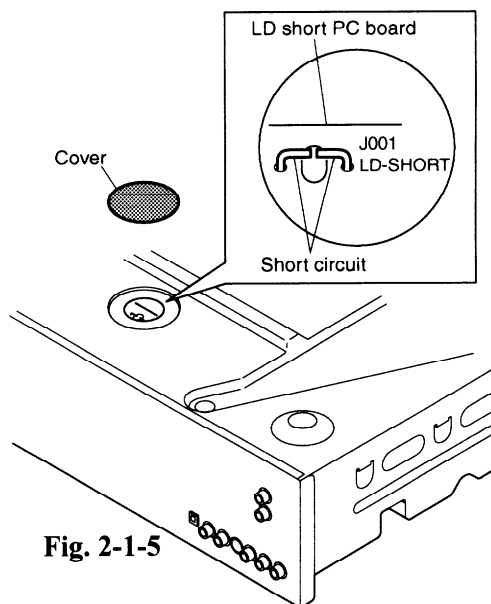


Fig. 2-1-5

3. Remove four screws (4) and remove the shield cover (4) and main PC board (5).

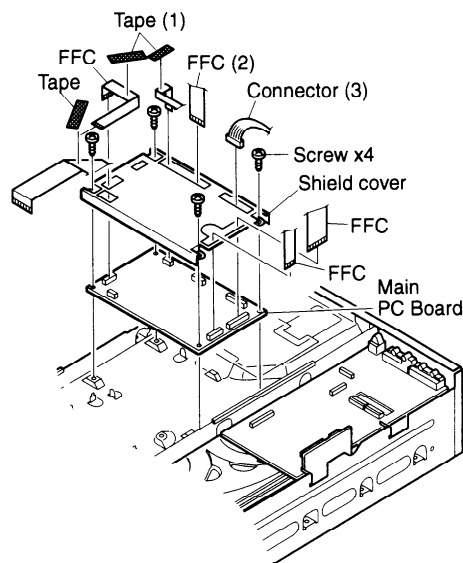


Fig. 2-1-6

1-2-2. Video Output PC Board

1. Disconnect four FFCs (1) and three connectors (2) and one junction connector (P703) (3).
2. Remove three screws (4).
3. Remove four screws (5) and remove the video output PC board (6).

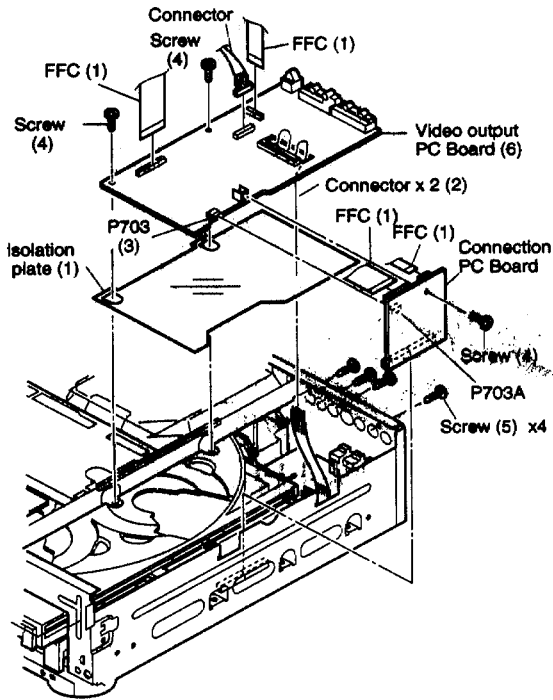


Fig. 2-1-7

1-2-3. 5.1ch Output PC Board

1. Remove the isolation plate (1). (Refer to Fig. 2-1-7)
2. Disconnect two connectors (2).
3. Remove three screws (3).
4. Remove two screws (4).
5. Remove the audio output PC board (5).

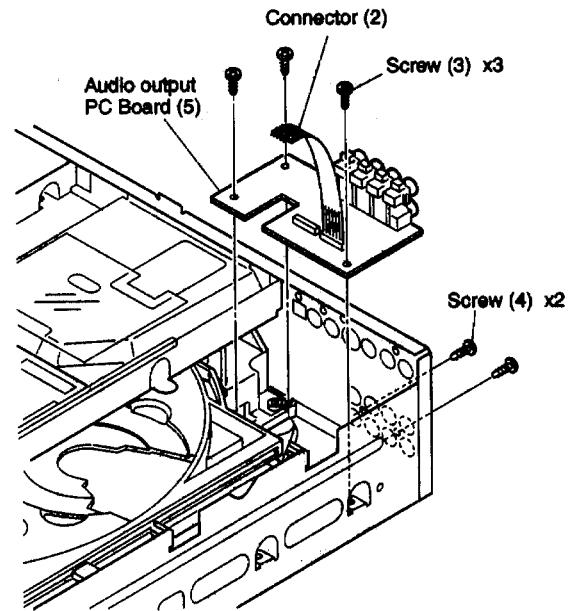


Fig. 2-1-8

1-2-4. Microprocessor PC Board

1. Disconnect four FFCs (1) and one connector (2).
2. Remove three screws (3).
3. Remove the microprocessor PC board (4).

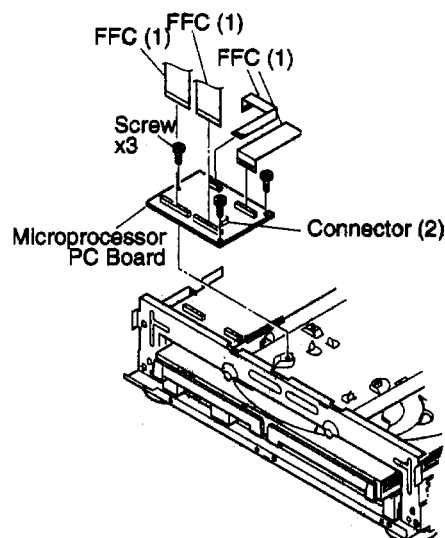


Fig. 2-1-9

1-2-5. Power Supply PC Board

1st Power Supply PC Board

1. Remove six screws (1).
2. Remove two screws (2) and three screws (3).
3. Remove the 1st power supply PC board (4) and disconnect two connectors (5).

2nd Power Supply PC Board

4. Remove two screws (6).
5. Disconnect three connectors (7).
6. Remove the 2nd power supply PC board (8).

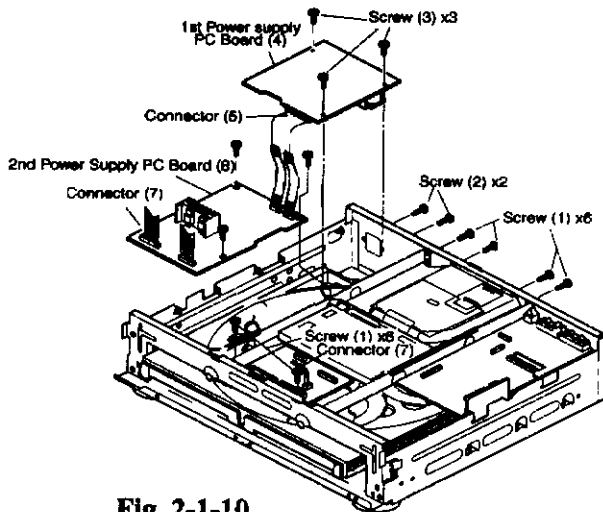


Fig. 2-1-10

1-2-6. Display PC Board and Switch PC Board

1. Remove the front panel. (Refer to Fig. 2-1-3.)
2. Disconnect two FFCs (1) and peel off the tape (2).
3. Remove eight screws (3) and the display PC board (4).
4. Remove three screws (5) and the switch PC board (6).

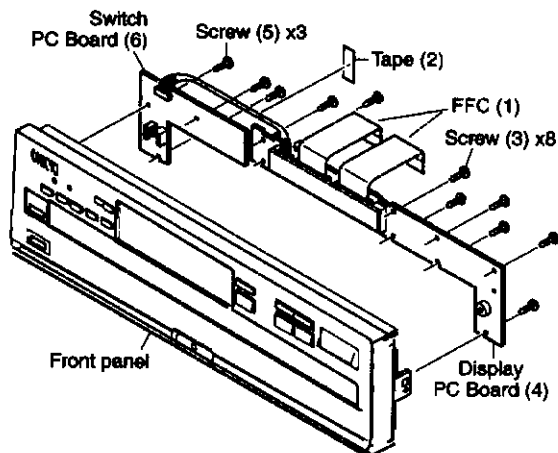


Fig. 2-1-11

1-3. Tray Replacement

1-3-1. Tray

1. Remove the front panel. (Refer to Fig. 2-1-3.)
2. Pull out the tray (1) until it stops.
3. Disconnect one FFC (2).
4. Pull the claw (3) and pull out the tray (1) to this side.

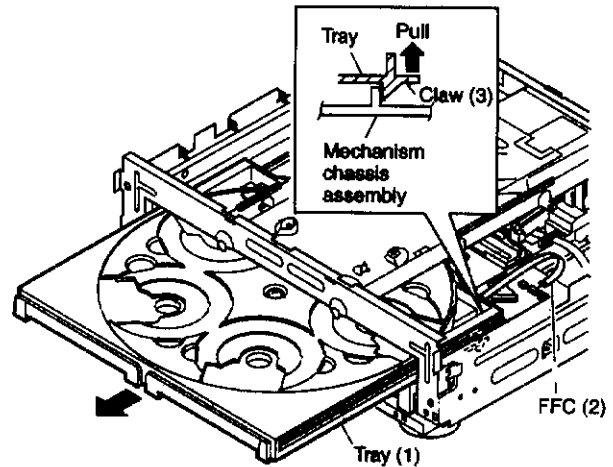


Fig. 3-1-1

1-3-2. Roulette

1. Remove the tray. (Refer to item 1-3-1.)
2. Remove one screw (1), one spring (2) and remove one washer (3).
3. Remove the roulette (4).

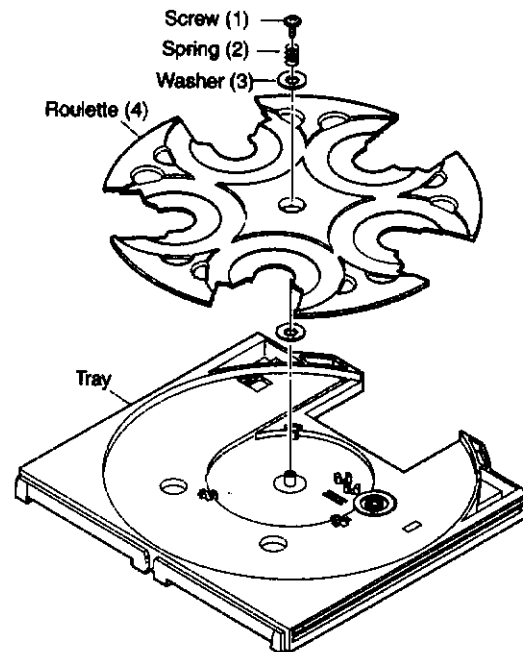


Fig. 3-1-2.

1-3-3. Gear Wheel, Tray loading Motor Ass'y, Sensor PC Board

1. Remove the roulette. (Refer to item 1-3-2.)
2. Remove one screw (1) and gear wheel (2).

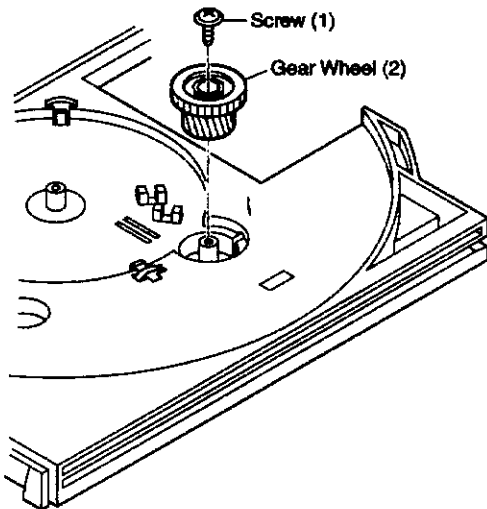


Fig. 3-1-3.

3. Turn over the tray.
4. Remove two screws (3) and the bracket (Motor).
5. Remove two screws (4) and tray loading motor (5).
6. Release six claws (6) and remove the sensor PC board (7).

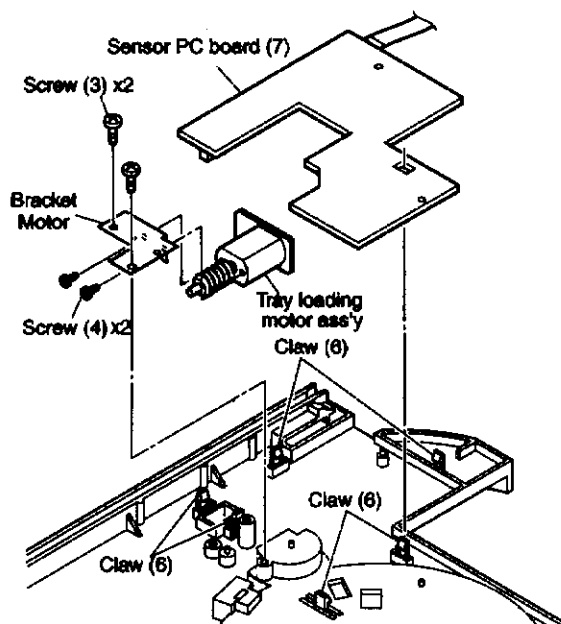


Fig. 3-1-4.

1-4. Mechanism Parts Replacement

1-4-1. Mechanism Chassis Assembly

1. Remove the tray. (Refer to item 1-3-1.)
2. Remove six screws (1) and the bracket (2).
3. Remove one connector (3) and two FFCs (4).
4. Remove four screws (5).
5. Remove the motor driver PC board (6) and the connection PC board (7).
6. Remove two screws (8) and three screws (9).
7. Remove the 5.1ch output PC board (10).

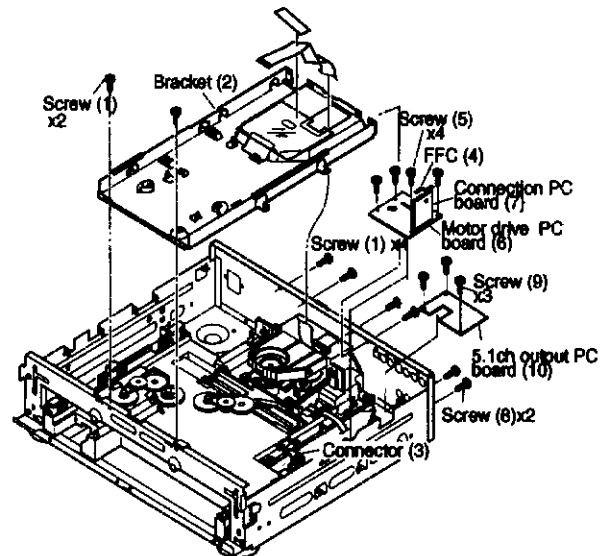


Fig. 4-1-1.

8. Remove six screws (11).
9. Remove the rail mechanism ass'y (12).

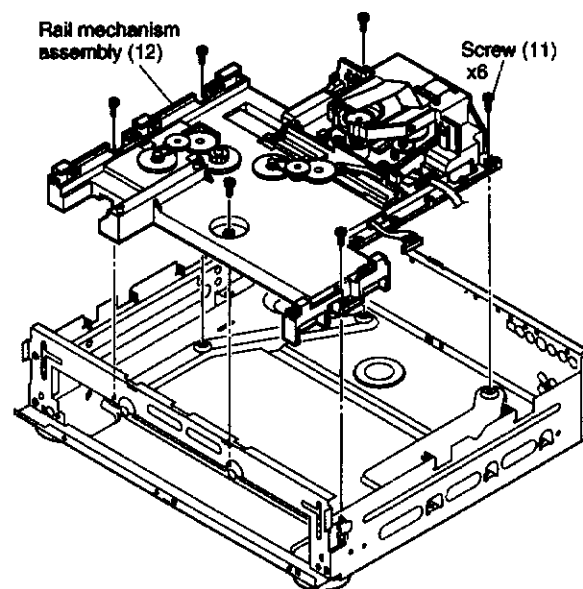


Fig. 4-1-2.

1-4-2. Loading Motor Ass'y and Chucking Motor Ass'y

1. Remove the belt (1) and remove two screws (2).
2. Turn over the Rail (3).
3. Release four claws (4).
4. Remove the loading motor ass'y with loading motor PC board assembly.
5. Remove the belt (5) and two screws (6).
6. Release four claws (7).
7. Remove the chucking motor ass'y with chucking motor assembly.

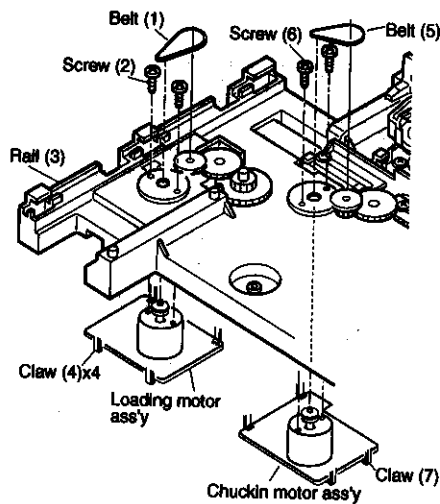


Fig. 4-1-3.

1-4-3. Gear Load, Gear Pulley, Gear A and Plate Cam.

1. Remove the chucking motor ass'y and loading motor ass'y. (Refer to item 1-4-2.)
2. Remove one washer B (1) and gear pulley (2).
3. Remove one gear A (3) and one gear load (4).
4. Remove one washer B (5) and one gear A (6).
5. Remove two screws (7), two springs (8) and two washers (9).
6. Remove the plate cam (10).

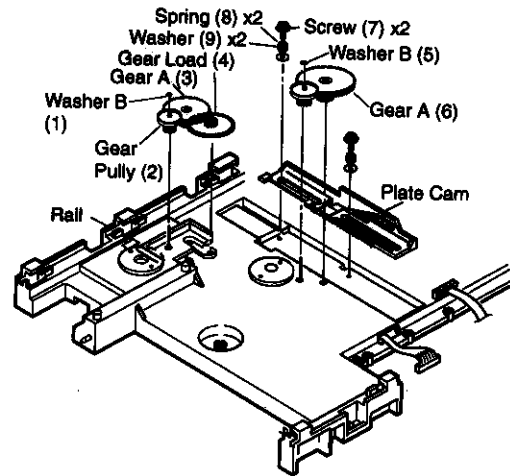


Fig. 4-1-4.

1-4-4. Chassis Sub. and DVD Mechanism.

1. Remove the FFC (1) from pass through the slit of the rail.
2. Turn over the rail assembly.
3. Remove two screws (2) and one washer (3).
4. Release the boss from a groove of the plate cam (4).
5. Remove the chassis sub (5) and remove the DVD mechanism assembly (6).

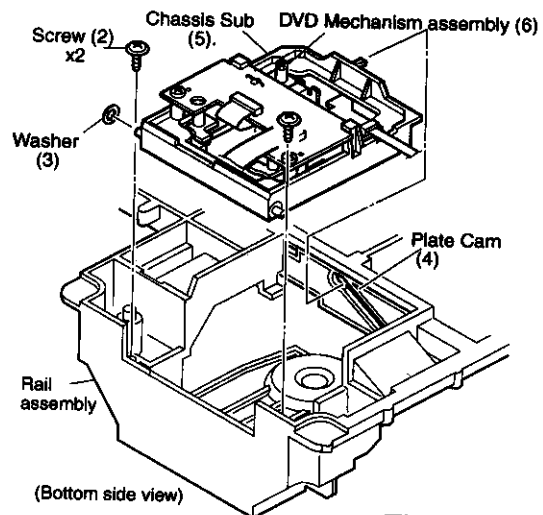


Fig. 4-1-5.

1-4-5. LD Short PC Board Ass'y.

1. Remove the chassis sub. (Refer to item 1-4-4.)
2. Disconnect one FFC (1) and remove two screws (2).
3. Remove the LD short PC board (3).

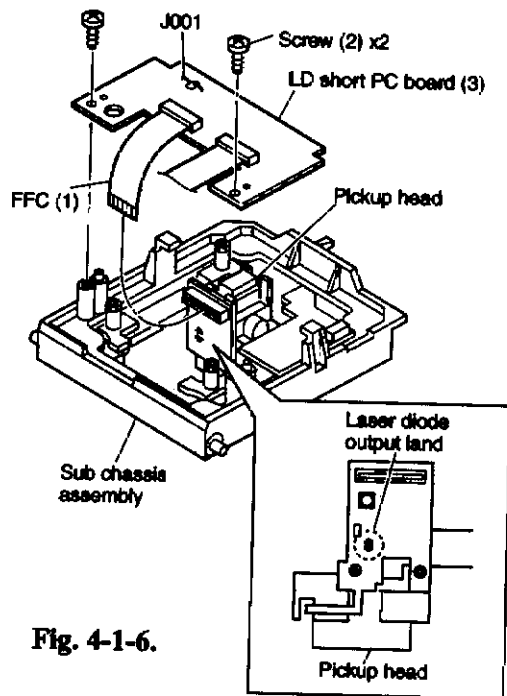


Fig. 4-1-6.

NOTE:

- * When remove the DVD mechanism, be sure to short-circuit the laser diode output land of the pickup head before and after disconnecting and connecting the FFC (1).

1-4-6. Pickup Mechanism Assembly

1. Remove the chassis sub. (Refer to item 1-4-4.)
2. Disconnect the FFC (1).
3. Remove four screws (2) and remove the pickup mechanism assembly (3).

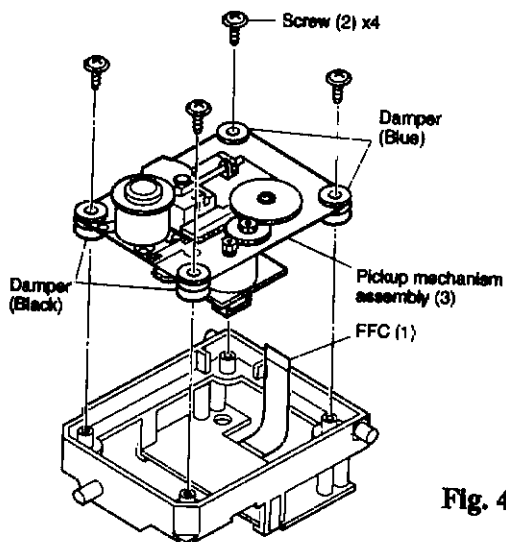


Fig. 4-1-7.

NOTE:

- * The dampers' color differs when used for the front side and the rear.
- * When mounting the pickup mechanism assembly (3) with the screws (1), push the pickup mechanism assembly (2) downward without being caught and tighten the screws (1) after placing the washer with the damper bent.

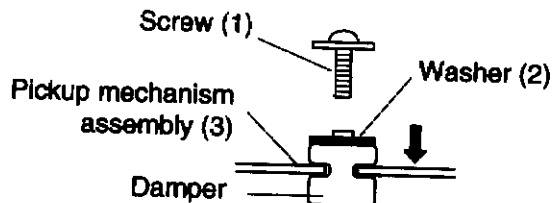


Fig. 4-1-8.

1-4-7. Gear B Assembly, Gear A and Rack Gear Assembly

Removal

1. Release one claw and remove the gear B assembly (1).
2. Remove the gear A (2).
3. Remove one screw (3) and remove the rack gear assembly (4).

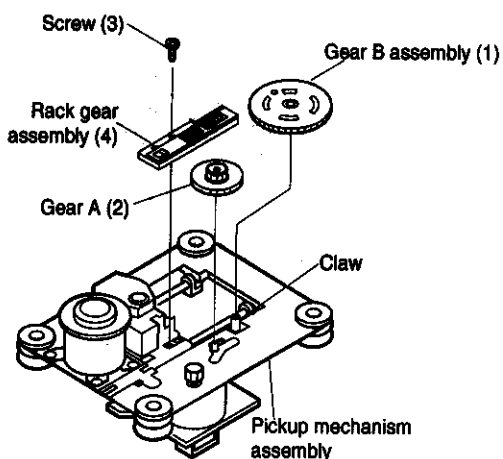


Fig. 4-1-9

Note

Mount the gear B assembly (1) and the gear A (2) with their gear teeth placed more than one tooth at least inside the shaded portion.

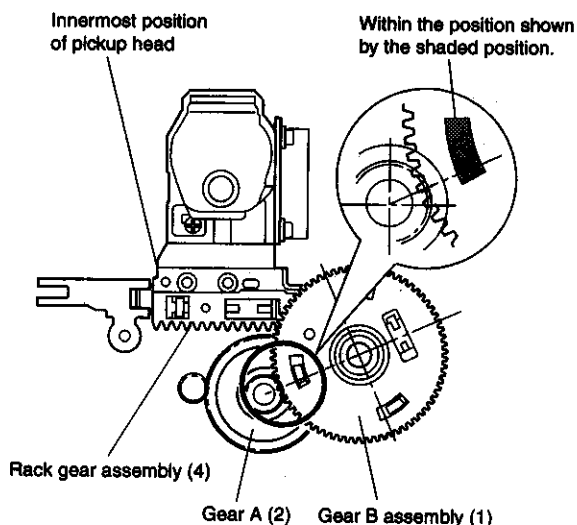


Fig. 4-1-11

Mounting

1. When mounting, perform the reverse order of the removal.
2. Mount the gear B assembly (1) by pushing the pickup head (5) to the disc motor side (arrow A direction) and shifting the upper gear of the rack gear assembly (4) in the arrow B direction. Refer to Fig. 4-1-10.

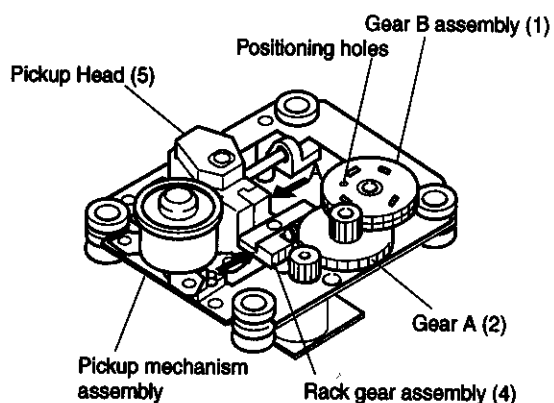


Fig. 4-1-10

1-5. Apply the Grease and Replacement the Tray lock

1-5-1. Apply the grease.

1. Use the following grease (white).
Grease : Floil G90S
2. See the applicable figure.

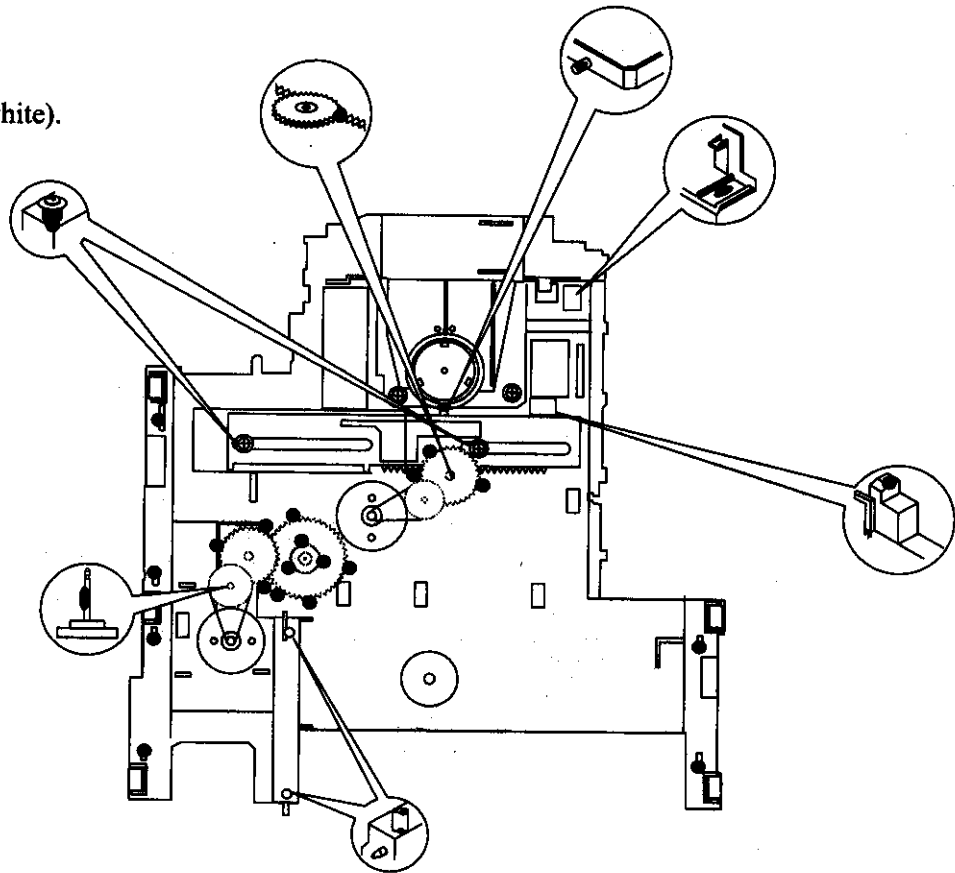
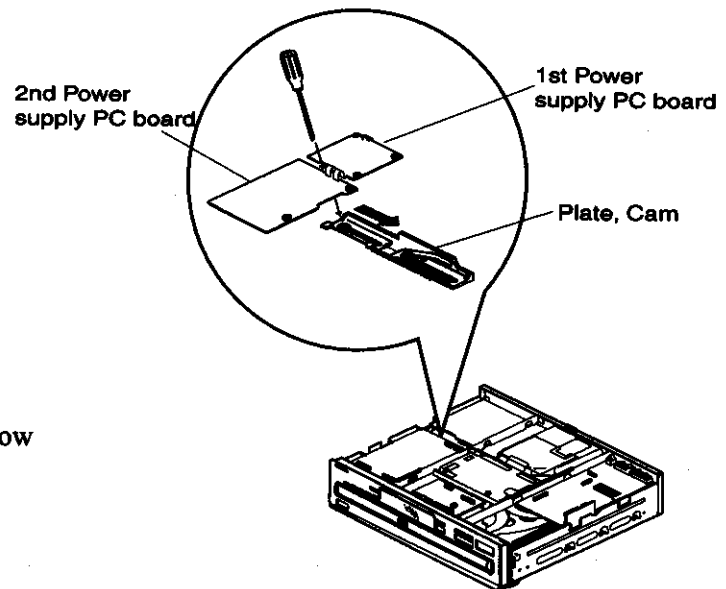


Fig.5-1-1.

1-5-2. Release the tray lock

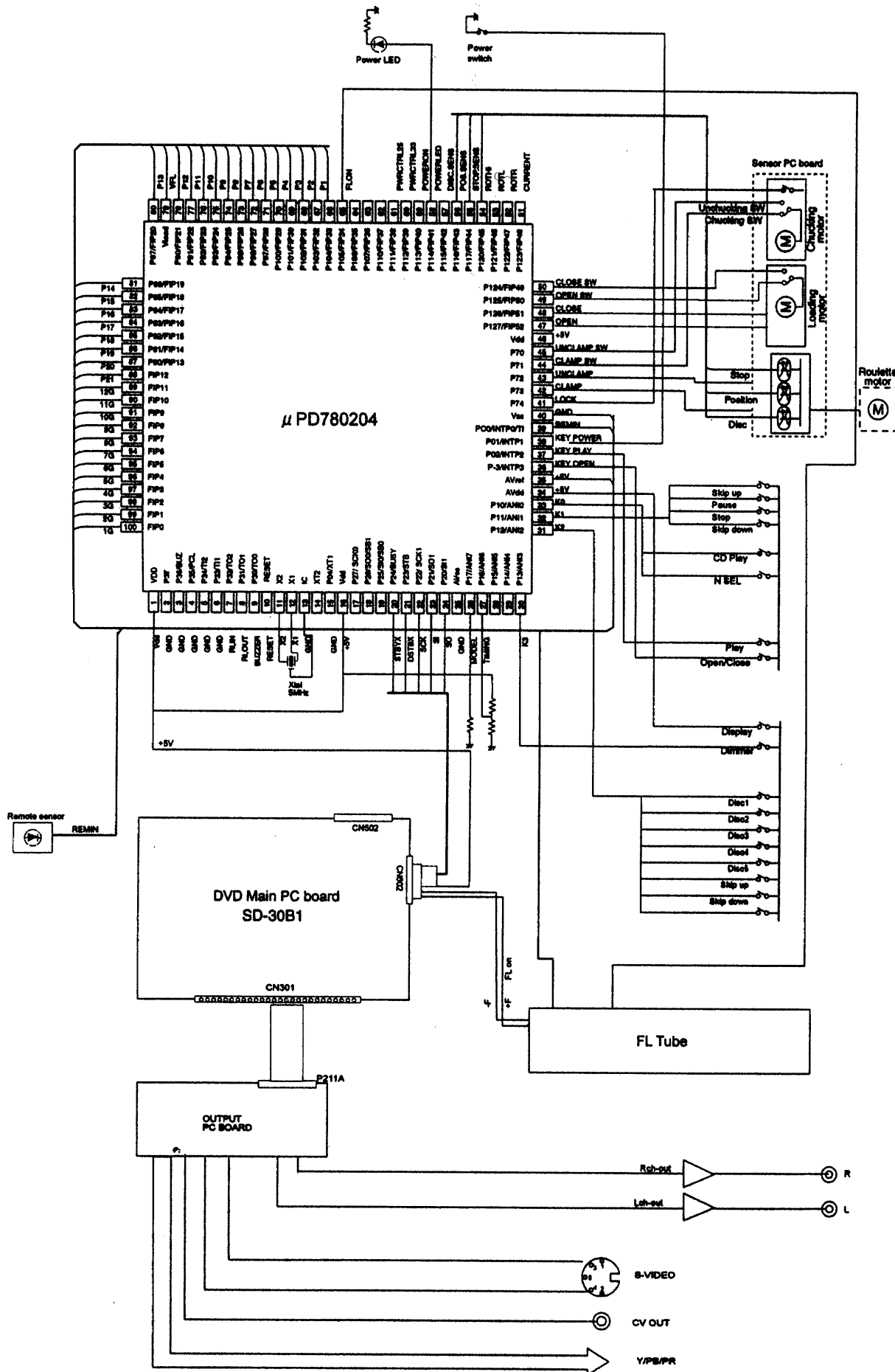


When the product breaks down, and the tray does not go out.

- 1) Remove the top cover. (Refer to item 1-1-1.)
- 2) The plate cam is moved in the direction of the arrow to release the lock by the screw driver.
- 3) Pull out the tray by hand.

Fig.5-1-2.

MICROPROCESSOR CONNECTION DIAGRAM



MICROPROCESSOR TERMINAL DESCRIPTION

μ PD780204GF

PIN No.	TERMINAL	I/O	Description
1	Vdd	I	Power supply terminal. (+5V)
2-6		I	Not used. (To connect to the ground pin.)
7	RI.IN	I	Input terminal of the RI signal.
8	RI.OUT	O	Output terminal of the RI signal.
9	BUZZER	O	Buzzer signal output terminal.
10	RESET	I	Reset terminal for the system microprocessor.
11	X2	O	Master clock output terminal. (5MHz)
12	X1	I	Master clock input terminal. (5MHz)
13	IC	I	To connect to the ground pin.
14		O	Not used. (Open terminal)
15	GND	I	Not used. (To connect to the ground pin.)
16	+5V	I	Power supply terminal. (+5V)
17-19		O	Not used. (Open terminal)
20	STBYX	O	Standby signal data output terminal to the main microprocessor.
21	DSTBX	O	Strobe signal data input terminal from the main microprocessor.
22	SCK	I	Serial clock signal data input terminal from the main microprocessor.
23	SI	O	Serial data output terminal to the main microprocessor.
24	SO	I	Serial data input terminal from the main microprocessor.
25	GND	I	Ground terminal.
26	MODEL	I	Model select input terminal.
27	TIMING	I	Set up terminal of the roulette.
28-29		O	Not used. (Open terminal)
30	K3	I	Key input terminal.
31	K2	I	Key input terminal.
32	K1	I	Key input terminal.
33	K0	I	Key input terminal.
34	+5V	I	Power supply terminal. (+5V)
35	+5V	I	Reference power supply pin. (+5V)
36	KEYOPEN	I	Input control signal for open/close of the tray.
37	KEYPLAY	I	Key input terminal at the play.
38	KEYPOWER	I	Power switch key input terminal.
39	REMIN	I	Remote control input terminal.
40	GND	I	Ground terminal.
41	LOCK	I	Detection switch of the tray loading. L= Clamped
42	CLAMP	O	Clamp motor control terminal. L= Clamp
43	UNCLAMP	O	Clamp motor control terminal. L= Un clamp
44	CLAMP.SW	I	Chucking close detection input terminal. L= Lock
45	UNCLAMP.SW	I	Chucking close detection input terminal. L= Unlock
46	+5V	I	Power supply terminal. (+5V)
47	OPEN	O	Loading motor control output terminal. L= Open the tray.
48	CLOSE	O	Loading motor control output terminal. L= Close the tray.
49	OPEN.SW	I	Detection input terminal for tray open switch. L= Open the tray.
50	CLOSE.SW	I	Detection input terminal for tray close switch. L= Close the tray.
51	CURRENT	I	Detection input signal of over current for the loading motor.
52	ROTR	O	Roulette motor control terminal. L= Clockwise direction.
53	ROTL	O	Roulette motor control terminal. L= Counter clockwise direction.
54	ROTHI	O	Roulette motor speed control terminal.
55	STOP.SENS	I	Detection input terminal of the carousel rotation at stop position.
56	POS.SENS	I	Detection input terminal of the carousel rotation.
57	DISC.SENS	I	Detection input terminal of the disc sensor.
58	POWERLED	O	Power LED control terminal. H= Power on
59	POWERON	I	Power control terminal from the main PC board. H= Power on
60	PWRCTRL33	O	Power supply (3.3V) control terminal. H= Power on
61	PWRCTRL25	O	Power supply (2.5V) control terminal. H= Power on
62-64		O	Not used. (Open terminal)
65	FLON	O	Power supply terminal for the FL tube.
66		O	Not used. (Open terminal)
67-78	P1-P12	O	Segment output terminals.
79	VFL	I	Power supply for the FL tube.
80-86	P13-P19	O	Segment output terminals.
87-100	20G-1G	O	Grid output terminals.

4. Confirmation of content of writing (all destinations)
 - 4-1. The power supply is turned on, and press the STANDBY/ON button to turn on the DVD player.
 - 4-2. The "STOP" key and the "SKIP-DOWN" key are pushed at the same time in the state of No Disc.
 - 4-3. It is confirmed that the display of monitor is as follow.

MDD1N area

ROM1	Version	V*.*	-R1
ROM2	Version	V*.*	
OSD	Eng/Fre/spa		
VCD	On	BUZZER	Off
A.3D	On	RANDOM	On
KARA	Off	DTS	On
VOCAL	Setup	DIMMER	3typ
V.3D	Off	V-FMT	Ntsc
JOG	Off	MPEG-A	On

MUS4P area

ROM1	Version	V*.*	-R4
ROM2	Version	V*.*	
OSD	Eng/Fre/spa		
VCD	On	BUZZER	Off
A.3D	Off	RANDOM	On
KARA	Off	DTS	On
VOCAL	Setup	DIMMER	2typ
V.3D	Off	V-FMT	Ntsc
JOG	Off	MPEG-A	On

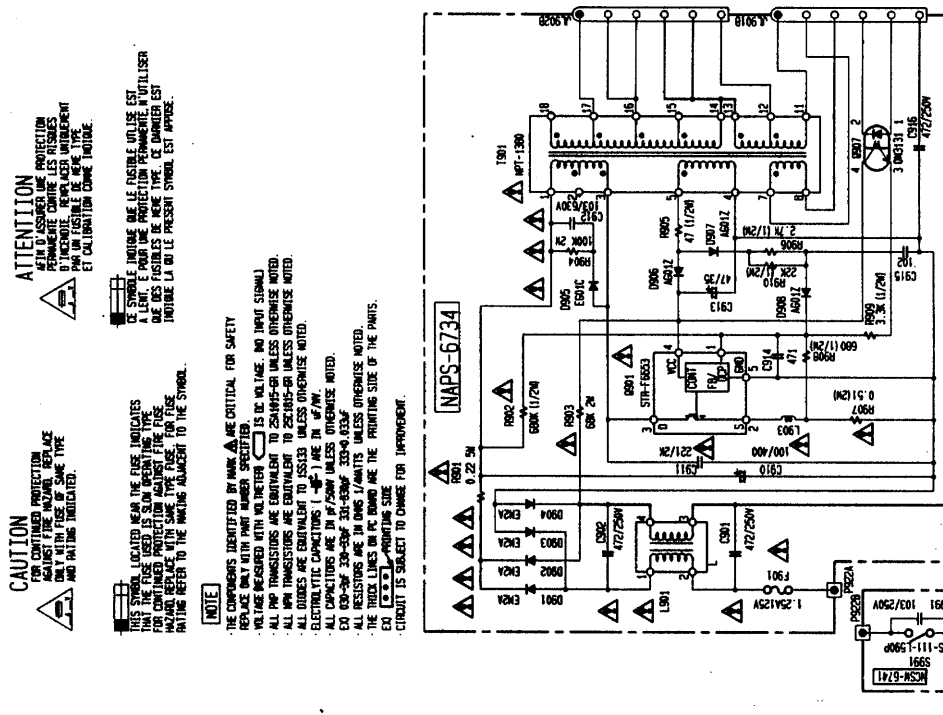
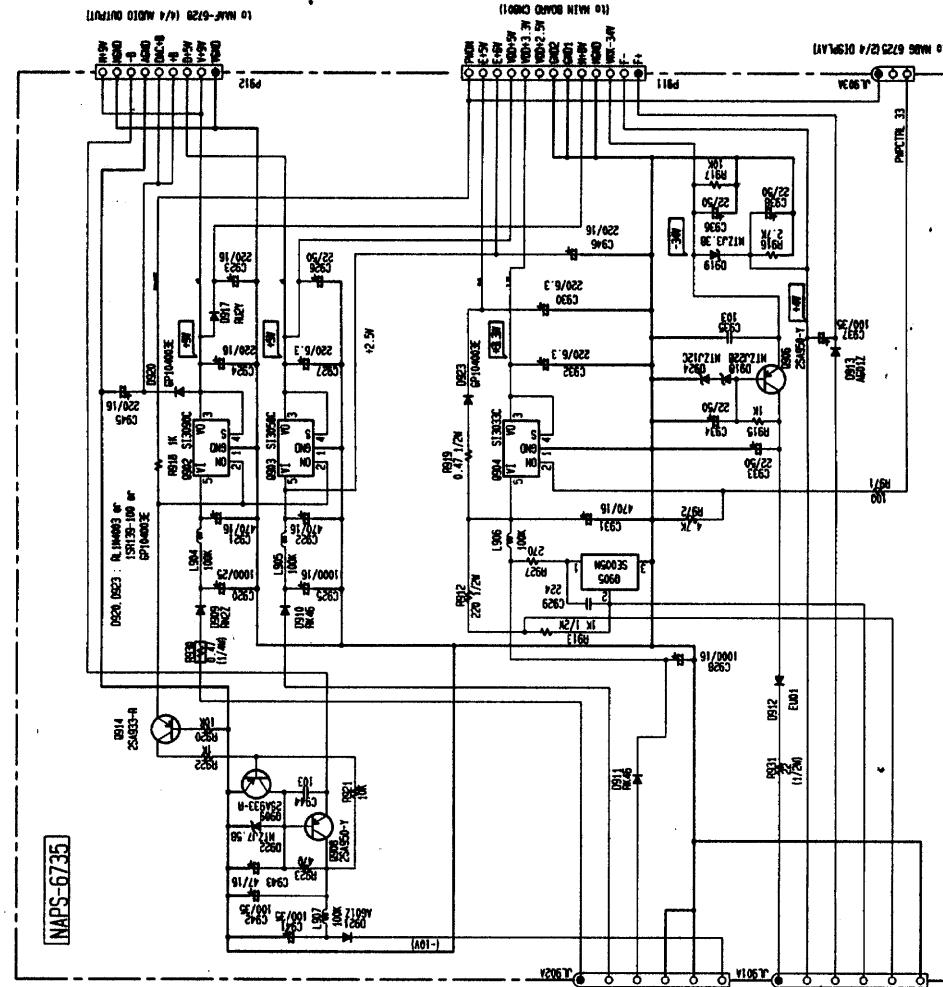
..* : Shown ROM version

5. Display confirmation of FL tube

All lighting of the FL tube only while "STOP" is being pushed when "STOP" key is pushed while pushing "SKIP-UP" key to the main body key.
6. Setting of the first setup screen mode
 - 6-1. The "STOP" key and the "DIMMER" key on the main body key are pushed at the same time in the state of No Disc.
 - 6-2. It is confirmed that the Setup screen goes out, and the character of "First Setup ON" has come out in lower right.
 - 6-3. The power supply again by On after turning off the power supply, and it is confirmed that the first setup screen goes out by Standby/ON mode. (Never push the Setup key here)
 - 6-4. The power supply is turned off, and the AC cord is pulled out.
7. Initialized of mechanism
 - 7-1. Press the DISC-5 key while pushing STANDBY/ON at standby condition.
 - 7-2. It is confirmed that the character of "First Setup ON" appears in the lower right of the display.
 - 7-3. It is confirmed to be displayed that the display of FL is "COMPLETE".
 - 7-4. The AC code is pulled out.

SCHEMATIC DIAGRAM 1

A B C D E F G



CAUTION

REPLACE WITH IDENTICAL PARTS ONLY IN PLACE OF SAME TYPE AND RATINGS INDICATED.

ATTENTION

REPLACE ONLY WITH PART NUMBER SPECIFIED. VALUE INDICATED WITH RESISTOR IS IN OHMS, AND JUMPS (SIGNAL) IS IN KILOHMS, UNLESS OTHERWISE NOTED.

NOTE

COMPONENTS IDENTIFIED BY MARK ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.

VOLTAGE MEASURED WITH MULTIMETER IS IN VOLTS, UNLESS OTHERWISE NOTED.

ALL DIMENSIONS ARE IN INCHES, UNLESS OTHERWISE NOTED.

ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.

ELECTROLYTIC CAPACITORS (E) ARE IN MICROFARADS.

ALL CAPACITORS ARE IN PICOFARADS, UNLESS OTHERWISE NOTED.

EXCEPT AS NOTED, ALL RESISTORS ARE IN OHMS, UNLESS OTHERWISE NOTED.

THE THICK LINES ON THIS BOARD ARE THE PRINTING SIDE OF THE BOARD.

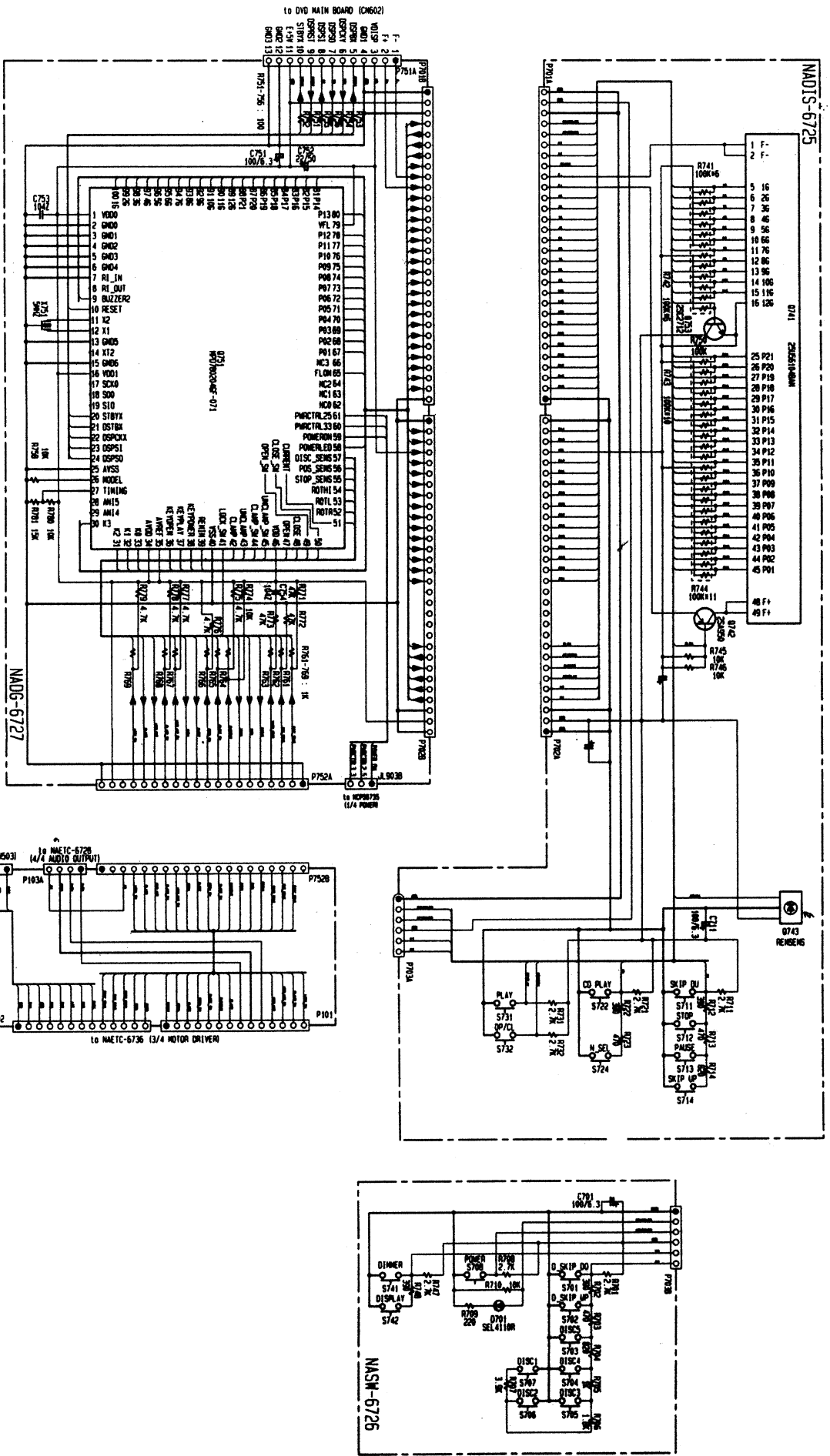
CHANGING BOARD SIZE OR COMPONENT SIZE OR CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

THIS SYMBOL LOCATED NEAR THE FUSE INDICATES THAT THE FUSE IS A SAFETY CRITICAL COMPONENT. FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE WITH SAME TYPE FUSE. FOR FUSE RATING REFER TO THE INQUIRY ATTACHMENT TO THE SYMBOL.

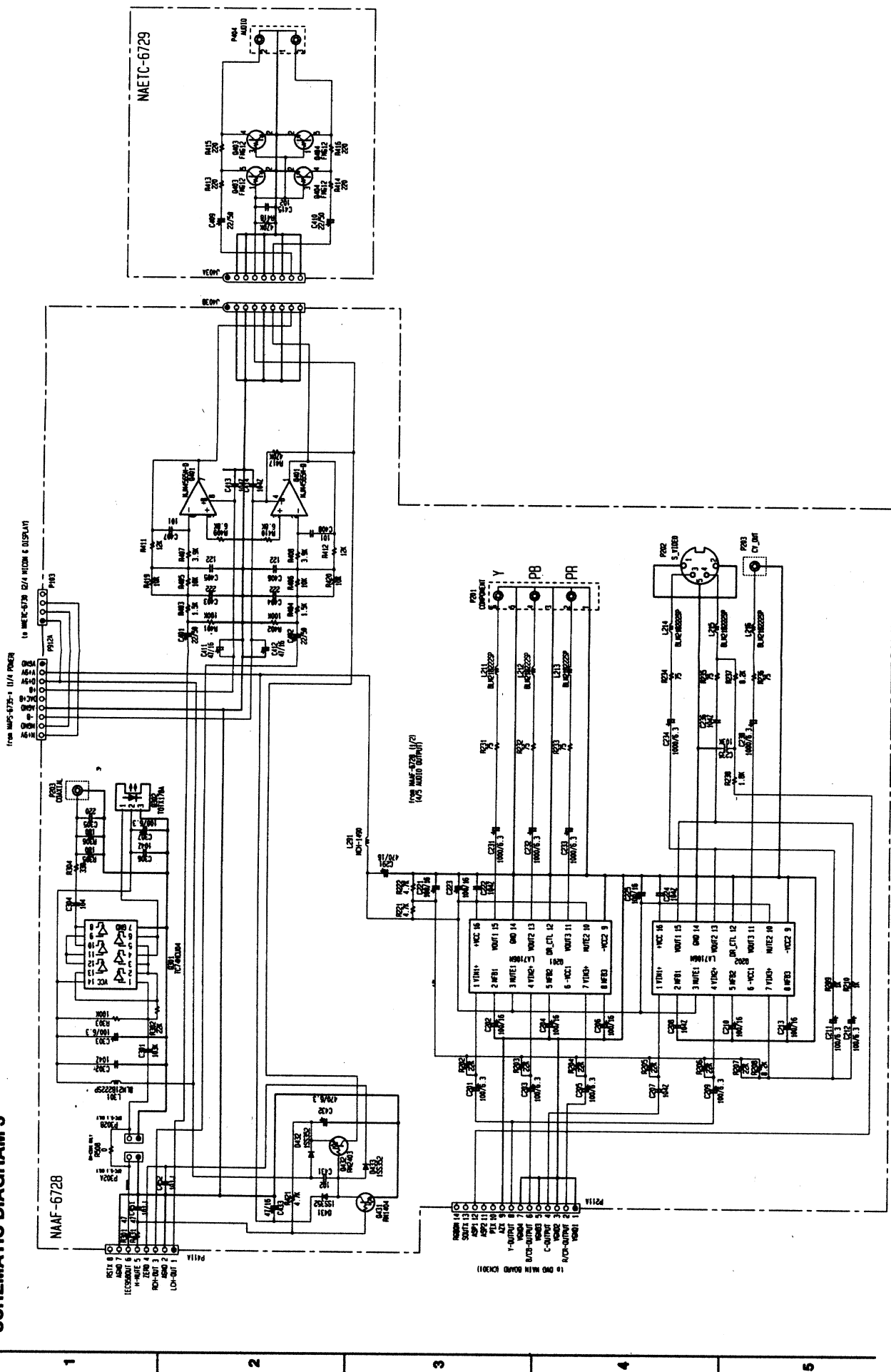
THIS SYMBOL LOCATED NEAR THE FUSE INDICATES THAT THE FUSE IS A SAFETY CRITICAL COMPONENT. FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE WITH SAME TYPE FUSE. FOR FUSE RATING REFER TO THE INQUIRY ATTACHMENT TO THE SYMBOL.

SCHEMATIC DIAGRAM 2

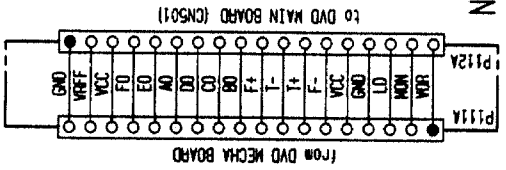
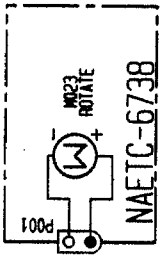
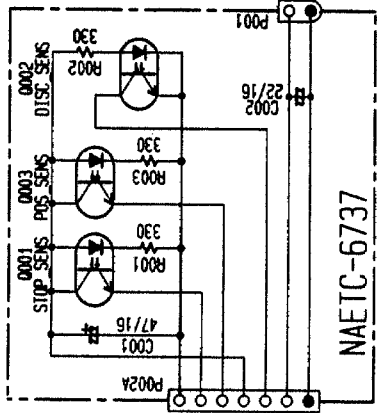
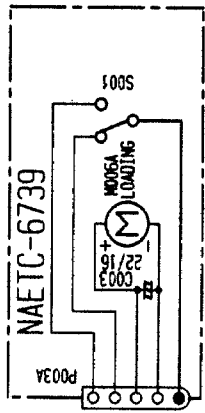
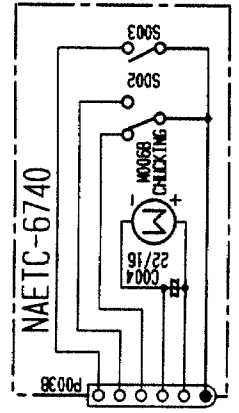
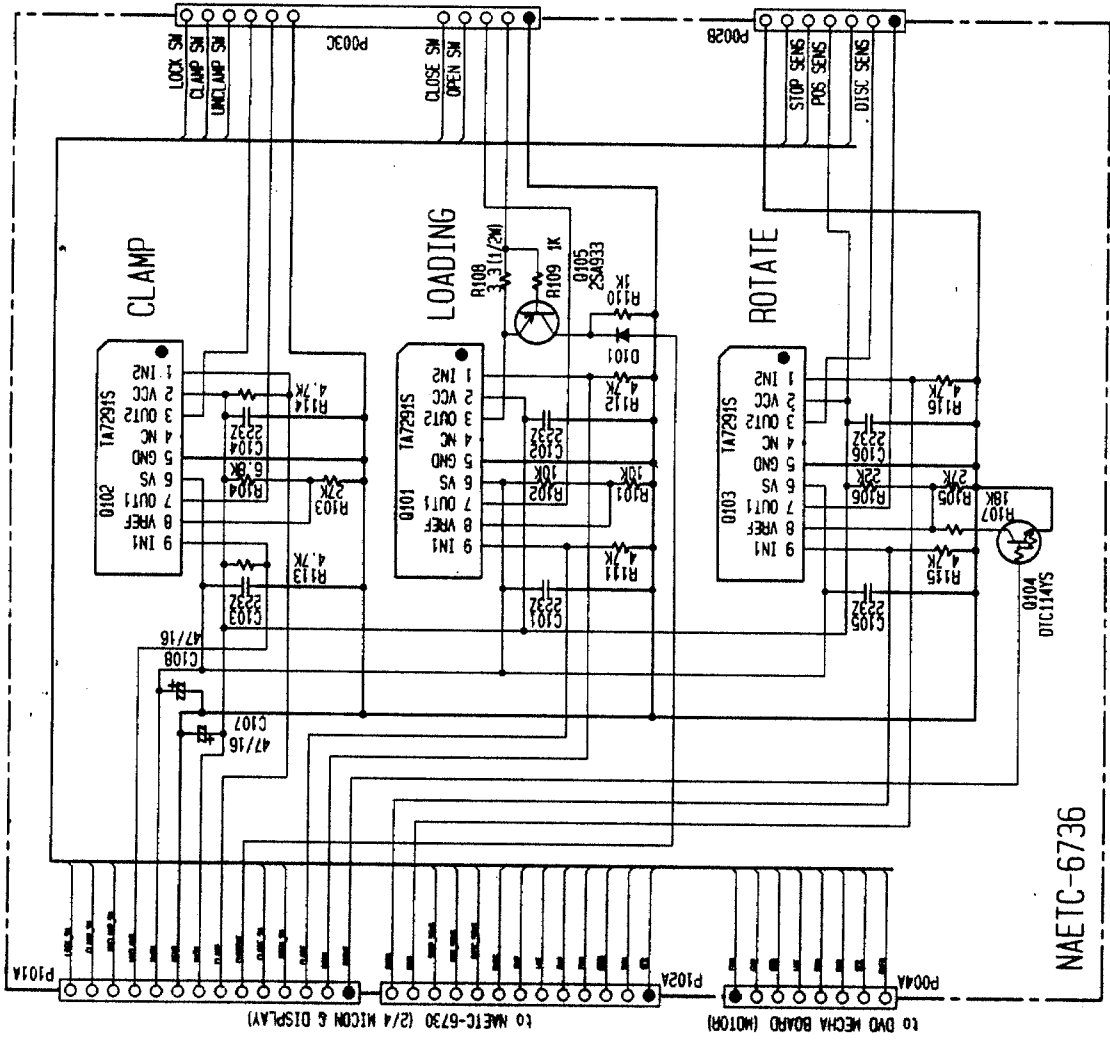
A | B | C | D | E | F | G



SCHEMATIC DIAGRAM 3



SCHEMATIC DIAGRAM 4



NAETC-673A

A B C D E F G

1 2 3 4 5

PRINTED CIRCUIT BOARD PARTS LIST

DISPLAY CIRCUIT PC BOARD (NADIS-6725-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q741	212209	25U56104BAN
	Remote sensor	
Q743	241329	PIC-26043TH2
	Transistor	
Q742	2211504	2SA950-Y
	Capacitor	
C711	355721019	100 μ F,6.3V, Elect
	Socket AS	
P703	200EE391220-1	NSAS-12P0801-1
	Sockets	
P701A,P702A	25052226 or 25051874 or 25052076	NSCT-30P2123 or NSCT-30P1661 or NSCT-30P1863
	Switches	
S711-S714, S-722,S724, S731,S732, S741,S742	25035652 or 25035704	NPS-111-S604 or NPS-111-S667
	Holder	
Q741A	27191091A	FL Tube

SWITCH PC BOARD (NASW-6726-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	LED	
D701	225290 or 225373	SEL4110R or LH2140 TBF-5 <<MD>
	Sockets	
P701B,P702B	25052263 or 25050970 or 25051296 or 25051837 or 25052039	NSCT-30P2160 or NSCT-30P757 or NSCT-30P1085 or NSCT-30P1624 NSCT-30P1826
P751A	25051937 or 25051728 or 25052313	NSCT-13P1724 or NSCT-13P1515 or NSCT-13P2210
P752A	25052216 or 25050960 or 25051286 or 25051827 or 25052029	NSCT-20P2113 or NSCT-20P747 or NSCT-20P1075 or NSCT-20P1614 or NSCT-20P1816
	Switches	
S701-S708	25035652 or 25035704	NPS-111-S604 or NPS-111-S667
	Capacitor	
C701	355721019	100 μ F,6.3V, Elect
	Holder	
D701A	27191103	(LED)
	Plug	
JL903B	25055624	NPLG-3P586

MICROPROCESSOR PC BOARD(NADG-6727-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q751	22241425R3	MPD780208GF-071
	Transistor	
Q753	2213143R2	2SC2712-O
	Cera lock	
X751	3010242	CST5.00MGW
	Capacitors	
C751	354782209	22 μ F,50V, Elect.
C752	354721019	100 μ F,6.3V, Elect.

OUTPUT PC BOARD (NAAF-6728-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q201,Q202	22241465R2	LA7106MFP
Q301	222740046R2	74HCU04F
Q401	22241383R2	NJM4565M-D
	Photo coupler	
Q302	24120031	TOTX178A
	Transistor	
Q431	2214490R2	RN1404
Q432	2214540R2	RN2403
	Diodes	
D431-D433	223234R2 or 223233R1	1SS352 or 1SS355
	Choke coils	
L301	230921R2 or 230952R2	BLM21B222SPT or BK2125LM182-T
L291	231253K100 or 231295K100	NCH-1490 or NCH-1575
	Sockets	
P103	25052287	NSCT-4P2184
P202	25051750	NSCT-4P1537
P211A	25051938 or 25051729 or 25052314	NSCT-14P1725 or NSCT-14P1516 or NSCT-14P2211
P411A	25051932 or 25052308 or 25052308 or 25052502	NSCT-8P1719 or NSCT-8P2205 or NSCT-8P2205 or NSCT-8P2399
JL403B	25055630	NPLG-9P592
	Sockets AS	
P405	200BB190415UL	NSAS-4P0816 <MD>
	Pin jacks	
P201	25045590	NPJ-3PDB401
P203	25045621	NPJ-2PDOY428 <MD>
	Plug	
P912A	25055153	NPLG-9P137
	Capacitors	
C201,C203,C205, C209,C211,C212, C303,C307,C307	354721019	100 μ F,6.3V, Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
C231-C234,C238	354721029	1000 μ F,6.3V, Elect.
C202,C204,C206, C210,C213,C221, C225	354741019	100 μ F,16V, Elect.
C291	354744719	470 μ F,16V, Elect.
C401,C402	354782209	22 μ F,50V, Elect.
C411,C412,C433	354744709	47 μ F,16V, Elect.
C432	354722229S	2200 μ F,6.3V, Elect.
	Wire holder	
JL403A	25051093	NSCT-9P880

5.1CH OUTPUT PC BOARD (NAETC-6729-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q403,Q404	2215940R2	FMG12
	Pin jack	
P404	25045371	NPJ-2PDRW214
	Capacitors	
C409,C410	354782209	22 μ F,50V, Elect.

CONNECTION PC BOARD (NAETC-6730-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Sockets	
P005A	25051932 or 25051723 or 25052308 or 25052502	NSCT-8P1719 or NSCT-8P1510 or NSCT-8P2205 or NSCT-8P2399 or
P101	25052297	NSCT-14P2194
P102	25052296	NSCT-13P2193
P752B	25052216 or 25050960 or 25051286 or 25051827 or 25052029	NSCT-20P2113 or NSCT-20P747 or NSCT-20P1075 or NSCT-20P1614 or NSCT-20P1816
	Plug	
P103A	25056009	NPLG-4P0959

LD SHORT PC BOARD (NAETC-6731-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
P111A,P112A	25051900 or 25052355 or 25052539	NSCT-18P1687 or NSCT-18P2252 or NSCT-18P2436

POWER SWITCH PC BOARD (NASW-3741-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Switches	
S991	25035703 or 25035550	Δ NPS-111-L666P or Δ NPS-111-L512P
	Capacitor	
C991	3500196S	Δ 0.01 μ F \pm 5%, 250V, ISC <D>
C991	3500077	Δ 0.047 μ F \pm 5%, 250V, ISC <SA>

1ST POWER SUPPLY PC BOARD (NAPS-6734-2A /2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q901	22241229	STR-F6653
	Photo coupler	
Q907	24120044	ON3131-R
	Diodes	
D901-D904	22380287F	Δ EM2A
D905	22380291	Δ EG01C
D906-D908	22380294	AG01Z
	Coils	
L903	230906	BL02RN2-R62, FR core
L901	231280	NCH-3561, Choke coil
	Capacitors	
C901,C902, C916	3500077	Δ 4700pF \pm 5%, Plastic
C910	3500199S	Δ 100 μ F,400V, Elect.
C911	3000115	Δ 220pF \pm 5%,2000V, Plastic
C912	3000114	Δ 0.01 μ F,630V, Plastic
C913	354764709	47 μ F,35V, Elect.
	Resistors	
R901	4500018	Δ BPR58FK-0.22 or 4000076 Δ MPC74-5WK-0.22, Metal plate
R902	411566844 or 411516844	Δ 680k Ω \pm 5%, 1/2W, Carbon Δ
R903	441726834	Δ 68k Ω \pm 5%, 2W, Metal oxide
R904	441721044	Δ 100k Ω \pm 5%, 2W, Metal oxide
R905	443524704	47 Ω \pm 5%, 1/2W, Metal oxide
R906	443522724	2.7k Ω \pm 5%, 1/2W, Metal oxide
R907	451735194F	Δ 0.51 Ω \pm 5%, 2W, Metal
R908	443526814	680 Ω \pm 5%, 1/2W, Metal oxide
R909	443523324	3.3k Ω \pm 5%, 1/2W, Metal oxide
R910	443522234	22k Ω \pm 5%, 1/2W, Metal oxide
	Power transformer	
T901	2301432	Δ NPT-1380
	Fuse holders	
F901A,F901B	25052133	Δ NSCT-1P2031
	Sockets	
JL901A,JL902A	25051110	NSCT-6P897
JL901B,JL902B	25050283	NSCT-6P111
	Jumper leads	
JL901,JL902	6J100606H	JL6 100 H
JL903	3J200606B15	JL3 200 B
	AC inlet	
P951A	25056006	Δ NPLG-2P956 <MD>
P951A	25056027	Δ NPLG-2P977 <SA>
	Capacitor	
C910	3500199S or	Δ 100 μ F,400V, Elect. <MD>
	Fuse labels	
E902	29362309	1.25A/125V <MD>
	29361580	T1.25AL250V <SA>
	Screw	
Q901B	838430107	3TTB+10S(BC)

CIRCUIT NO. PART NO. DESCRIPTION
SENSOR PC BOARD (NAETC-3737-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
		Photo interrupters
Q001,Q003	24190041	SG-207
Q002	24190046	GP2S28
		Capacitors
C001	354744709	47 μ F,16V, Elect.
C002	352942206	22 μ F,16V, Elect.
		Sockets
P002A	25051851 or 25050913	NSCT-7P1638 or NSCT-7P700

ROULETTE MOTOR PC BOARD (NAETC-3738-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
P001	200EE390205 or 200EE390205-1	NSAS-4P0777 or NSAS-4P0777-1, Socket

LOADING MOTOR PC BOARD (NAETC-6739-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
		Switch
S001	25065375	NMS-1219, Micro switch
		Capacitor
C003	352942206	22 μ F,16V, Elect.
		Socket AS
P003	2009990576	NSAS-22P0785

CHUCKING MOTOR PC BOARD (NAETC-3740-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
		Switches
S002	25065375	NMS-1219, Micro
S003	25065592	NMS-22045, Micro
		Capacitor
C004	352942206	22 μ F,16V, Elect.

MOTOR DRIVE PC BOARD (NAETC-6736-2A/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
		ICs
Q101-Q103	22240239	TA7291S
		Transistors
Q104	221281 or 2213570 or 2216050	DTC114YS or RN1207 or KRC107M
Q105	2215995 or 2213354 or 2213355	KTA1267-GR or 2SA933S-R or 2SA933S-S
		Diode
D101	223163 or 223205	1SS133 or 1SS270A

CIRCUIT NO. PART NO. DESCRIPTION

		Capacitors
C107,C108	354744709	47 μ F,16V, Elect.
		Resistor
R108	453530334	3.3 Ω \pm 5%,1/2W, Metal
		Sockets
P002B	25051851 or 250509131 or 25052053	NSCT-7P16381 or NSCT-7P7001 or NSCT-7P1840
P004A	250518901 or 250523451 or 25052345	NSCT-8P16771 or NSCT-8P22421 or NSCT-8P2242
		Plugs
P101A	25056019	NPLG-14P0969
P102A	25056018	NPLG-13P0968
P003C	25055375	NPLG-11P358

2ND POWER SUPPLY PC BOARD (NAPS-6735-2A/2C)

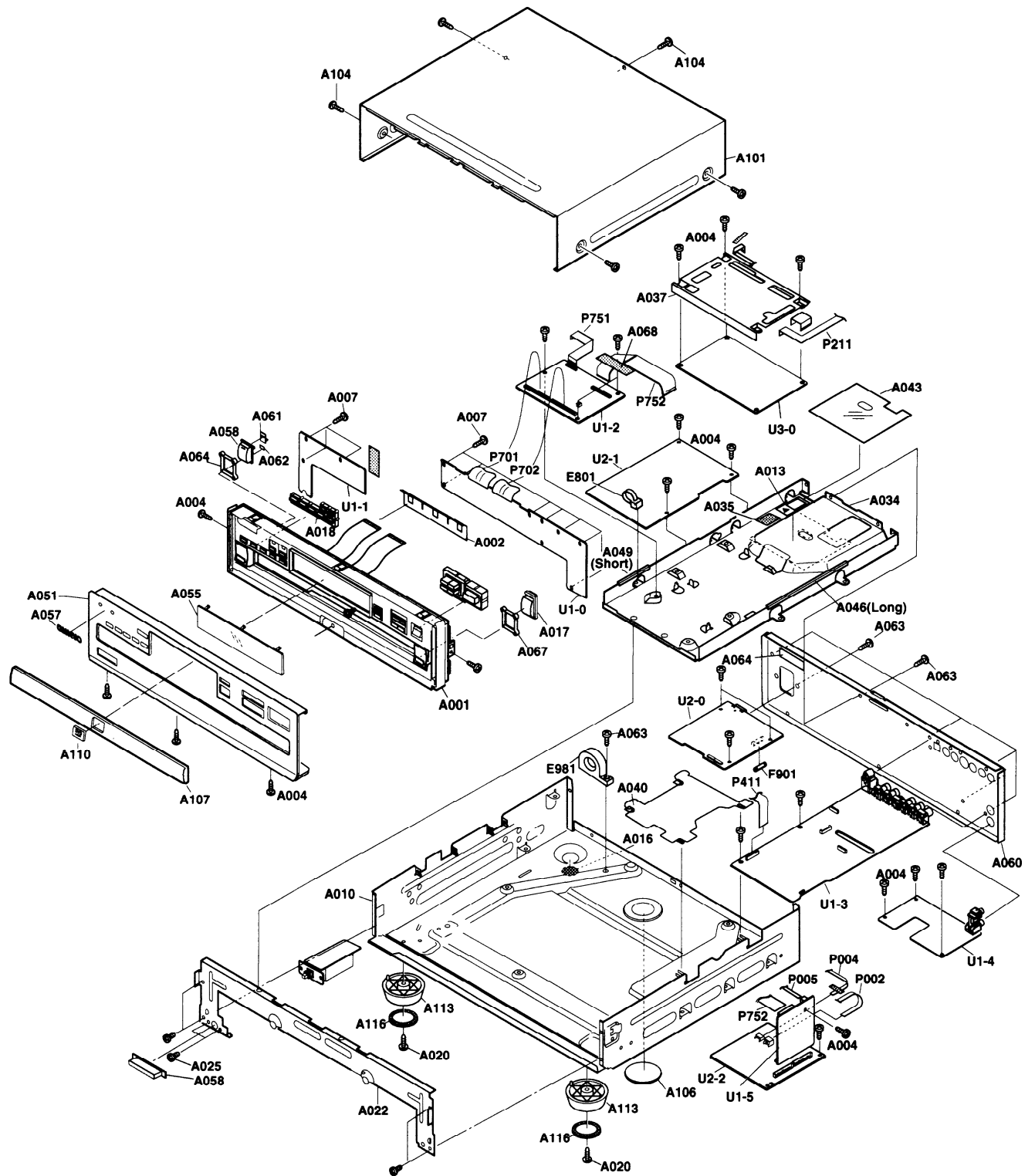
CIRCUIT NO.	PART NO.	DESCRIPTION
		ICs
Q902	22241230	SI3090C
Q903	22241231	SI3050C
Q904	22241232	SI3033C
Q905	22241233	SE005N
		Transistors
Q906,Q908	2211504	2SA950-Y
Q909,Q914	2215995 or 2213354 or 2213355	KTA1267-GR or 2SA933S-R or 2SA933S-S
		Diodes
D909	22380295F	RN2Z
D910,D911	22380296F	RK46
D912	22380297	EU01
D913,D921	22380294	AG01Z
D917	22380300F	RU2YX
D918	224472204	MTZJ22D, Zener
D919	224470332	MTZJ3.3B, Zener
D920,D923	22380260 or 22380032 or 22380035	RLIN4003 or 1SR139-100 or GP104003E
D922	224470753	MTZJ7.5C, Zener
D924	224471202	MTZJ12B, Zener
		Coils
L904-L907	231253K100	NCH-1490, Choke

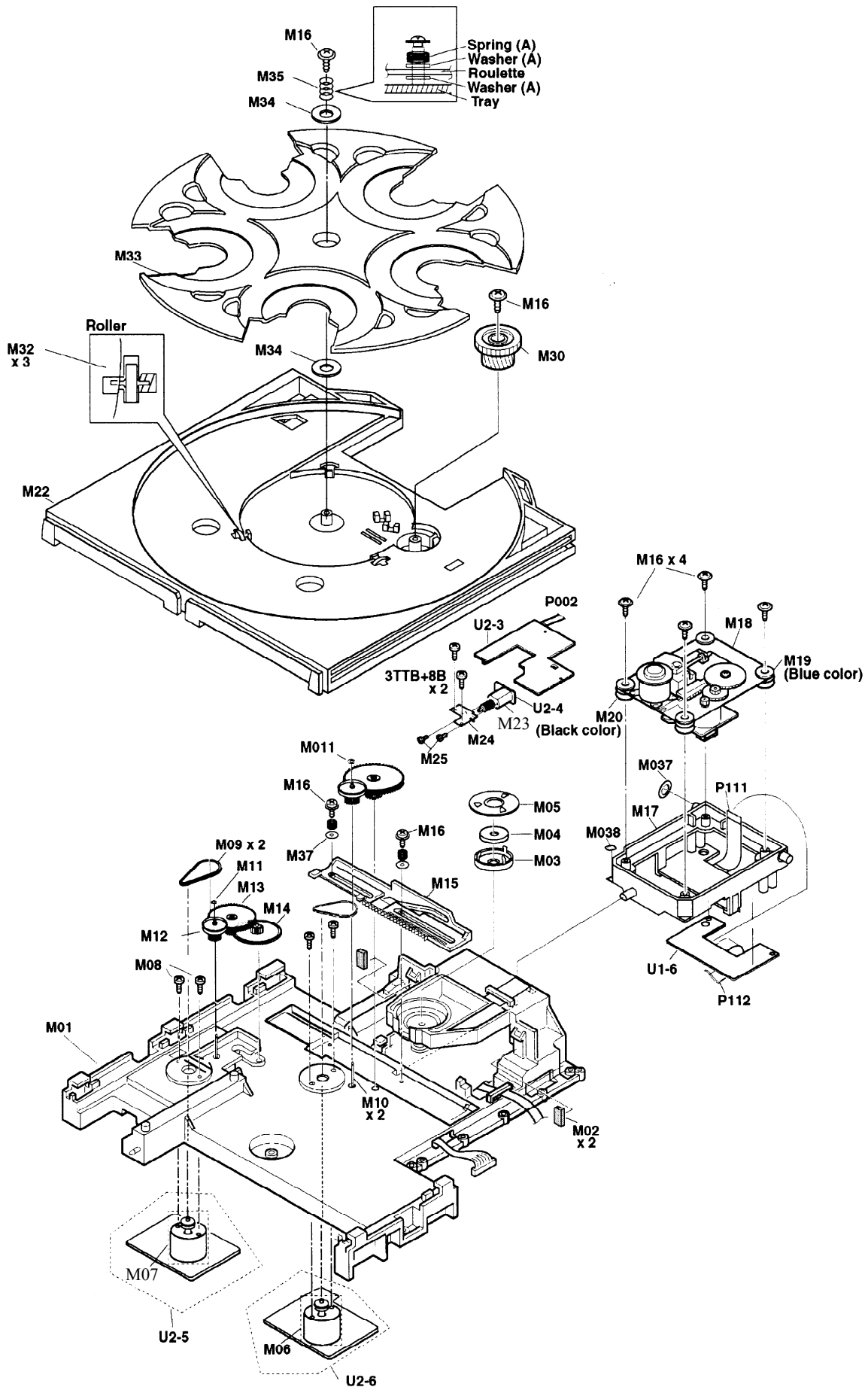
CIRCUIT NO.	PART NO.	DESCRIPTION
Capacitors		
C920	393751027S	1000 μ F, 25V, Elect.
C921, C922, C931	354744719	470 μ F, 16V, Elect.
C923, C924, C94	354742219	220 μ F, 16V, Elect.
C925, C928	393741027S	1000 μ F, 16V, Elect.
C926, C927, C930	354722219	220 μ F, 6.3V, Elect.
C932, C946		
C929	374722244	0.22 μ F \pm 5%, 50V, Plastic
C933, C934, C936	354782209	22 μ F, 50V, Elect.
C938		
C935, C944	374721034	0.01 μ F \pm 5%, 50V, Plastic
C937, C941, C942	354761019	100 μ F, 35V, Elect.
C943	354744709	47 μ F, 16V, Elect.
Resistors		
R912	443522214	220 Ω \pm 5%, 1/2W, Metal oxide
R913	443521024	1k Ω \pm 5%, 1/2W, Metal oxide
R919	453534794	0.47 Ω \pm 5%, 1/2W, Metal
R930	4500163	0.47 Ω \pm 5%, 1/4W, Metal
R931	443522204	22 Ω \pm 5%, 1/2W, Metal oxide
Socket AS		
P911B	2002A392640-1	NSAS-26P0800-1
P912	2002A391850	NSAS-18P0778
P981	2009990610	NSAS-2P0830
Plug		
P981C	25055675	NPLG-2P631
Wire holder		
JL903A	25051087	NSCT-3P874
Heat sinks		
Q901A	27160412 or 27160428	RAD-111 or 17PB23L30
Heat sinks		
Q902A	27160145-1	RAD-51
Q903A	27160459	RAD-130
Screws		
Q903B, Q904B	801433	3SMS8W.SW+14B(BC)
Q902B	838430107	3TTB+10S(BC)

NOTE:
THE COMPONENT IDENTIFIED BY MARK Δ
ARE CRITICAL FOR RISK OF FIRE AND
ELECTRIC SHOCK. REPLACE ONLY WITH
PART NUMBER SPECIFIED.

NOTE:
 <MD>: 120V model only
 <SA> : South America model only

EXPLODED VIEW





EXPLODED VIEW PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A001	27111149A	Front bracket	U1-0	1H434525-2A	NADIS-6725-2A, Display circuit PC board ass'y <MD>
A002	27150451	Shield plate	U1-0	1H434525-2C	NADIS-6725-2C, Display circuit PC board ass'y <SA>
A004	838130088	3TTB+8B, Tapping screw	U1-1	1H434526-2A	NASW-6726-2A, Switch PC board ass'y <MD>
A007	838426088	2.6TTB+8B(BC), Tapping screw	U1-1	1H434526-2C	NASW-6726-2C, Switch PC board ass'y <SA>
A010	27100380B	Chassis	U1-2	1H434527-2A	NADG-6727-2A, Microprocessor PC board ass'y <MD>
A013	29362584	Label (DVD)	U1-2	1H434527-2C	NADG-6727-2C, Microprocessor PC board ass'y <SA>
A016	28141410	Cushion	U1-3	1H434528-2A	NAAF-6728-2A, Output PC board ass'y <MD>
A020	831430088	3TTW+8B(BC), Tapping screw	U1-3	1H434528-2C	NAAF-6728-2C, Output PC board ass'y <SA>
A022	27130830B	Bracket (F)	U1-4	1H434529-2A	NAETC-6729-2A, 5.1ch output PC board ass'y <MD>
A025	838430167	3TTB+16S(BC), Tapping screw	U1-4	1H434529-2C	NAETC-6729-2C, 5.1ch output PC board ass'y <SA>
A034	27130831	Bracket (PC)	U1-5	1H434530-2A	NAETC-6730-2A, Connection PC board ass'y <MD>
A035	28141428	Cushion	U1-5	1H434530-2C	NAETC-6730-2C, Connection PC board ass'y <SA>
A037	27225143E	Chassis case	U1-6	1H434531-2A	NAETC-6731-2A, LD short PC board ass'y <MD>
A040	28175258A	Isolation plate (A)	U1-6	1H434531-2C	NAETC-6731-2C, LD short PC board ass'y <SA>
A043	28175259	Isolation plate (B)	U2-0	1H434534-2A	NAPS-6734-2A, 1st Power supply PC board ass'y <MD>
A046	27268003	Guide (EDGING)	U2-0	1H434534-2C	NAPS-6734-2C, 1st Power supply PC board ass'y <SA>
A049	27268004	Guide (EDGING)	U2-1	1H434535-2A	NAPS-6735-2A, 2nd Power supply PC board ass'y <MD>
A051	27212171	Front panel <MD>	U2-1	1H434535-2C	NAPS-6735-2C, 2nd Power supply PC board ass'y <SA>
A051	27212172	Front panel <SA>	U2-2	1H434536-2A	NAETC-6736-2A, Motor drive PC board ass'y <MD>
A055	28191874	Clear plate	U2-2	1H434536-2C	NAETC-6736-2C, Motor drive PC board ass'y <SA>
A057	28135244	Badge	U2-3	1H434537-2A	NAETC-3737-2A, Sensor PC board ass'y <MD>
A058	28325497A	Knob (POW)	U2-3	1H434537-2C	NAETC-3737-2C, Sensor PC board ass'y <SA>
A060	27122689A	Rear panel <MD>	U2-4	1H434538-2A	NAETC-3738-2A, Roulette motor PC board ass'y <MD>
A060	27122688	Rear panel <SA>	U2-4	1H434538-2C	NAETC-3738-2C, Roulette motor PC board ass'y <SA>
A061	28198902	Facet	U2-5	1H434539-2A	NAETC-6739-2A, Loading motor PC board ass'y <MD>
A062	28199225	Film	U2-5	1H434539-2C	NAETC-6739-2C, Loading motor PC board ass'y <SA>
A063	838130088	3TTB+8B, Tapping screw <SA>	U2-6	1H434540-2A	NAETC-3740-2A, Chucking motor PC board ass'y <MD>
A063	834430088	3TTS+8B(BC), Tapping screw <MD>	U2-6	1H434540-2C	NAETC-3740-2C, Chucking motor PC board ass'y <SA>
A064	△ 29360626-1	Fuse label <MD>	U2-7	1H434541-2A	NASW-3741-2A, Power switch PC board ass'y <MD>
A064	27268005	Guide (L)	U2-7	1H434541-2C	NASW-3741-2C, Power switch PC board ass'y <SA>
A067	27268006	Guide (R)	U3-0	24150014	SD-30B1 Main circuit PC board ass'y
A068	29110083	Cloth tape			
A101	28184770	Top cover			
A104	838430088	3TTB+8B(BC), Tapping screw			
A106	27270397	Spacer			
A107	28148429	Door			
A110	27262651	Plate (DVD)			
A113	27175316B	Leg			
A116	28141332	Cushion			
E801	260208	Wire tie			
F901	△ 252157	Fuse, 1.25A-UL/T-237 <MD>			
F901	△ 252071	Fuse, 1.25A-SE-EAWK FUSE <SA>			
P002	2046071722	NCFC6-071722, Flexible flat cable			
P004	2042081512	NCFC2-081512, Flexible flat cable			
P005	2045082712	NCFC5-082712, Flexible flat cable			
P111	2042180512	NCFC2-180512, Flexible flat cable			
P112	2042180512	NCFC2-183012, Flexible flat cable			
P211	2045142212	NCFC5-142212, Flexible flat cable			
P411	2045081012	NCFC5-081012, Flexible flat cable			
P701	2043300102	NCFC7-301012, Flexible flat cable			
P702	2043300102	NCFC7-301012, Flexible flat cable			
P751	2045131012	NCFC5-131012, Flexible flat cable			
P752	2047202512	NCFC7-202512, Flexible flat cable			
E981	△ 230910 or	ESD-R-25DB or			
E981	△ 230945	NFY-25 BLACK, Core			

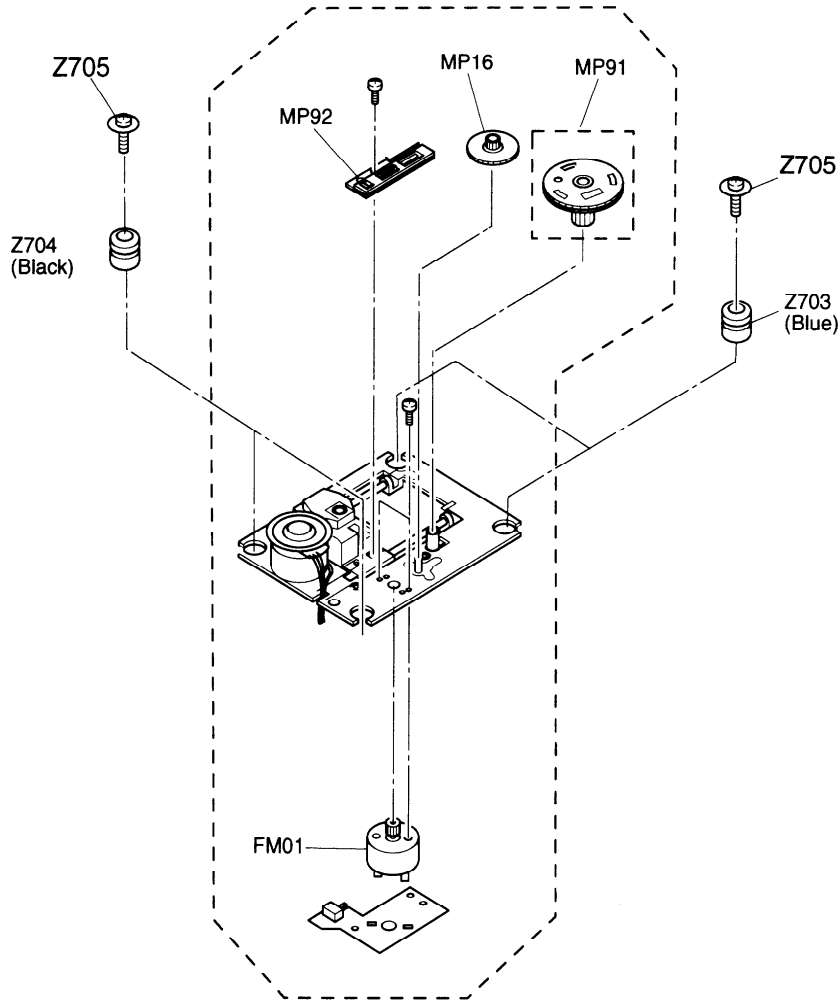
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
M01	24840138B	Rail	M38	24836041	Cushion t=0.5
M02	28141337	Cushion	M40	24834042	Washer (D)
M03	24824028	Cap (CHD)	M41	24820033	Spring (A)
M04	24832028	Magnet (CHC)	M42	24834043	Washer (E)
M05	24830028	Yoke (CHC)	M43	27141761	Retainer (RAIL)
M06	1H432901	Chucking motor ass'y	M44	24834041	Washer (C)
M07	1H432902	Tray loading motor ass'y	M45	838130088	3TTB+8B, Tapping screw
M08	833126047	2.6TTP+4S, Tapping screw			
M09	24816036	Rubber belt			
M10	24828029	Shaft (PULLEY)			
M11	24834040	Washer (B)			
M12	24810071	Gear (PULLEY)			
M13	24810070	Gear (A)			
M14	24810069	Gear (LOAD)			
M15	24840140	Plate (CAM)			
M16	24840111	Tapping screw			
M17	24802046A	Chassis (SUB)			
M18	24801003	SD-2109K1-ZX, DVD mechanism			
M19	24818013	Insulator (A)			
M20	24818036	Insulator (C)			
M22	24840137A	Tray			
M23	1H432903	Roulette motor ass'y			
M24	24840139	Bracket (M)			
M25	82142003	2P+3F(BC), Pan head screw			
M30	24810067	Gear (WHEEL)			
M32	24840110	Roller			
M33	24840136A	Roulette			
M34	24834016	Washer (A)			
M35	24820033	Spring (A)			
M37	24834041	Washer (C)			

NOTE:
THE COMPONENT IDENTIFIED BY MARK Δ
ARE CRITICAL FOR RISK OF FIRE AND
ELECTRIC SHOCK. REPLACE ONLY WITH
PART NUMBER SPECIFIED.

NOTE:
 <MD>: 120V model only
 <SA> : South America model only

DVD MECHANISM EXPLODED VIEW AND PARTS LIST

Z701 Traverse mechanism



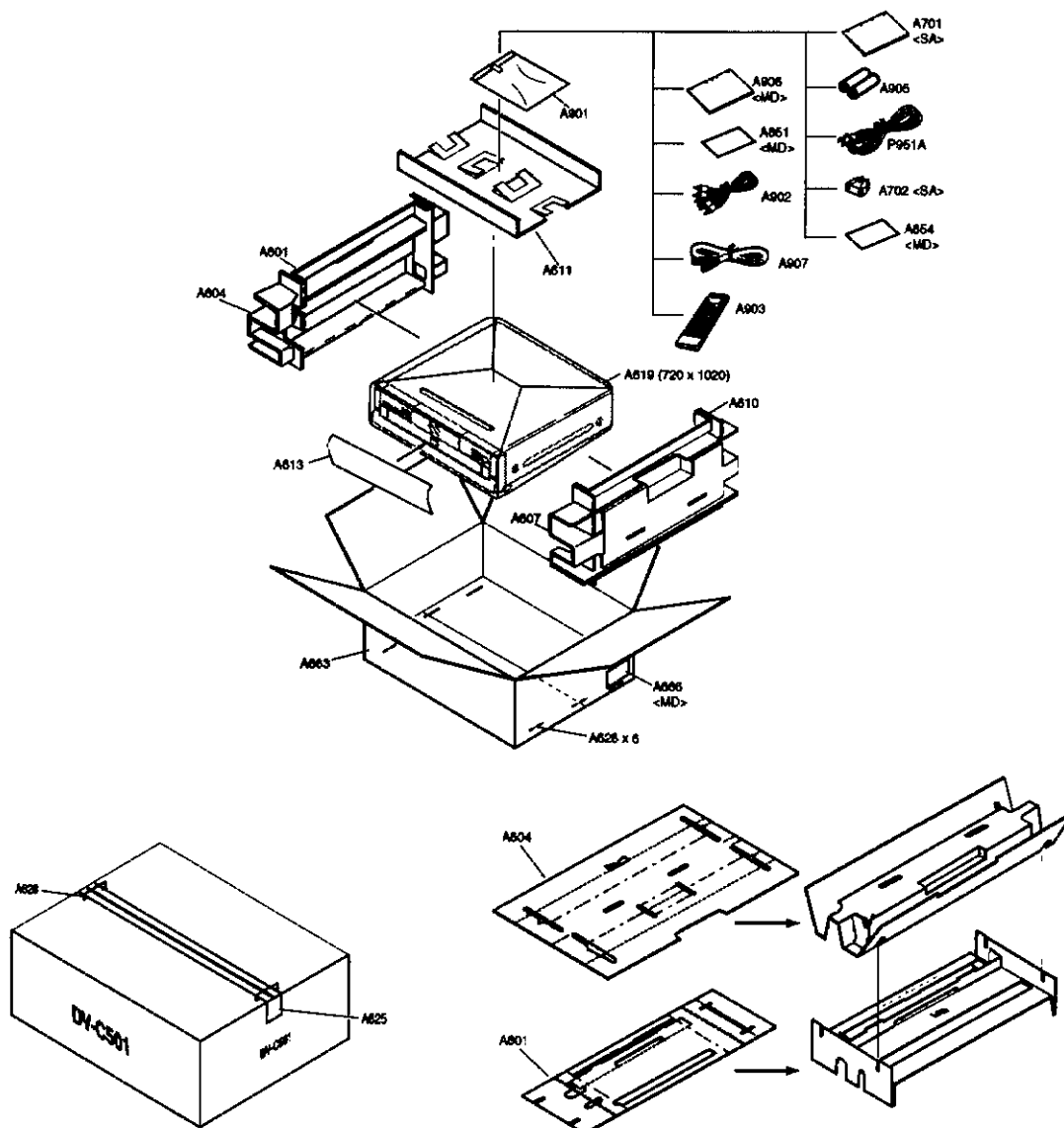
PARTS LIST

REF No.	PART No.	DESCRIPTION
MP91	79070419	Gear ass'y kit B
MP92	79070420	Gear ass'y rack
FM01	79070421	Motor ass'y feed
MP16	79070422	Gear A
Z703	24818038A	Insulator, (A)
Z704	24818039A	Insulator, (B)
Z705	801589	Special screw, (A)

MAIN PC BOARD PARTS LIST

Ref. No.	Part No.	Description
IC202	79040154	IC, TC203G08AF-0103(Z)
IC301	79040122	IC, MD36710X
IC303	79040096	IC, ADV7170KS
IC401	79040224	IC, TC9489F(BS,DRY)
IC502	79040225	IC, TA1313F(DRY)
IC503	79040150	IC, KA3032
IC601	79040226	IC, S-24C01BFJ-TB-0
IC604	79040230	IC, TMP94CS40AF-1A73
IC606	79040153	IC, MBM29F800BA55TN
IC608	79040159	IC, MBM29F400BC55TN
IC903	79040227	IC, PLL1700E-T
IC906	79040228	IC, PCM1716E-T

PACKING VIEW / PARTS LIST



PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A601	29091896	Pad (L)A	A663	29053552	Carton box <SA>
A604	29091897	Pad (L)B	A666	29362577	UPC Label ass'y <MD>
A607	29091898	Pad (R)A	A666	29362580	EAN Label ass'y <SA>
A610	29091899	Pad (R)B	A906	29342845	Instruction manual E <MD>
A611	29091917	Pad(TOP)	A701	29342847	Instruction manual (U3FSI) <SA>
A613	29095869-1	Sheet (Door)	A901	29100097-1A	Poly bag (350*250)
A619	29095847	Sheet (720 x 1020)	A902	2010379	Pin cord ass'y, RCA3P(YWR)
A625	29110071	Tape	A903	24140417	Remote controller, RC-417DV
A628	282301	Staple, 8pcs	A905	3010054	Battery, UM-3
A651	29365083A	Warranty card <MD>	A907	2010380	Cord ass'y (S CORD)
A654	29355328	Instruction sheet (PAC) <MD>	P951A	△ 253296HIT	AC-UC-2, Power cord <MD>~
A663	29053551	Carton box <MD>	P951A	△ 253299HIT	AS-CEE, Power cord <SA>
			A702	25055911	CV Plug <SA>

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NOTE:
 <MD>: 120V model only
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