TOSHIBA

FILE NO. 810-200631GR
Revision 1

SERVICE MANUAL

HD DVD PLAYER

HD-XA1KN
HD-A1SN
HD-D1KN

(HD-XA1KN)

The above models are classified as green products (*1), as indicated by the underlined serial numbers. This Service Manual describes replacement parts for the green products. When repairing these green product(s), use the part(s) described in this manual and lead-free solder (*2).

For (*1) and (*2), see the next page.

DOCUMENT CREATED IN JAPAN, MARCH, 2006

(*1) GREEN PRODUCT PROCUREMENT

The EC is actively promoting the WEEE & RoHS Directives that define standards for recycling and reuse of Waste Electrical and Electronic Equipment and for the Restriction of the use of certain Hazardous Substances. From July 1, 2006, the RoHS Directive will prohibit any marketing of new products containing the restricted substances.

Increasing attention is given to issues related to the global environmental. Toshiba Corporation recognizes environmental protection as a key management tasks, and is doing its utmost to enhance and improve the quality and scope of its environmental activities. In line with this, Toshiba proactively promotes Green Procurement, and seeks to purchase and use products, parts and materials that have low environmental impacts.

Green procurement of parts is not only confined to manufacture. The same green parts used in manufacture must also be used as replacement parts.

(*2) LEAD-FREE SOLDER

This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. Lead-free solder must be used in the servicing and repair of this product.

WARNING

This product is manufactured using lead free solder.

DO NOT USE LEAD BASED SOLDER TO REPAIR THIS PRODUCT !

The melting temperature of lead-free solder is higher than that of leaded solder by 86°F to 104°F (30°C to 40°C). Use of a soldering iron designed for lead-based solders to repair product made with lead-free solder may result in damage to the component and or PCB being soldered. Great care should be made to ensure high-quality soldering when servicing this product especially when soldering large components, through-hole pins, and on PCBs as the level of heat required to melt lead-free solder is high.

LASER BEAM CAUTION LABEL

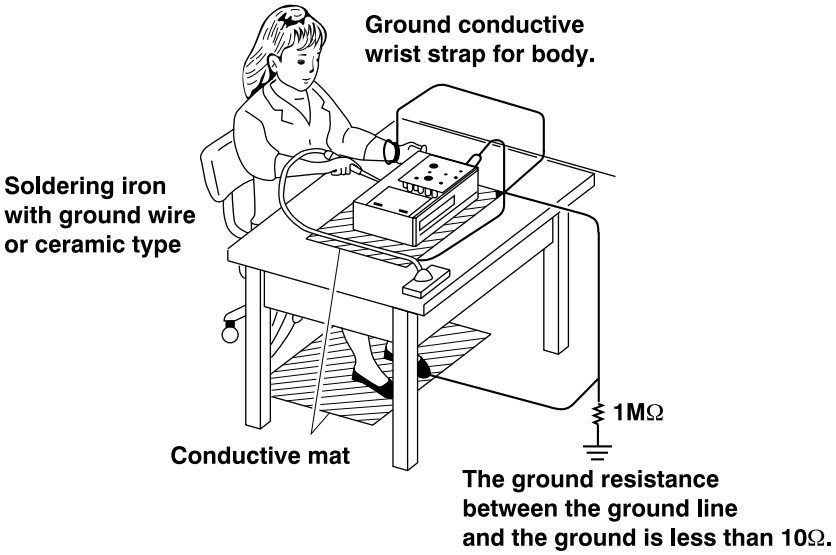
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of a laser may be received.

PREPARATION OF SERVICING

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.



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SAFETY NOTICE

SAFETY PRECAUTIONS

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000 Ω per volt or more sensitivity.

Connect a 1500 Ω 10 W resistor, paralleled by a 0.15 µF 150V AC capacitor between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

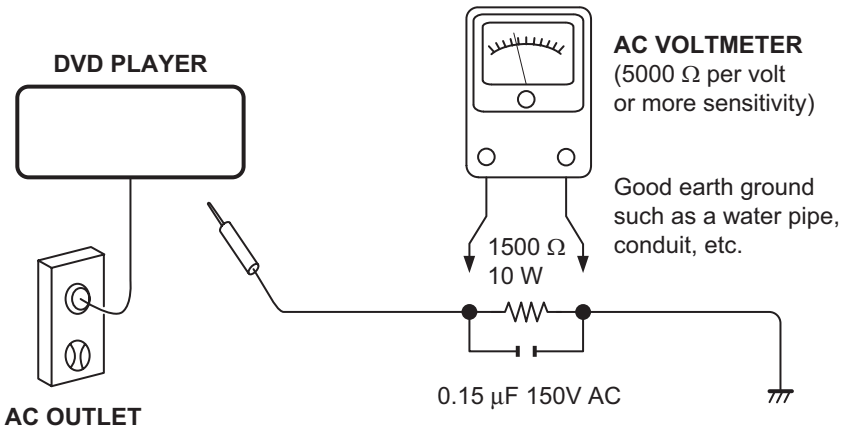
Measure the AC voltage across the 1500 Ω resistor.

The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3 V. A reading exceeding 0.3 V indicates that a dangerous potential exists, the fault must be located and corrected.

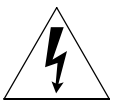
Repeat the above test with the DVD PLAYER power plug reversed.

NEVER RETURN A DVD PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.

READING SHOULD NOT EXCEED 0.3V



Test all exposed metal.
Voltmeter Hook-up for Leakage Current Check



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.

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GENERAL DESCRIPTIONS

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SUPPLEMENT

SECTION 1
GENERAL DESCRIPTIONS

1. OPERATING INSTRUCTIONS

Please refer to the owner's manual about the contents.

2. LOCATION OF MAIN PARTS

This section describes the location of main parts and PC boards of HD-XA1 as a representative.

2-1. Location of Main Parts

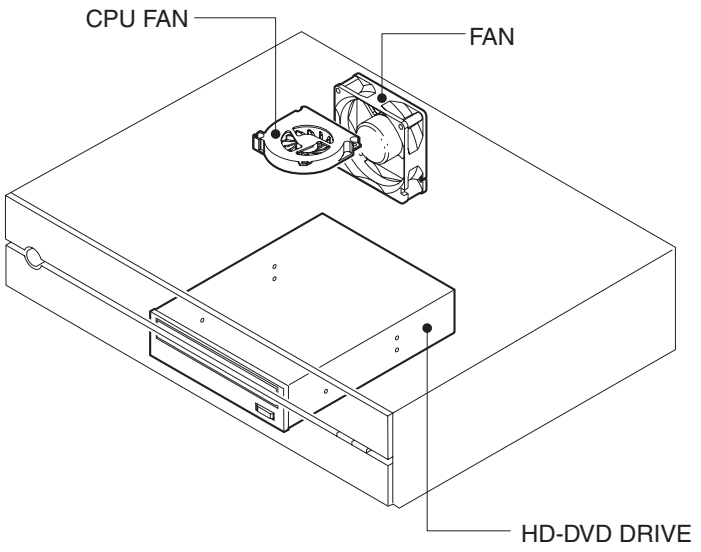


Fig. 1-2-1

2-2. Location of PC Boards

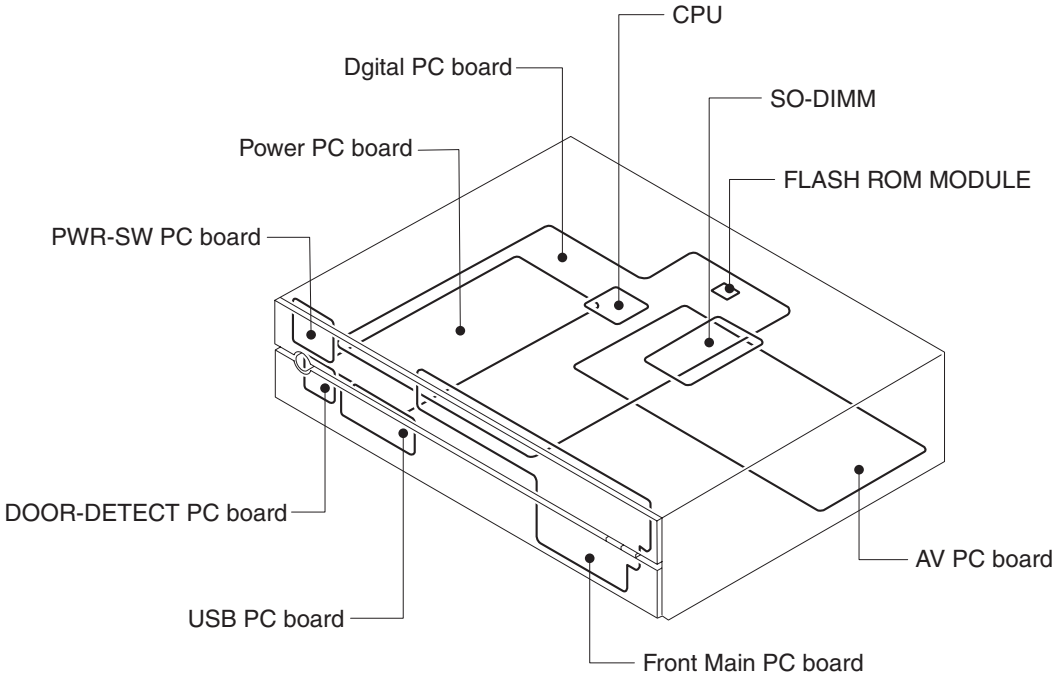
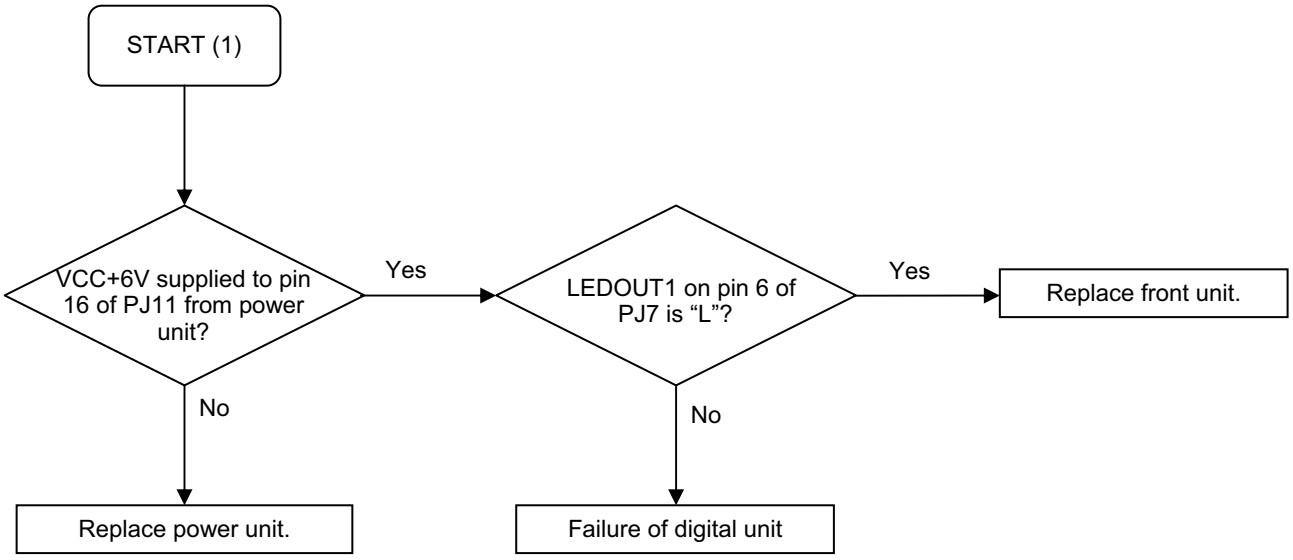


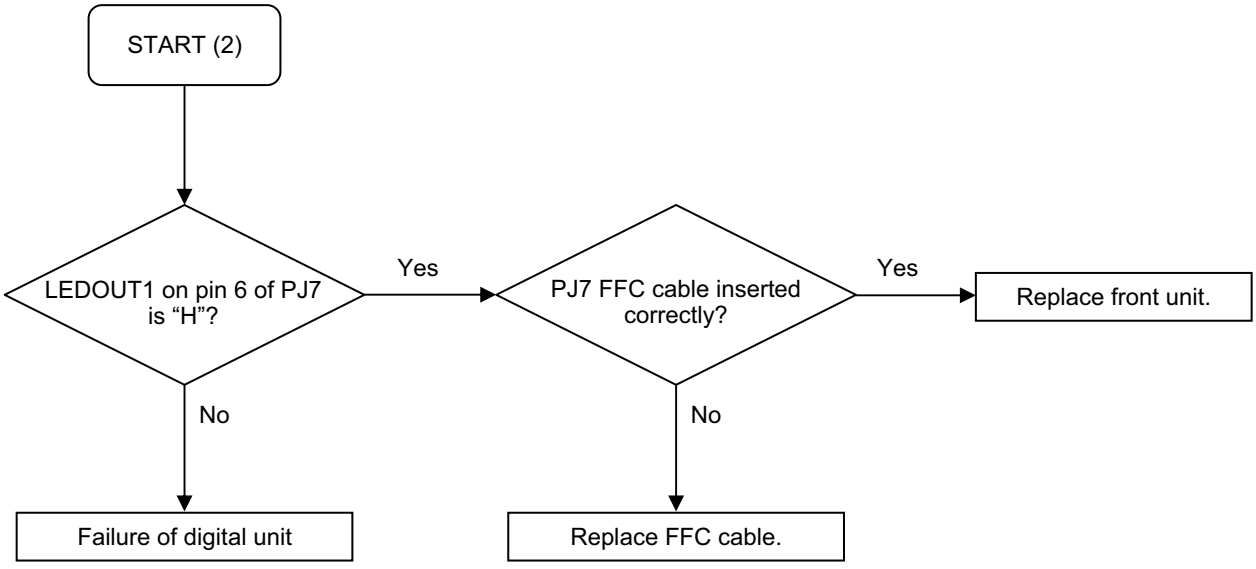
Fig. 1-2-2

3. TROUBLESHOOTING

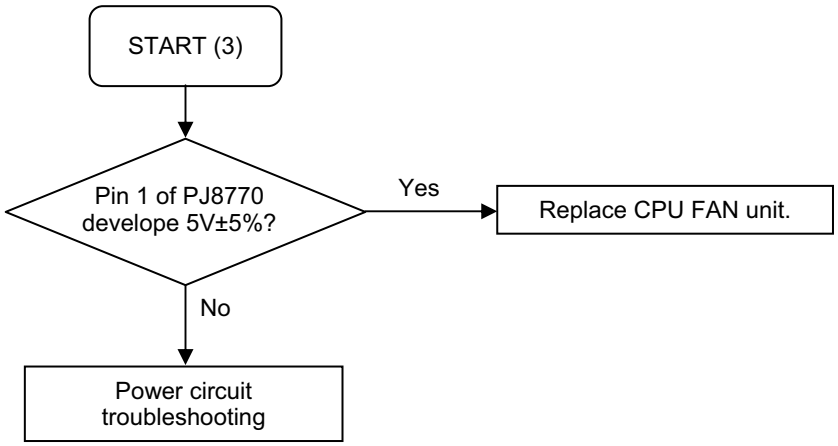
3-1. Standby LED (red) does not light.



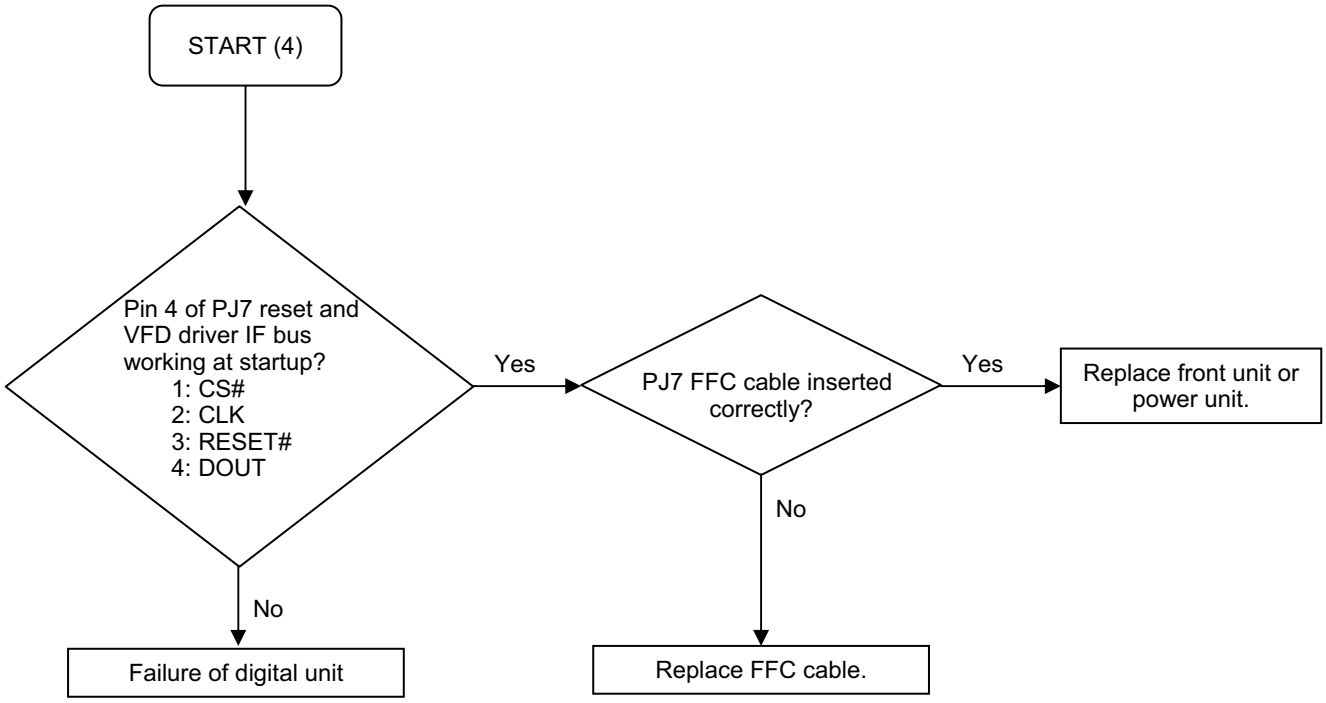
3-2. LED (green) does not light at power on.



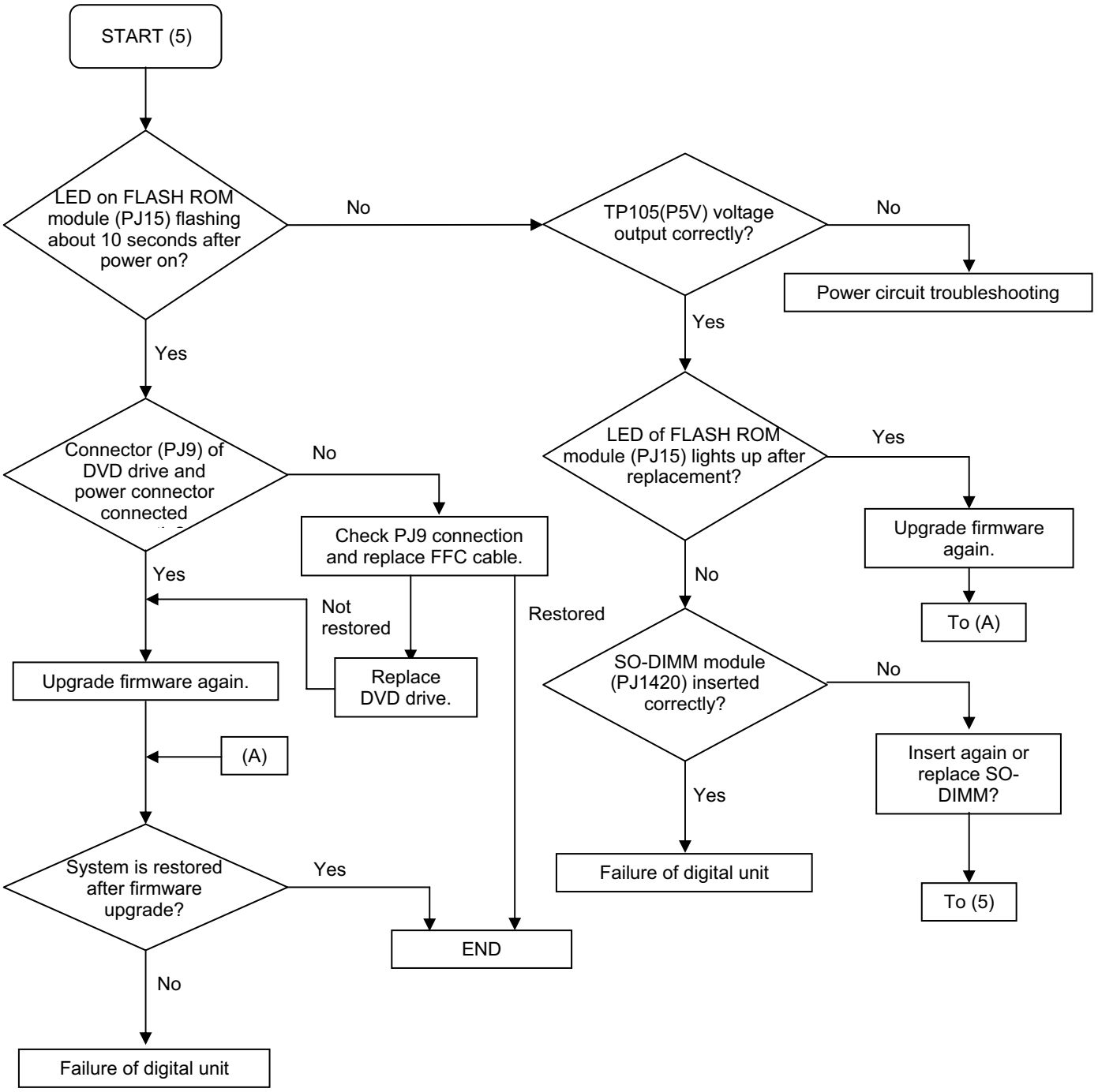
3-3. CPU FAN does not work.



3-4. Indicator does not light. (“WELCOME” does not light at startup.)

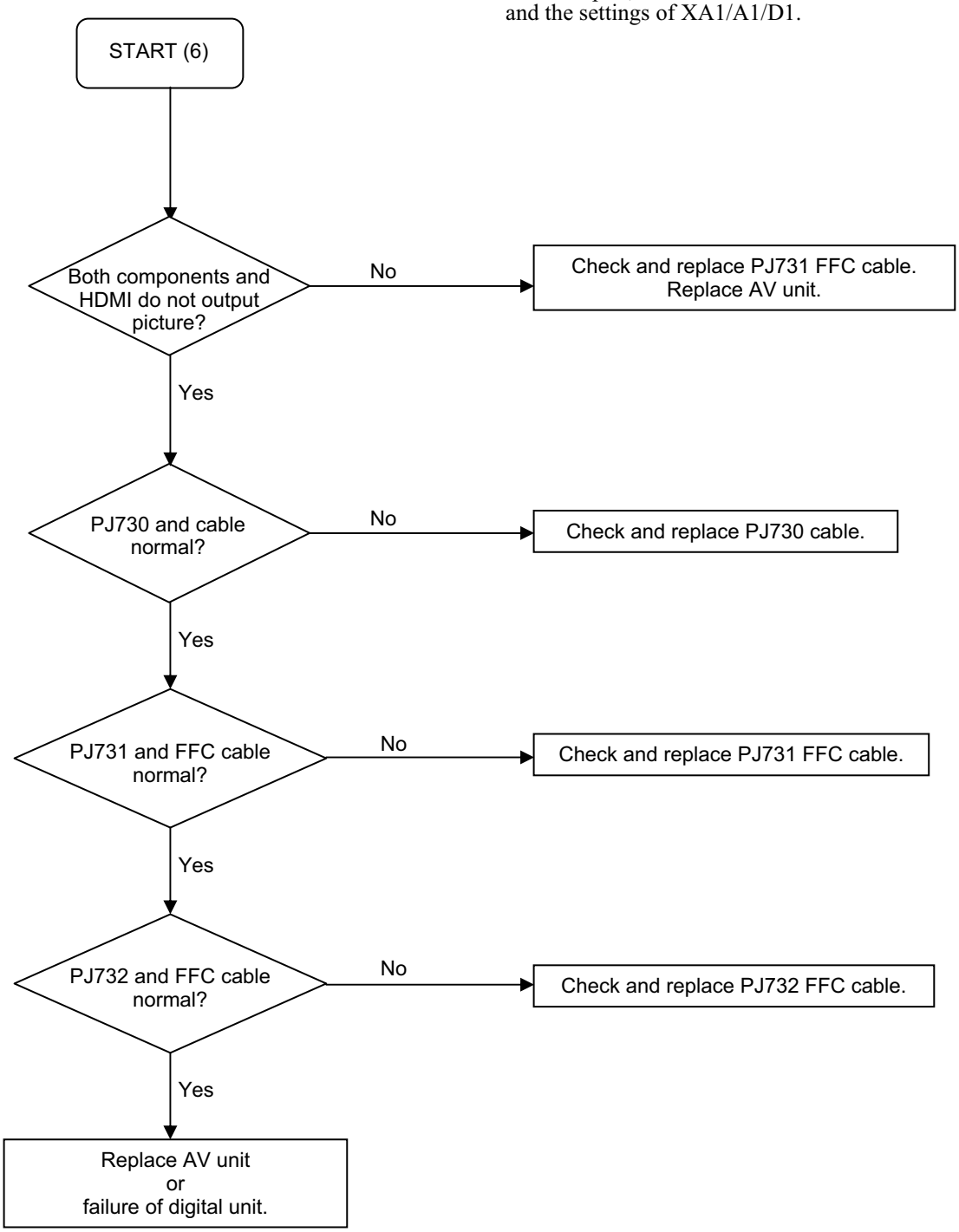


3-5. System does not run. (“WELCOME” displayed and key operation disabled)

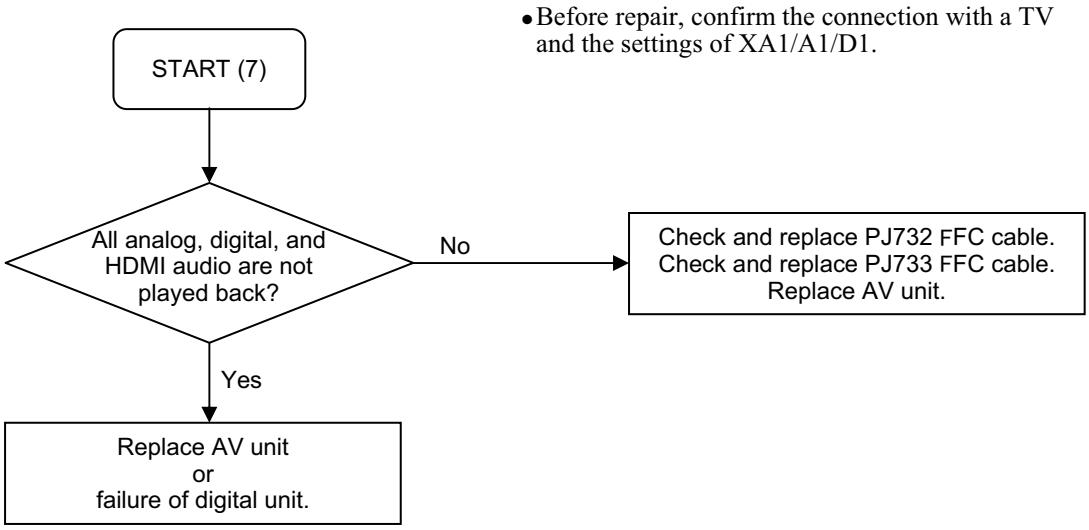


3-6. No picture appears.

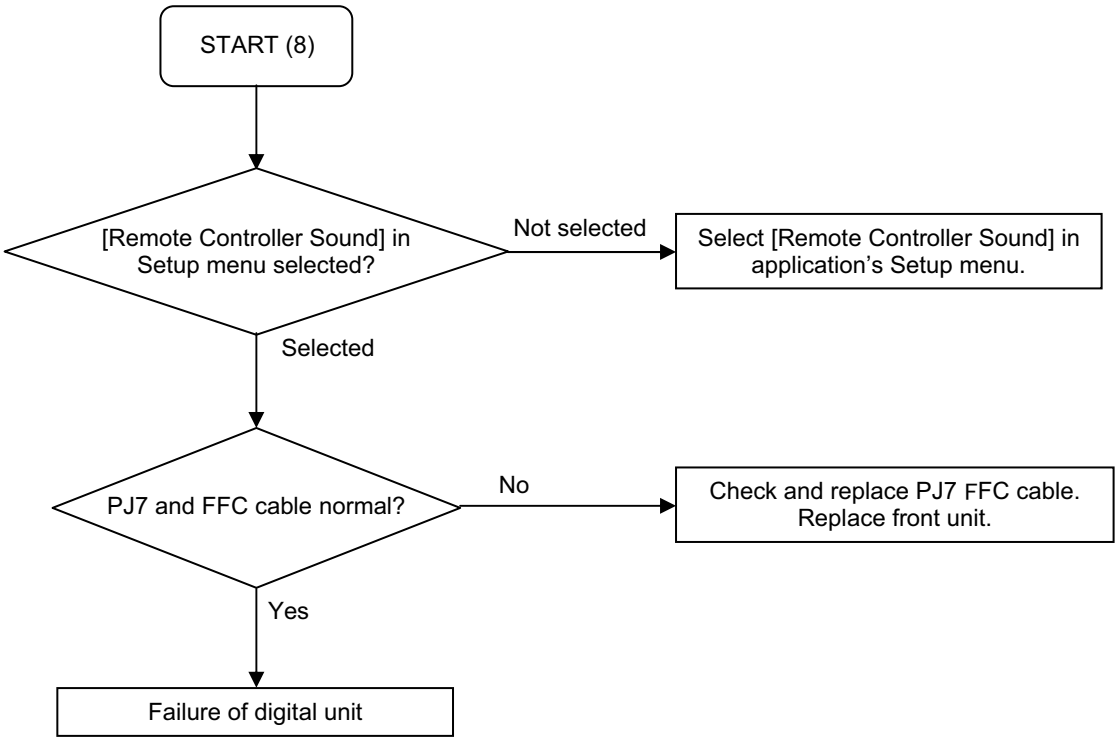
- Before repair, confirm the connection with a TV and the settings of XA1/A1/D1.



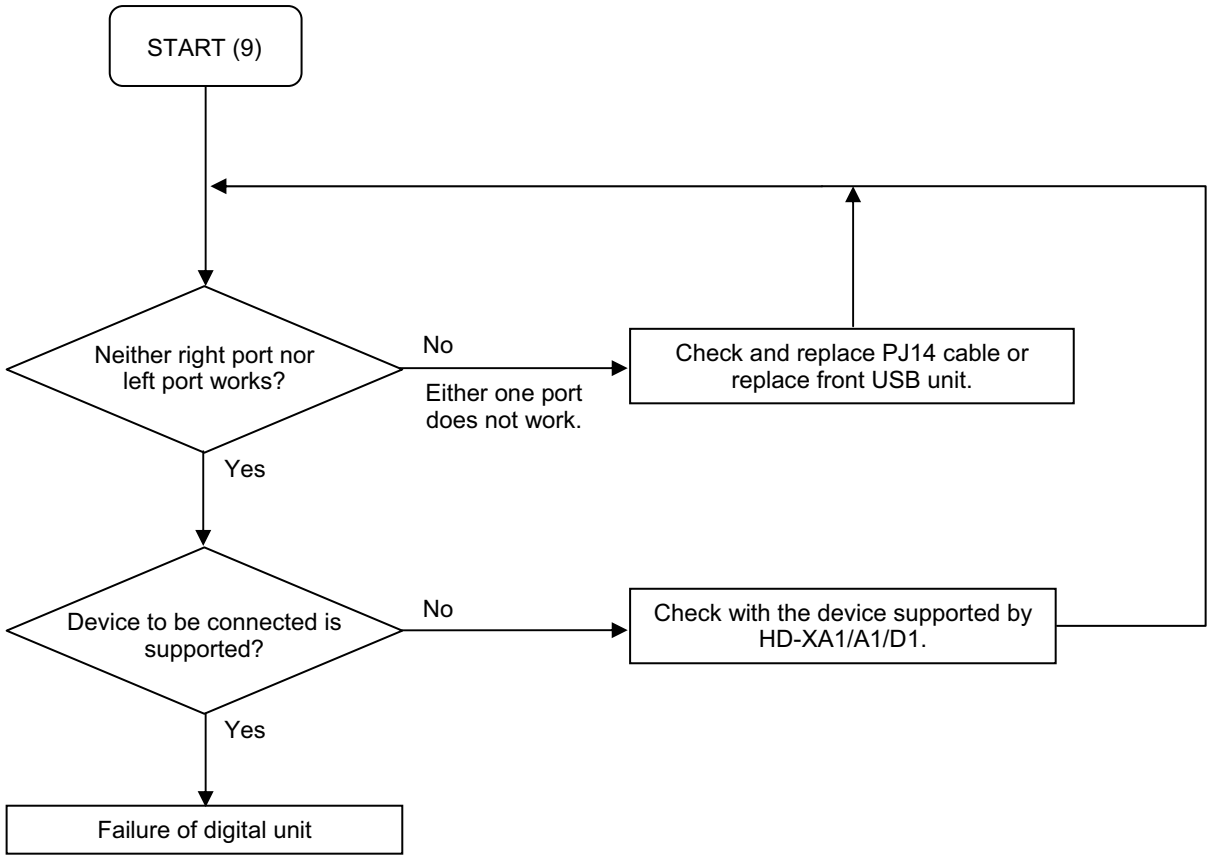
3-7. No audio is played back.



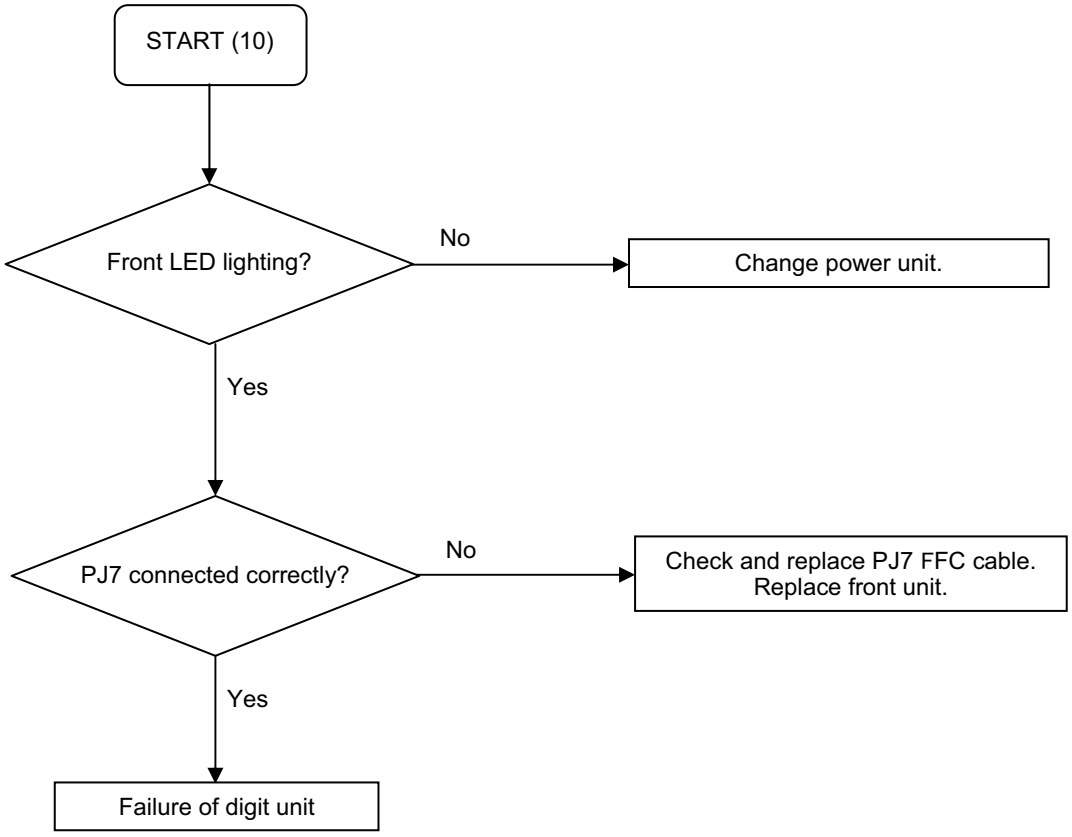
3-8. Buzzer does not sound.



3-9. Extension port does not work.



3-10. Front panel keys/remote control are disabled.



3-11. Other Symptoms

- Improper LAN connection
  LAN depends on the quality of the environment and lines to which LAN is connected. Check the main unit as well as network settings, cables, and connected devices.

- Improper CONTROL pin connection
  Use a serial cross cable to connect the unit to a PC.

  Check the above. However, if the problem still remains, the digital unit may be faulty.

3-12. Power Circuit Troubleshooting

RTC backup voltage

Power	Measuring point	Output voltage range (AC OFF)	Output voltage range (AC ON)
R3V	TP113	2.0-3.0V	3.4-3.0V

No

Incorrect voltage at AC OFF

Battery (BT1) error

Incorrect voltage at AC ON

Yes

EVER system voltage
Power unit output

Power	Measuring point	Output voltage range
PS5VSB	TP159	5.5-6.5V

No

Yes

EVER system voltage
M/B REG output, etc.

Power	Measuring point	Output voltage range
M5V	TP115	4.75-5.25V
M3V	TP114	3.13-3.47V
MM5V	TP135	4.5-5.0V
MS5V	C842-2PIN	4.75-5.25V

No

Yes

Power unit ON/OFF control signal check
PS_ON(Pin 1 of PJ12)

"H"

"L"

Power system voltage
Power unit output

Power	Measuring points	Output voltage range
PS12VDC	TP160	11.4-12.6V
PS5VDC	TP165	4.75-5.25V
PS3VDC	TP164	3.13-3.47V

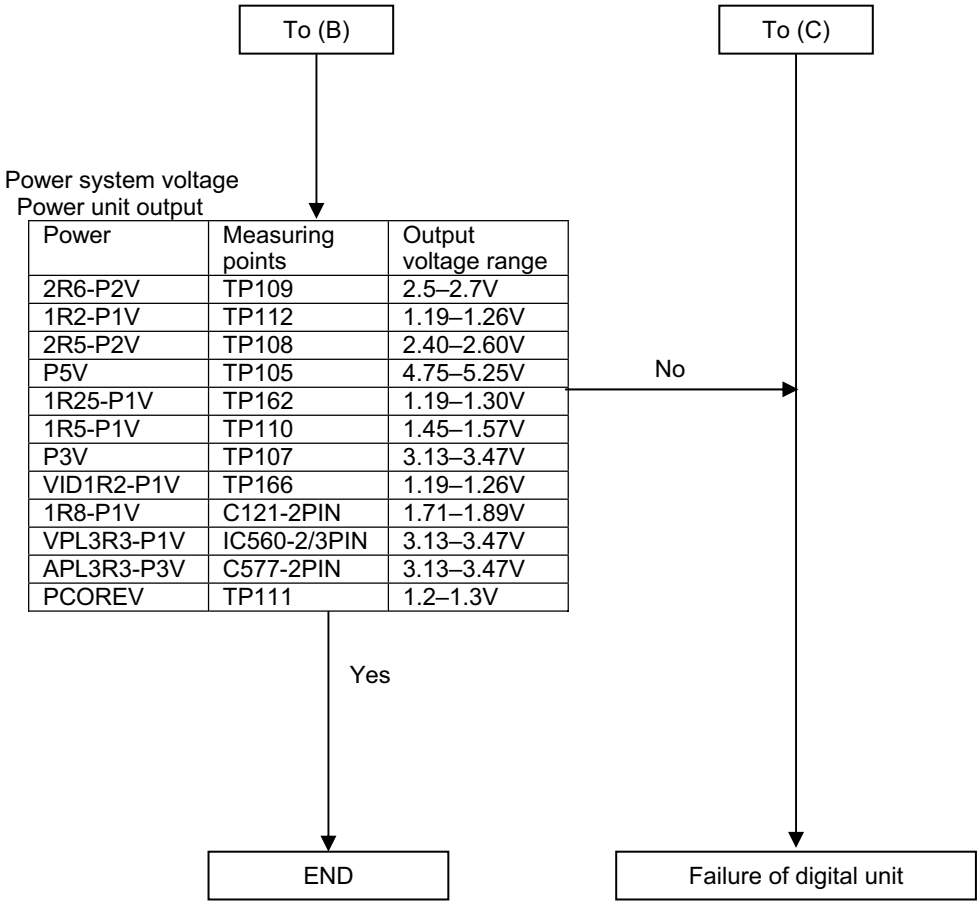
No

Yes

To (B)

To (C)

Failure of harness and/or power unit


To (B)
To (C)
Power system voltage
Power unit output
Power
Measuring points
Output voltage range
2R6-P2V
TP109
2.5–2.7V
1R2-P1V
TP112
1.19–1.26V
2R5-P2V
TP108
2.40–2.60V
P5V
TP105
4.75–5.25V
1R25-P1V
TP162
1.19–1.30V
1R5-P1V
TP110
1.45–1.57V
P3V
TP107
3.13–3.47V
VID1R2-P1V
TP166
1.19–1.26V
1R8-P1V
C121-2PIN
1.71–1.89V
VPL3R3-P1V
IC560-2/3PIN
3.13–3.47V
APL3R3-P3V
C577-2PIN
3.13–3.47V
PCOREV
TP111
1.2–1.3V
No
Yes
END
Failure of digital unit

MEASURING POINTS

Fig. 1-4-1 Digital Unit (Top Side)

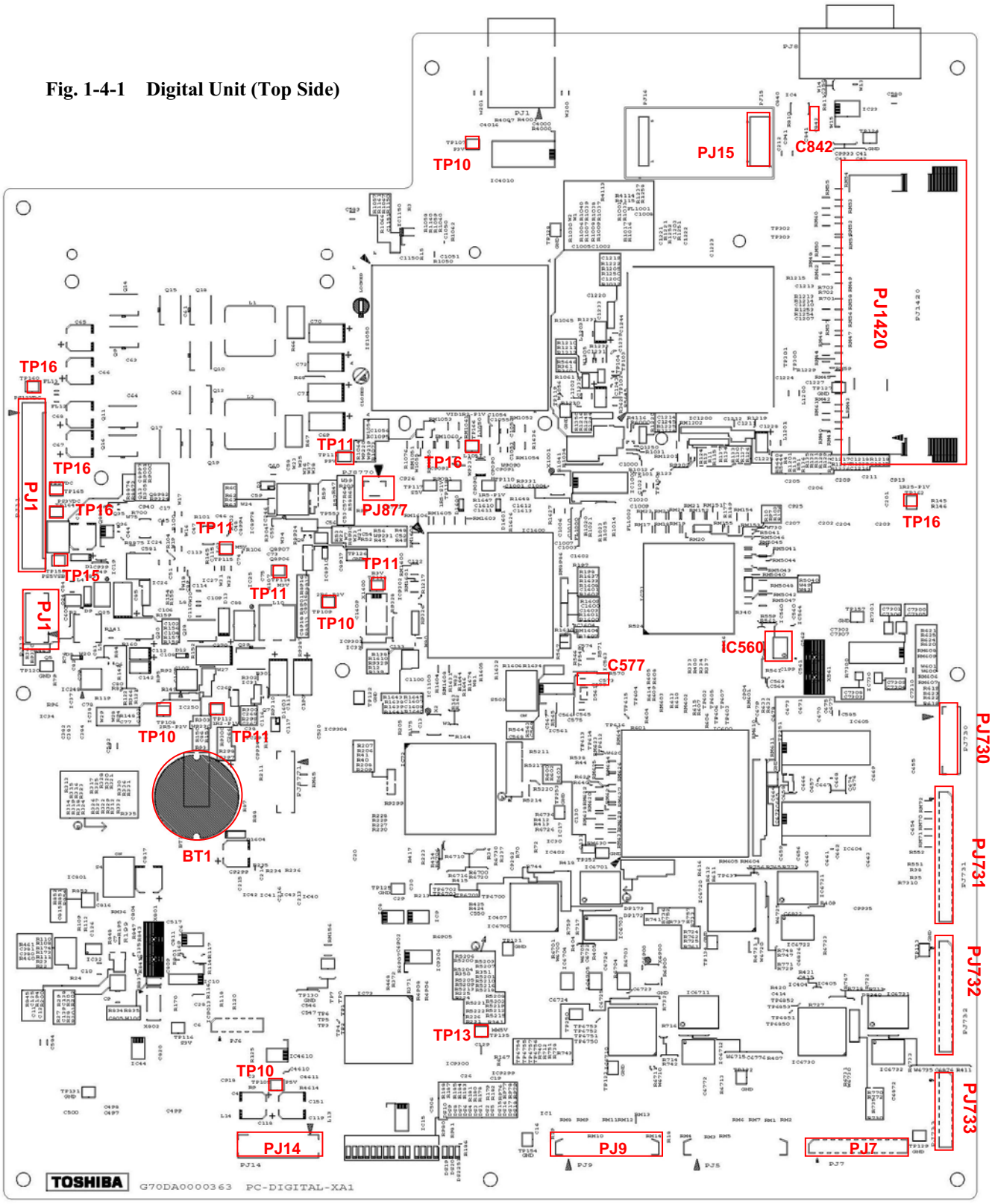
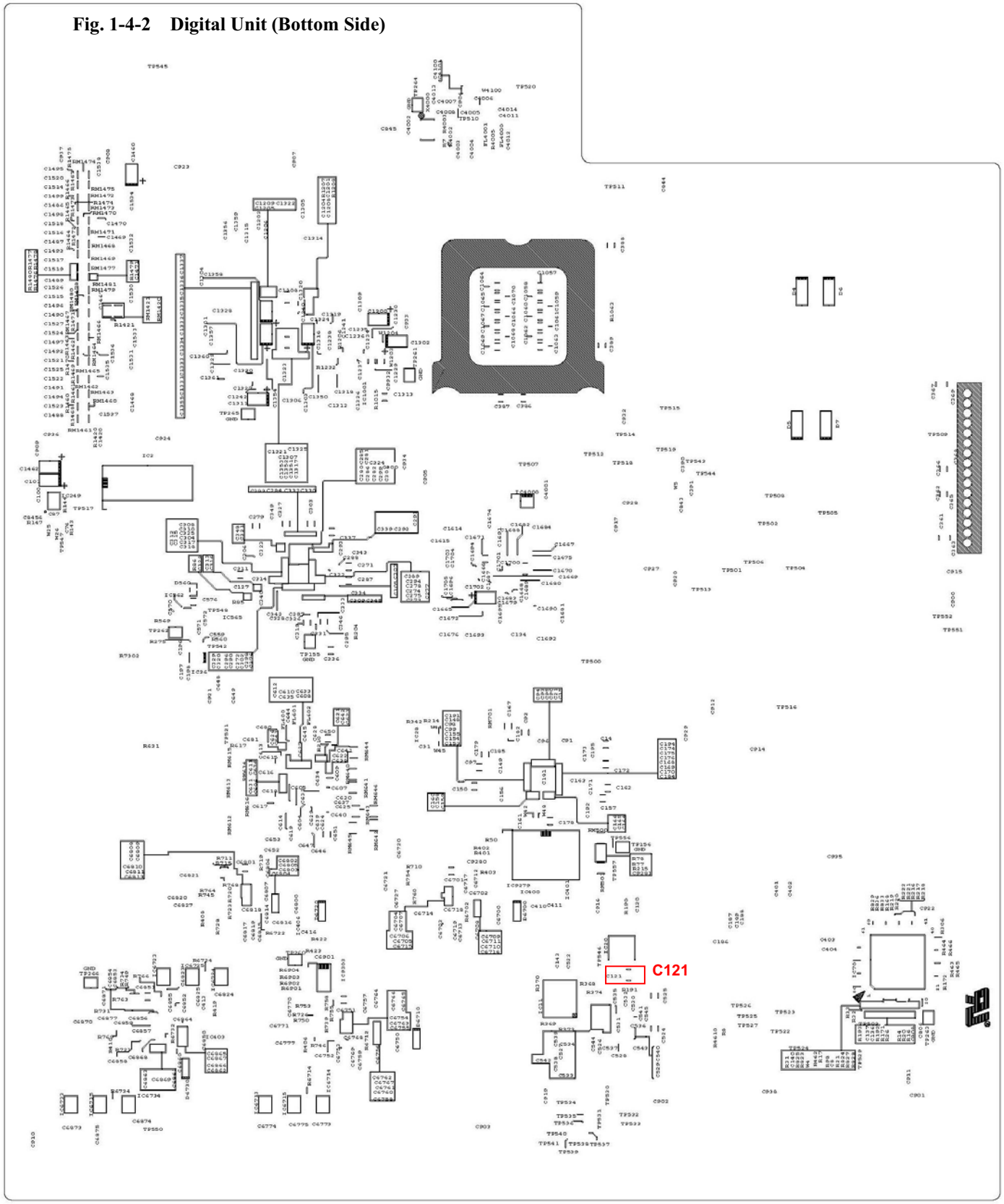


Fig. 1-4-2 Digital Unit (Bottom Side)



SECTION 2
PART REPLACEMENT AND ADJUSTMENT PROCEDURES

CAUTIONS BEFORE STARTING PART REPLACEMENT

Electronic parts are susceptible to static electricity and may be easily damaged, so do not forget to ground as required. Many screws are used inside the unit. To prevent the screws from missing or dropping, etc. always use magnetized screwdriver in servicing. Several kinds of screws are used and some of them need special cautions. That is, take care of the tapping screws securing molded parts and fine pitch screws used to secure metal parts. If they are used improperly, the screw holes will be easily damaged and the parts can not be fixed.

This section describes how to replace the parts of HD-XA1 as a representative.

1. REPLACEMENT OF MECHANICAL PARTS

1-1. Cabinet Replacement

1-1-1. Top Panel and Top Cover

1. Remove two screws (1), then remove the side panel L (2) and side panel R (3).
2. Remove three screws (4), then remove the top panel (5).
3. Remove four screws (6), then remove the top cover (7).

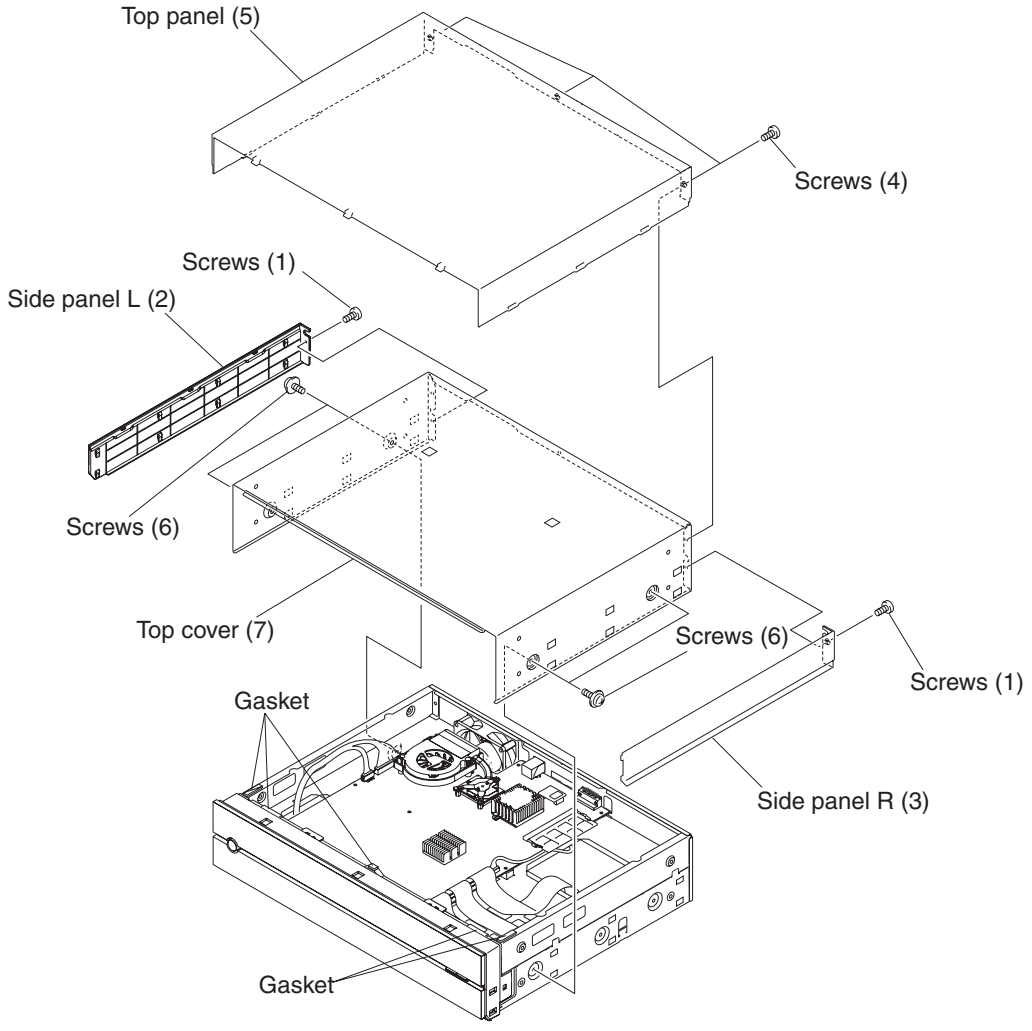


Fig. 2-1-1

1-1-2. Front Panel and Motor

1. Remove the top panel and top cover. (Refer to item 1-1-1.)
2. Remove the screw (1), two screws (2), three screws (3), and the screw (4).
3. Remove six claws, then draw the front panel (5).
4. Remove the screw (6), then remove the front panel (5).
5. Disconnect the connectors (7) and (8) and the flexible cable (9).
6. Disconnect the connector (10).
7. Remove the belt (11).
8. Remove two screws (12), then remove the motor (13) in the arrow direction.

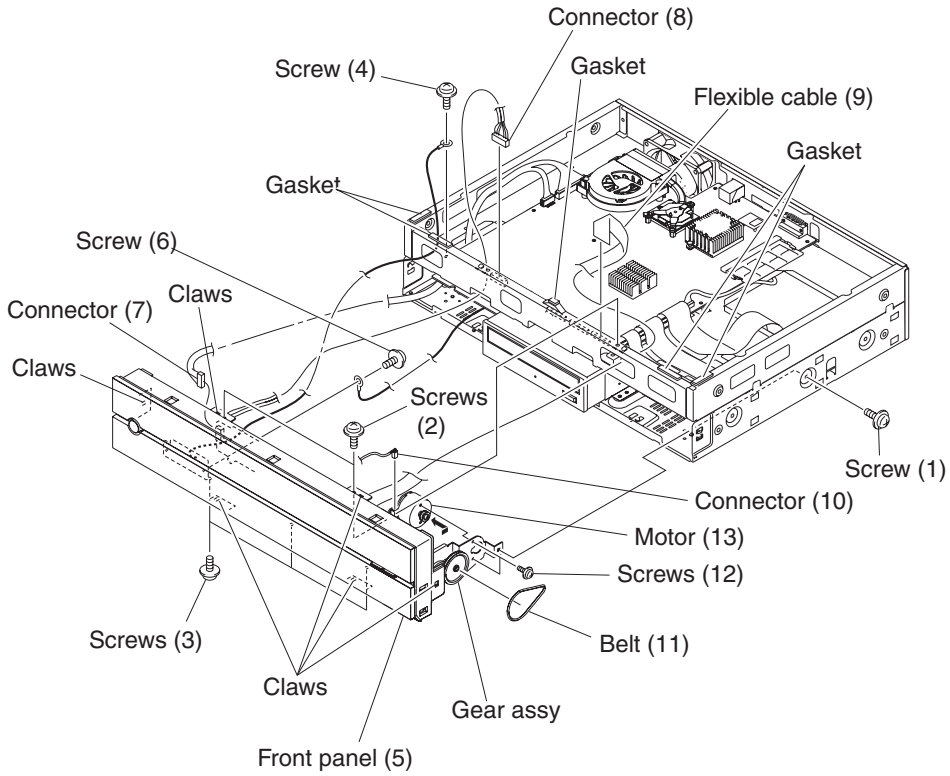


Fig. 2-1-2

1-1-3. Sub-chassis

1. Remove the top panel and top cover. (Refer to item 1-1-1.)
2. Remove the front panel. (Refer to item 1-1-2.)
3. Disconnect the connectors (1), (2), and (3).
4. Disconnect the flexible cables (4), (5), and (6).
5. Disconnect the flexible cable (7) while raising the claws (8) in the arrow A direction.
6. Remove four screws (9).
7. Move the sub-chassis (10) in the arrow direction, release it from the four claws, and then remove it.

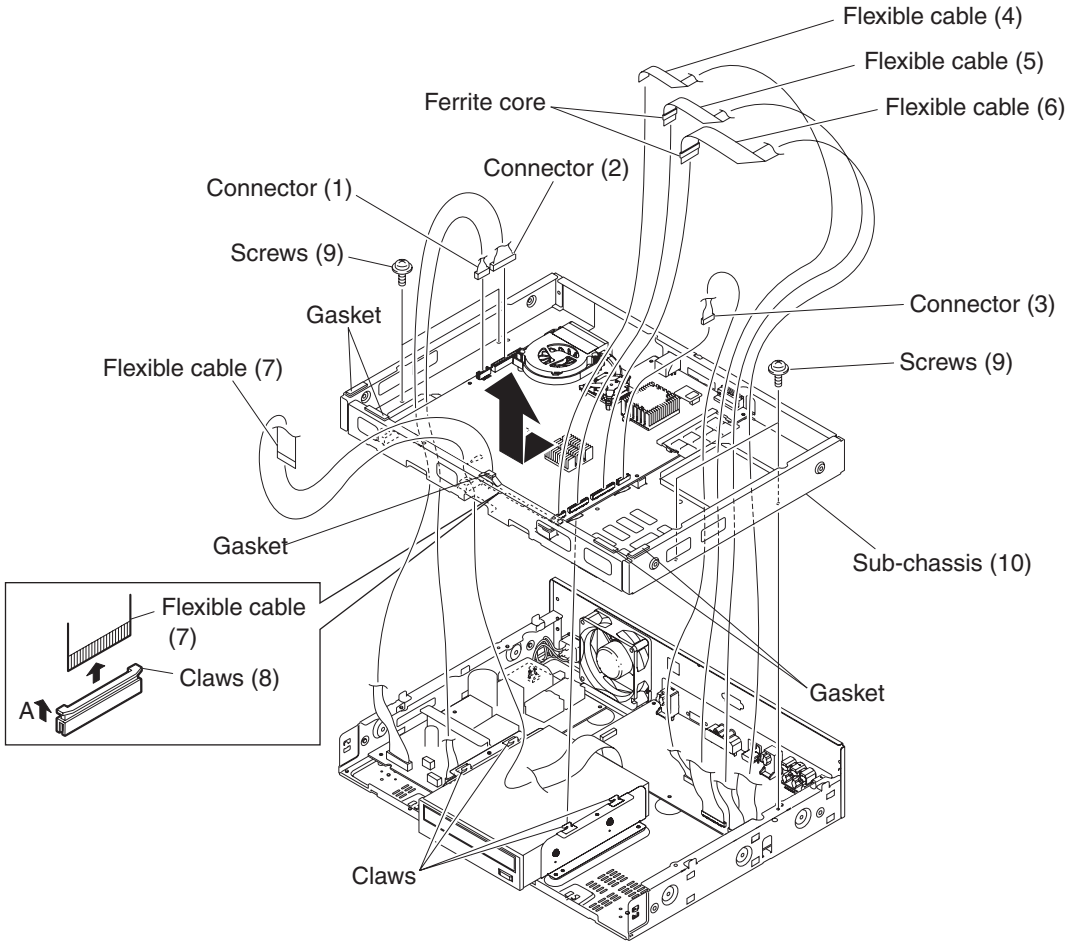


Fig. 2-1-3

1-1-4. HD-DVD Drive

Note:

- To replace the HD-DVD drive, enter an encryption key. Contact the service center for details.

1. Remove the top panel and top cover. (Refer to item 1-1-1.)
2. Remove the front panel and sub-chassis. (Refer to items 1-1-2 and 1-1-3.)
3. Disconnect the connector (1).
4. Disconnect the flexible cable (2) while pulling the claws (3) in the arrow A direction.
5. Remove four screws (4), then remove the HD-DVD drive (5).
6. Remove four screws (6), then remove the bracket R (7) and bracket L (8).

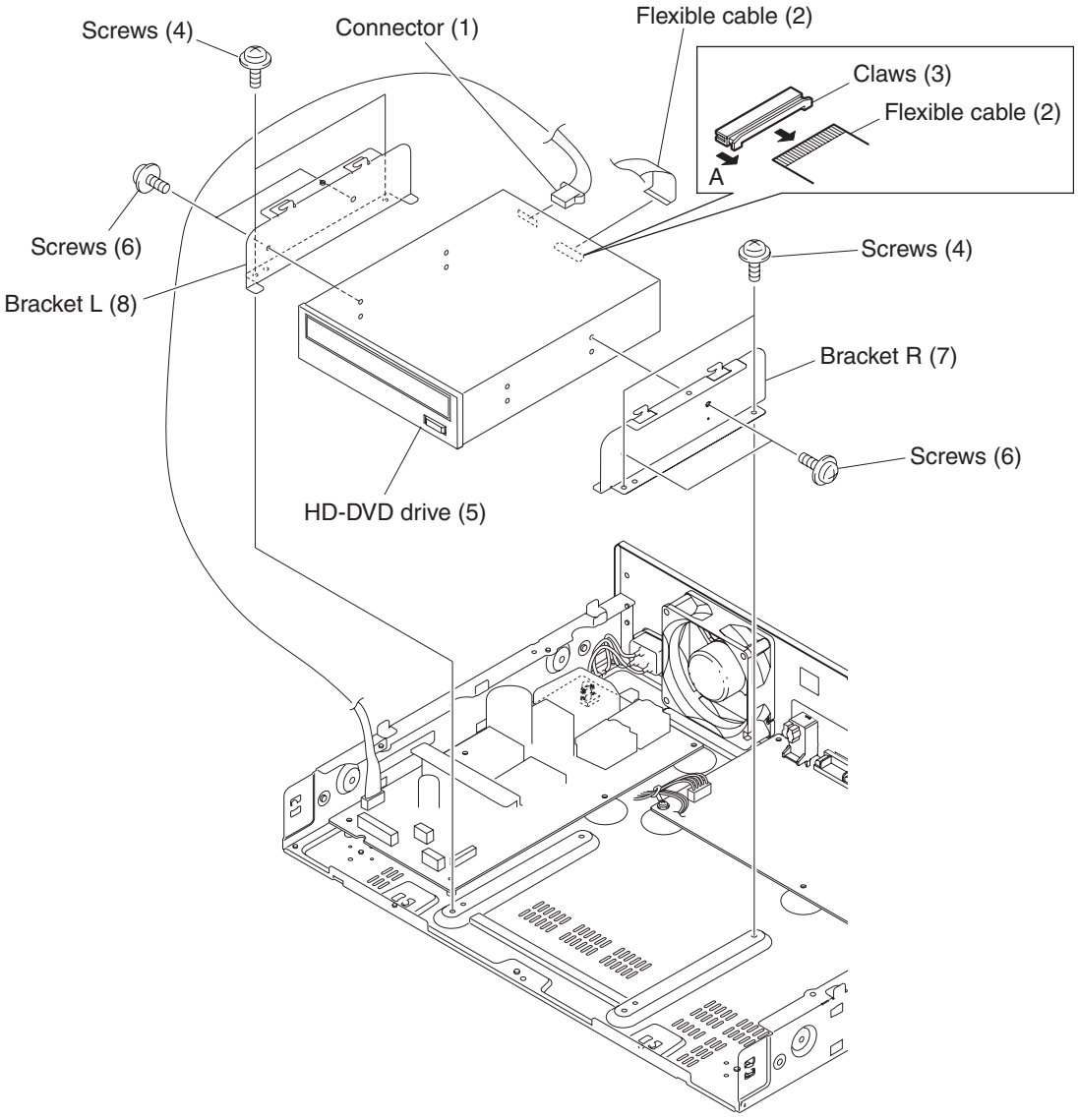


Fig. 2-1-4

1-1-5. Rear Panel

1. Remove the top panel and top cover. (Refer to item 1-1-1.)
2. Remove six screws (1), screw (2), and three screws (3), then remove the rear panel (4).
3. Remove two screws (5), then remove the fan (6).
4. Remove two screws (7), two hexagonal nuts (8), then remove the AC inlet (9).

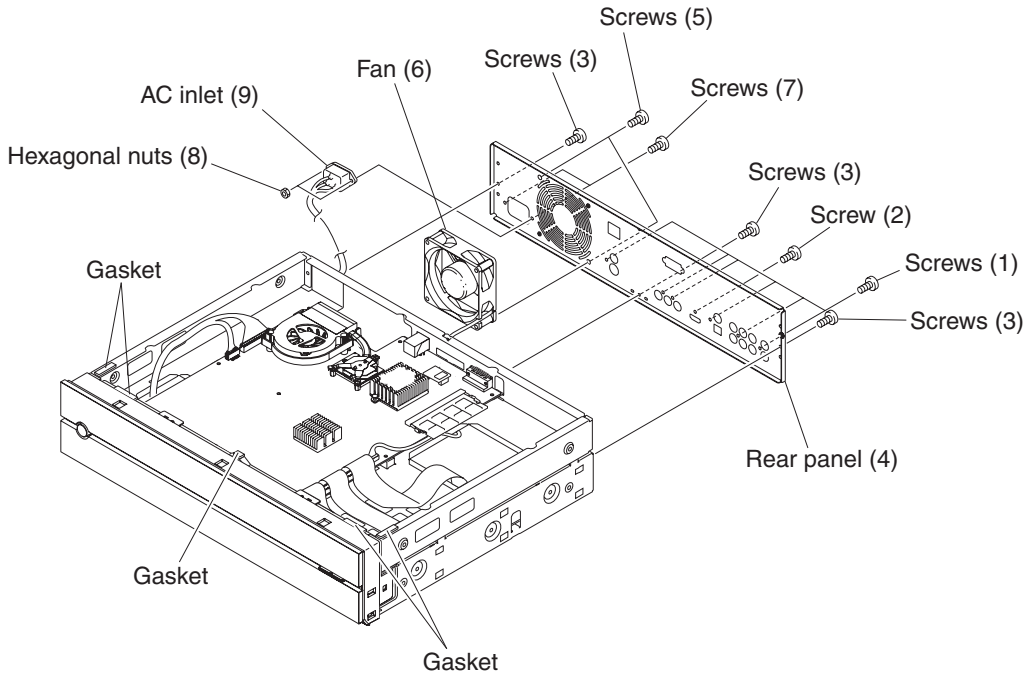


Fig. 2-1-5

1-1-6. Fan

1. Remove the top panel and top cover. (Refer to item 1-1-1.)
2. Remove the front panel and sub-chassis. (Refer to items 1-1-2 and 1-1-3.)
3. Disconnect the connector (1).
4. Remove two screws (2), then remove the fan (3).

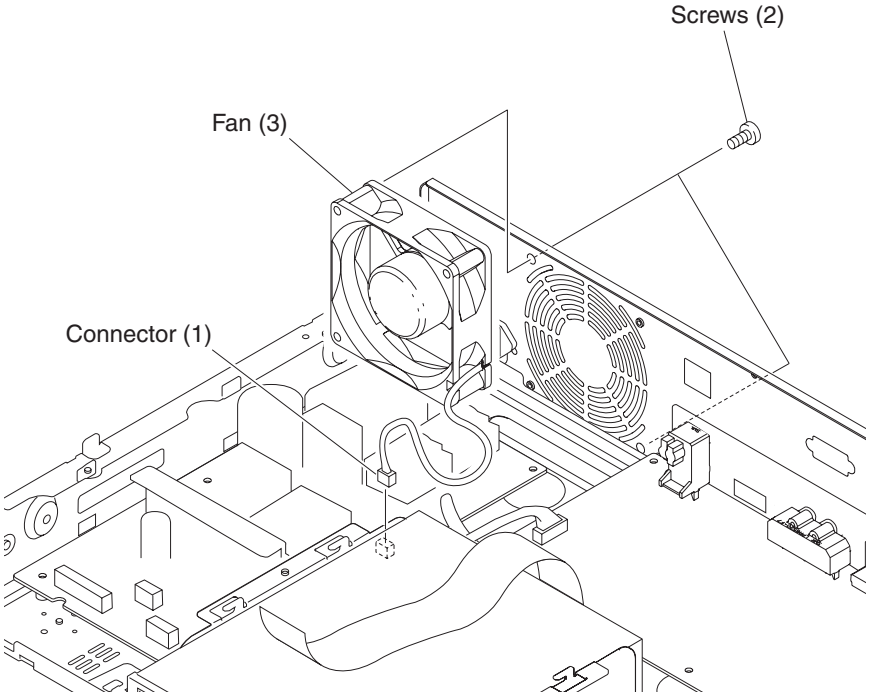


Fig. 2-1-6

1-2. PC Board Replacement

1-2-1. Digital PC Board

Note:

- To replace the Digital PC board, enter an encryption key. Contact the service center for details.

1. Remove the top panel and top cover. (Refer to item 1-1-1.)
2. Remove the SO-DIMM (1). (Refer to item 1-2-2.)
3. Disconnect the connectors (2) to (5) and the flexible cables (6) to (9).
4. Disconnect the flexible cable (10) while raising the claws (11) in the arrow A direction.
5. Remove two connector screws (12).
6. Remove nine screws (13), then remove the Digital PC board (14).

The Digital PC board includes a lithium battery.

Cautions :

- Danger of explosion if battery is incorrectly replaced.
  Replace only with the same or equivalent type.

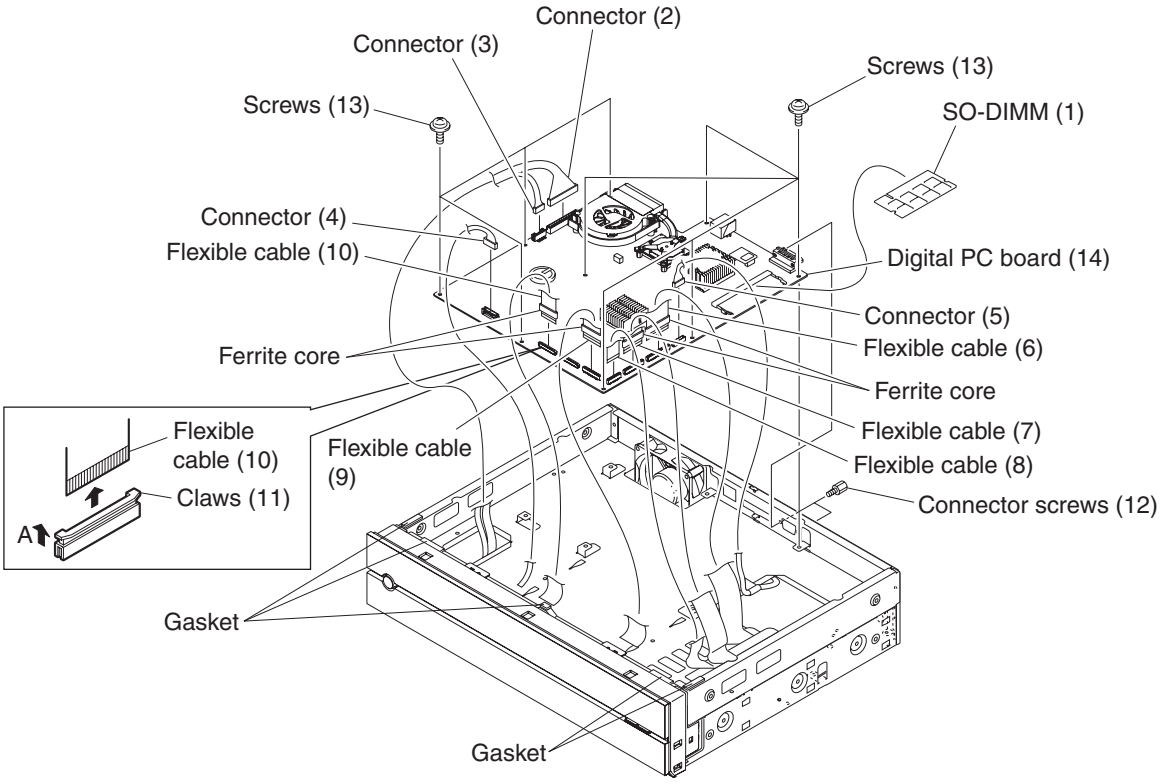


Fig. 2-1-7

1-2-2. CPU

1. Remove the top panel and top cover. (Refer to item 1-1-1.)
2. Remove the SO-DIMM (1). (Refer to item 1-2-2.)
3. Disconnect the connector (1).
4. Remove two screws (2), then remove the CPU fan (3).
5. Remove three screws (4), then remove the heatsink bracket (5).
6. Remove the heatsink (6).
7. Turn clockwise the lock screw (8) of the CPU socket 180 degrees, then remove the CPU (7).

Note:

- When installing the CPU, orient it correctly.
- When assembling, clean and install the heat sink and the CPU fan, removing dust from them.
- When installing the heat sink bracket, be careful of the order of installation.
  (In the order of numbers marked on the heatsink bracket.)
- Apply evenly the silicon grease:GFC001F1(part code: P000468790) to the die (14mm square) of CPU.
  (The amount of silicon grease is quantity-managed to 0.2g.)

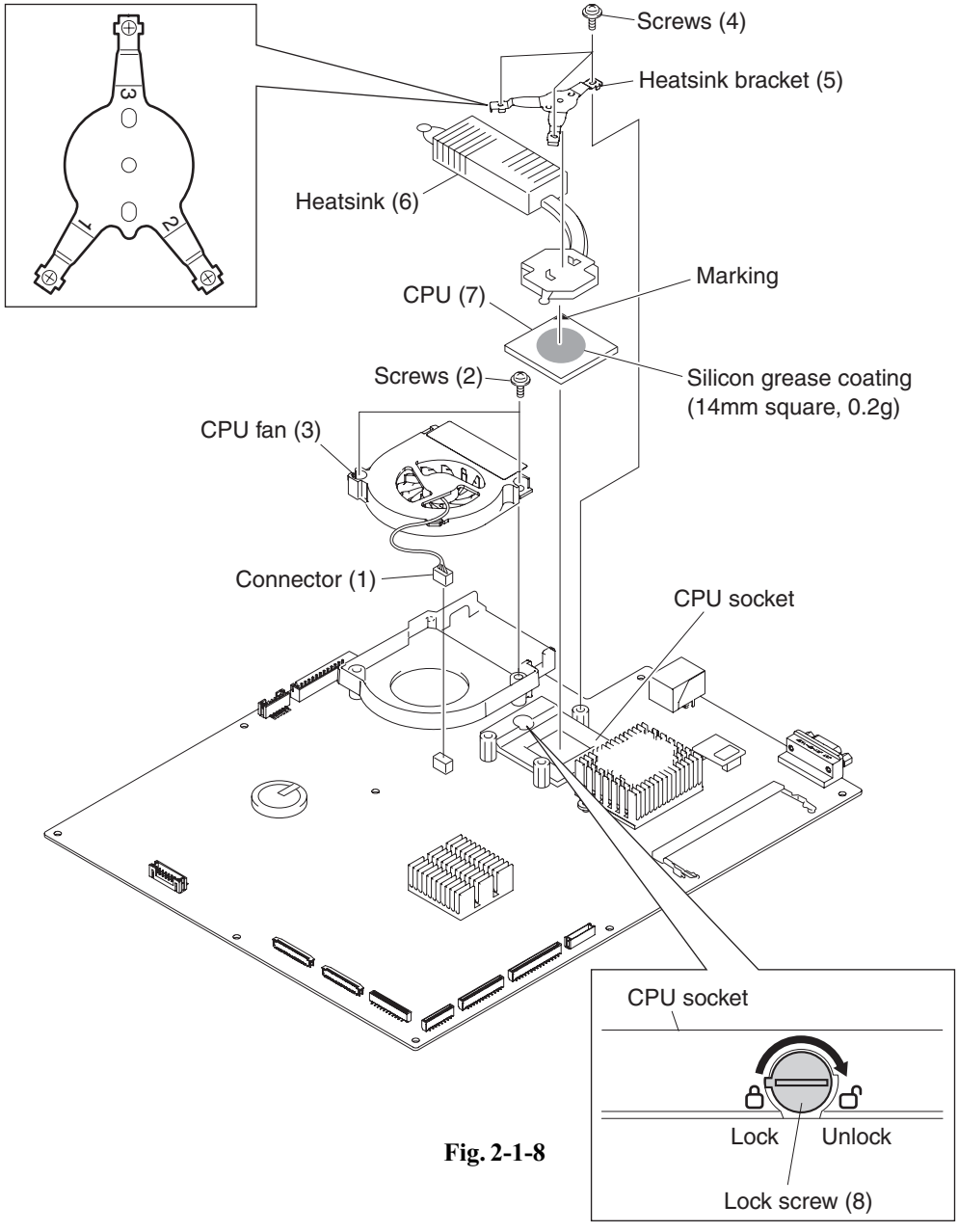


Fig. 2-1-8

1-2-3. SO-DIMM

1. Remove the top panel and top cover. (Refer to item 1-1-1.)
2. Remove the SO-DIMM (3) in the arrow A direction while extending the board holder claws (2) on the Digital PC board (1) in the arrow direction.

Note:

- To reinstall the SO-DIMM (3), install it so that its groove (4) fits with the projection (5) of the board holder.

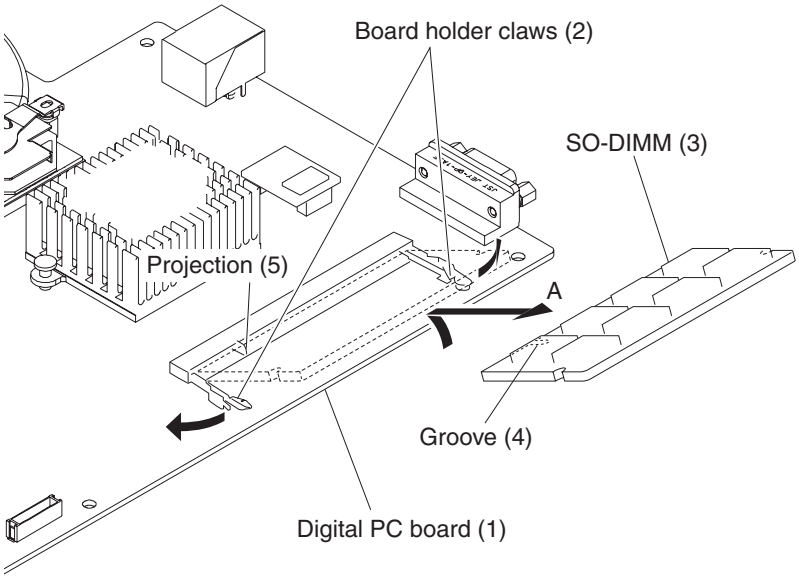


Fig. 2-1-9

1-2-4. Power PC Board

1. Remove the top panel and top cover. (Refer to item 1-1-1.)
2. Remove the front panel and sub-chassis. (Refer to items 1-1-2 and 1-1-3.)
3. Disconnect the connectors (1) to (7).
4. Remove six screws (8), then remove the power PC board (9).

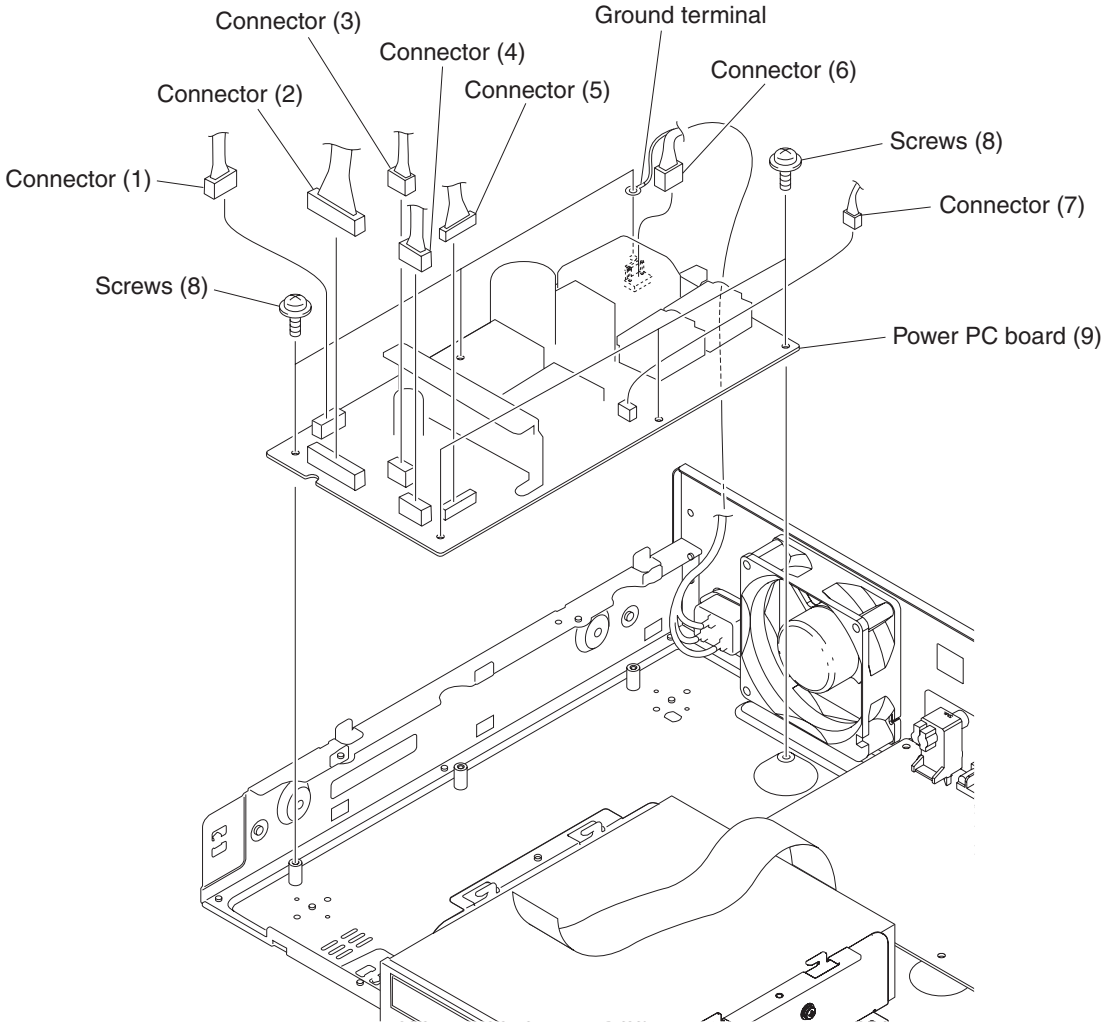


Fig. 2-1-10

1-2-5. AV PC Board

1. Remove the top panel and top cover. (Refer to item 1-1-1.)
2. Remove the front panel and sub-chassis. (Refer to items 1-1-2 and 1-1-3.)
3. Disconnect the connectors (1) and (2) and flexible cables (3) to (5).
4. Remove the screw (6), and six screws (7).
5. Remove five screws (8), then remove the AV PC board (9).

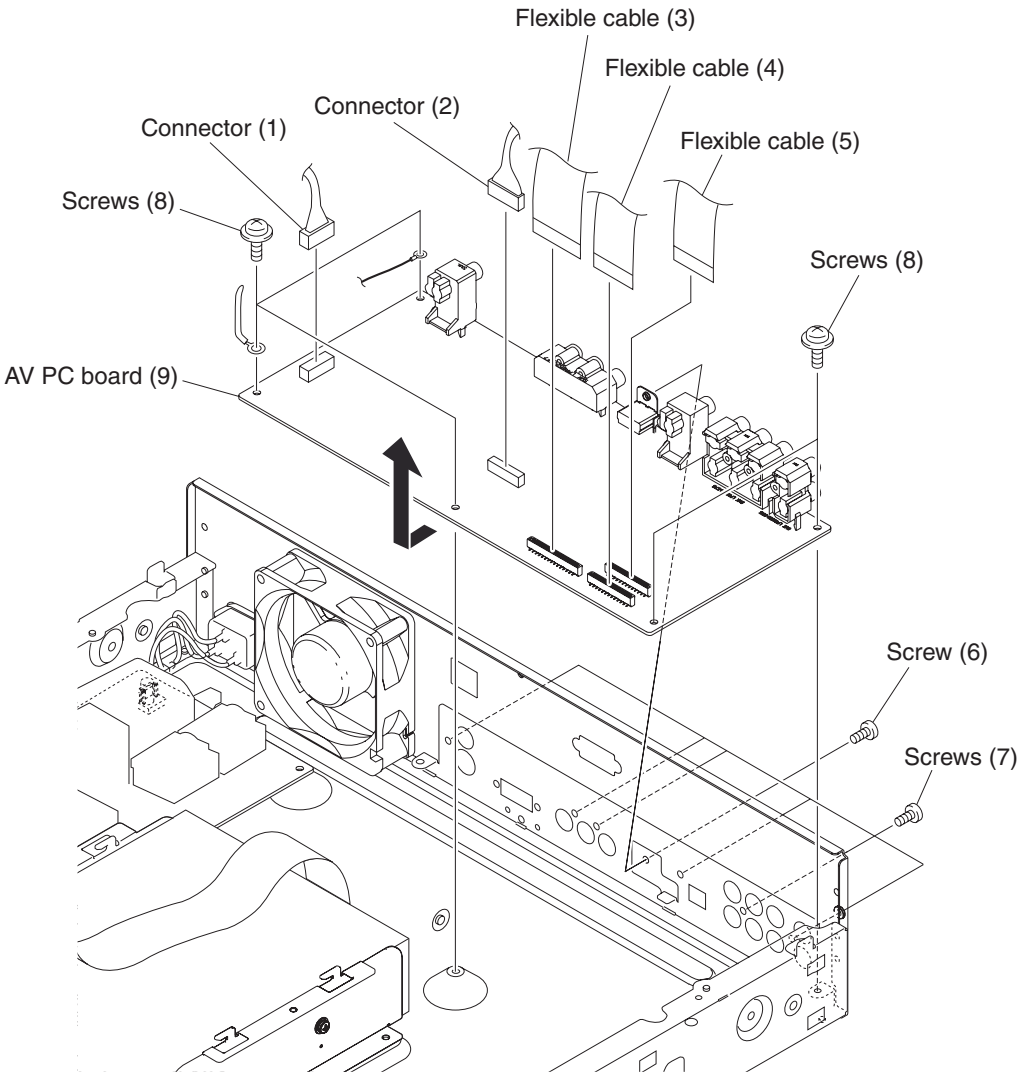


Fig. 2-1-11

1-2-6. Front PC Board

1. Remove the top panel and top cover. (Refer to item 1-1-1.)
2. Remove the front panel. (Refer to item 1-1-2.)
3. Disconnect the connector (1), remove two screws (2), and then remove the gear assy (3).
4. Remove eight screws (4), then remove the front main PC board (5).
5. Remove four screws (6), then remove the PWR-SW PC board (7).
6. Remove two screws (8), then remove the DOOR-DETECT-SW PC board (9).
7. Remove two screws (10), then remove the USB PC board (11).
8. Disconnect the flexible cables (12) and (13) and connectors (14) to (16).

Note:

- When installing the Door-Detect-SW board, orient it correctly.

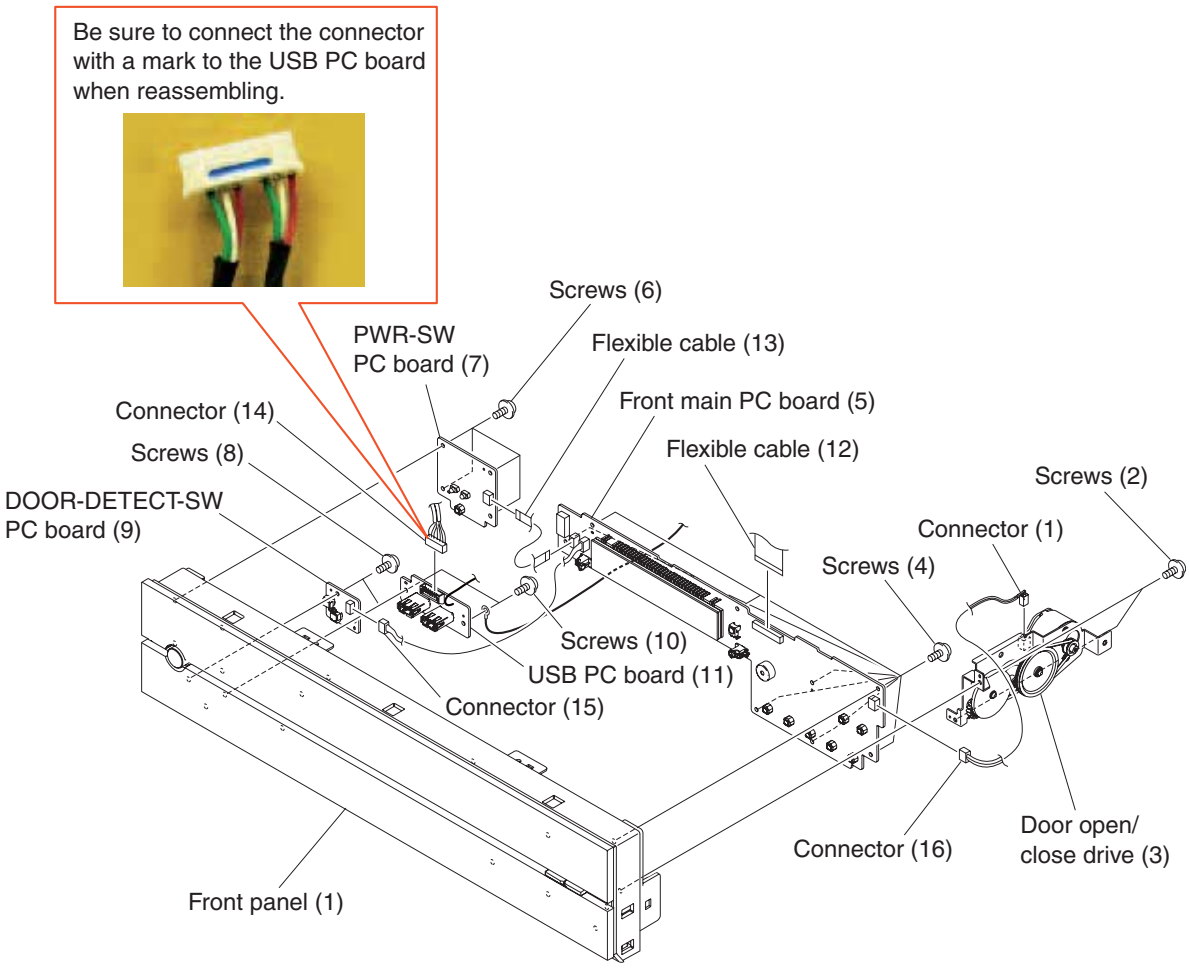


Fig. 2-1-12

2. WIRING CONNECTION DIAGRAM

This section describes the wiring connection diagram of HD-XA1 as a representative.

2-1. Wiring Connection Diagram

After the servicing is complete, return the wiring to its original state by using the diagram below as a reference.

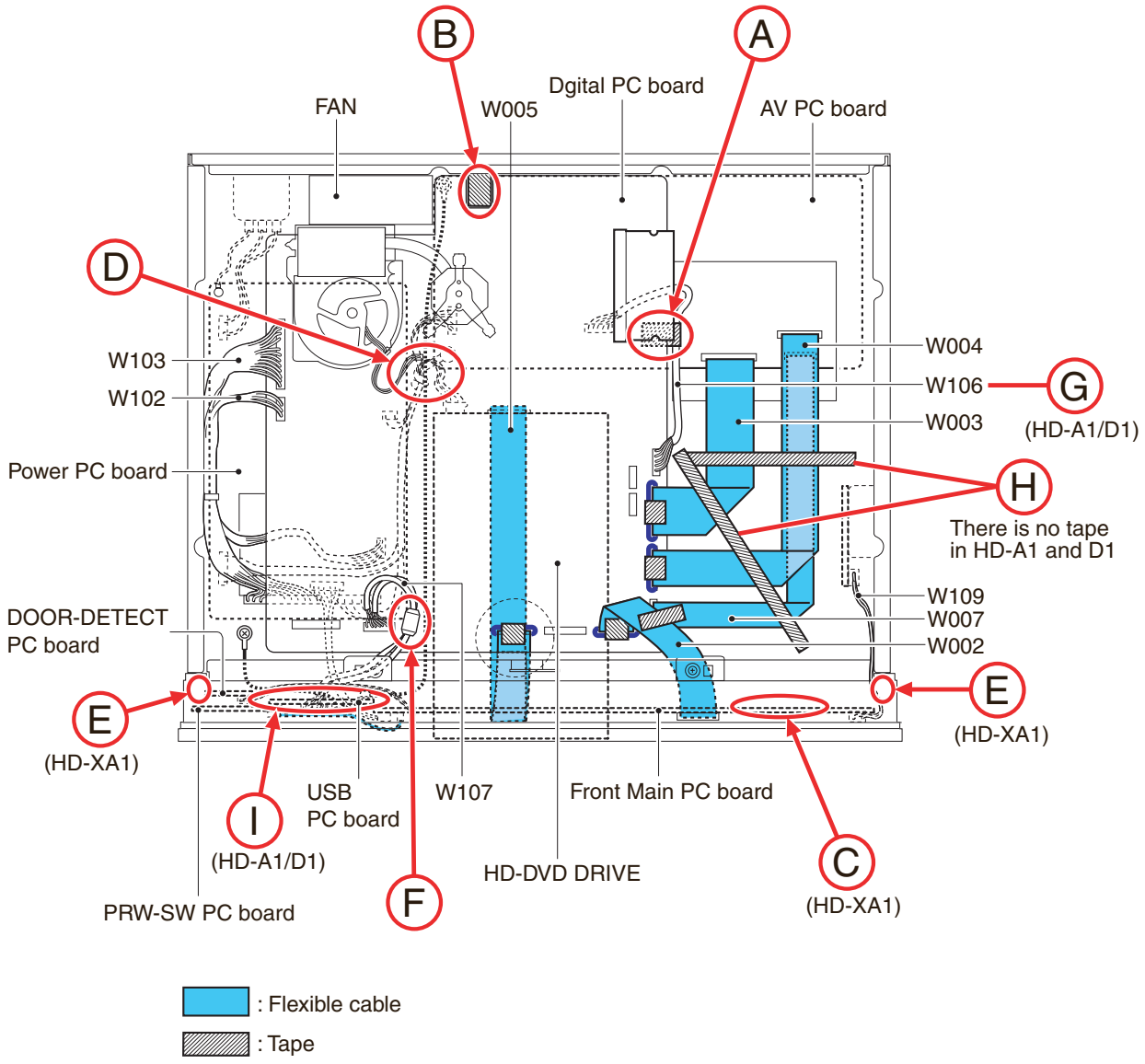


Fig. 2-2-1

2-2. Supplementary Instructions for Reassembling

A. W106

Fix W106 to the sub-chassis under the SO-DIMM with tape so as to insert W106 into the gap under the sub-chassis.

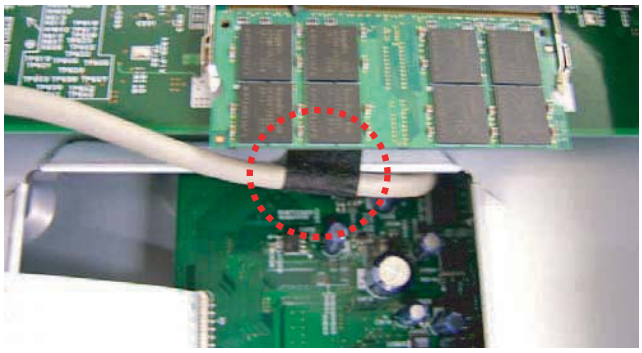


Fig. 2-2-2

B. LAN connector

Check that the conductive tape on the shield case of the LAN connector adheres properly when reassembling.

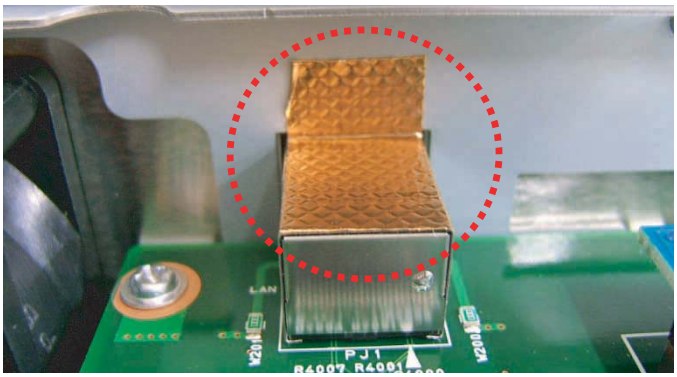


Fig. 2-2-3

C. Front panel (door and open/close key) (HD-XA1)

Check that insulating tape is stuck on the back of the door and open/close key on the front panel when reassembling.

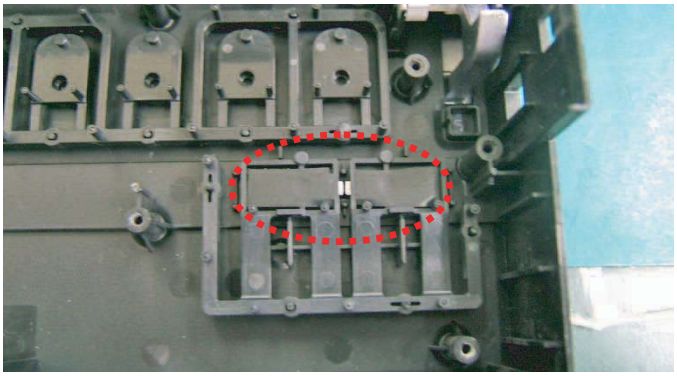


Fig. 2-2-4

D. Arranging ground wire (between USB board and AV board)

Fasten the ground wire together with other wires using a cable tie to keep it away from the primary circuit of the power board.

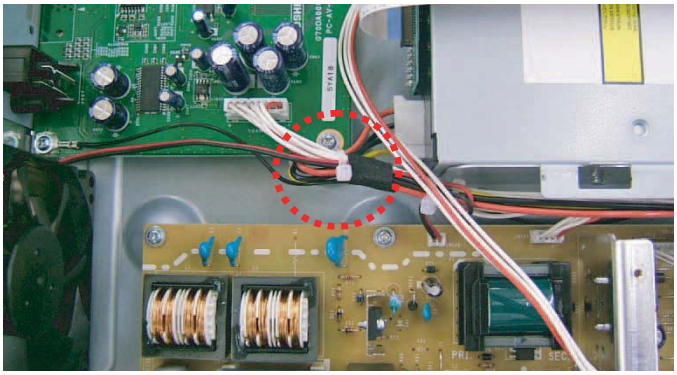


Fig. 2-2-5

E. Shaft brackets of electric door (HD-XA1)

Check that gaskets are attached to the shaft brackets of the electric door at the lower part (right and left sides) on the back of the front panel when reassembling.

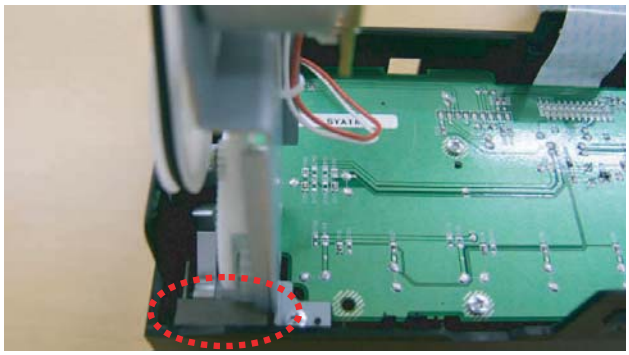


Fig. 2-2-6

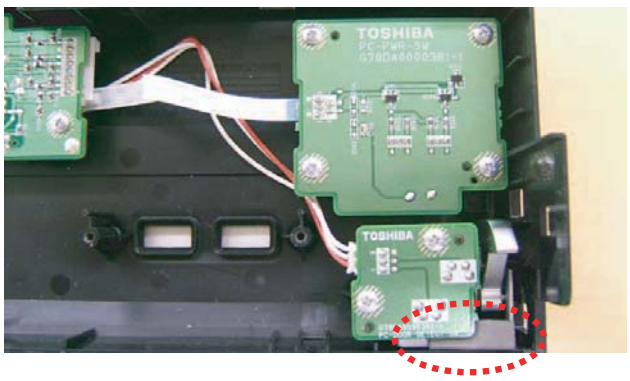


Fig. 2-2-7

F. W107

Check that a ferrite core is attached to W107 when reassembling.

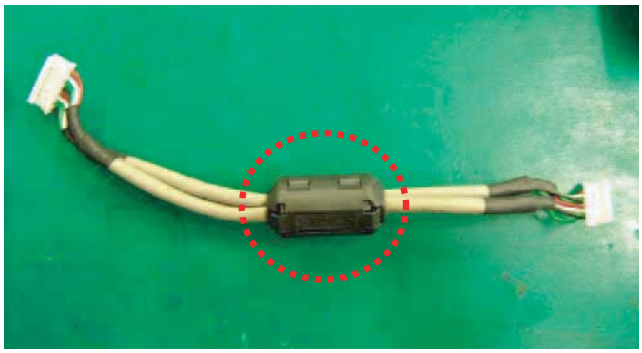


Fig. 2-2-8

G W106 (HD-A1/D1)

Check that a ferrite core is attached to W106 when reassembling.

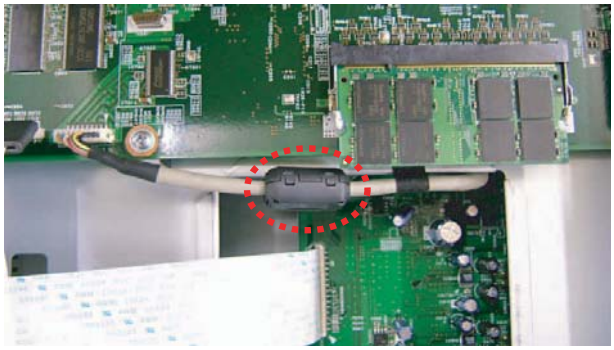


Fig. 2-2-9

H. Tape (HD-A1/D1)

There is no tape in HD-A1 and D1 when reassembling.

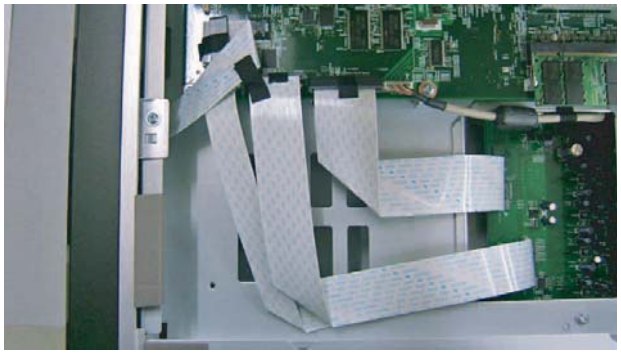


Fig. 2-2-10

I. Fixing of earth leads of W105 and W110(HD-A1/D1)

W105 (50mm) in a hole (W102) for the earth lead on the USB PC board from the component side and solder W105 on the solder side.

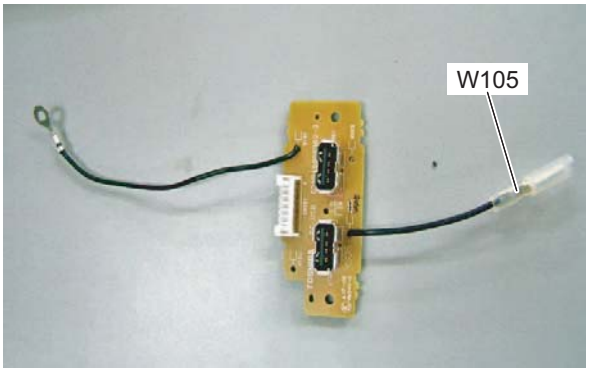


Fig. 2-2-11

Draw out W105 from the upper side of USB PC board toward you and connect W105 with W110.

Fix W110 in the same manner as is done on the HD-XA1.

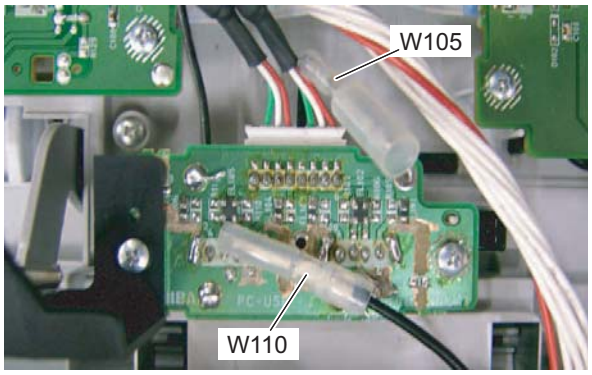


Fig. 2-2-12

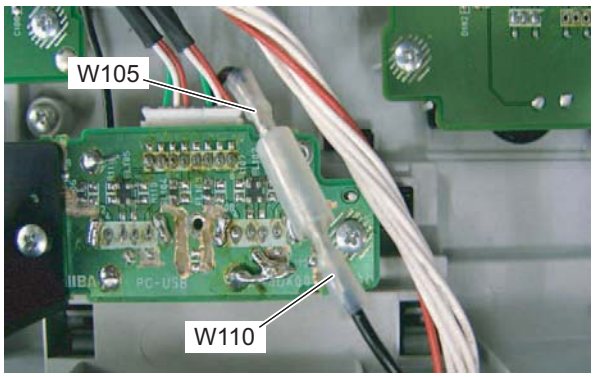


Fig. 2-2-13

SECTION 3
SERVICING DIAGRAMS

1. CIRCUIT SYMBOLS AND SUPPLEMENTARY EXPLANATION

1-1. Precautions for Part Replacement

- In the schematic diagram, parts marked ⚠ (ex. ⚠ F801) are critical part to meet the safety regulations, so always use the parts bearing specified part codes (SN) when replacing them.
- Using the parts other than those specified shall violate the regulations, and may cause troubles such as operation failures, fire etc.

1-2. Solid Resistor Indication

Unit	None .....Ω K .....kΩ M .....MΩ
Tolerance	None .....±5% B .....±0.1% C .....±0.25% D .....±0.5% F .....±1% G .....±2% K .....±10% M .....±20%
Rated Wattage	(1) Chip Parts None ..... 1/16W (2) Other Parts None ..... 1/6W Other than above, described in the Circuit Diagram.
Type	None .....Carbon film S .....Solid R .....Oxide metal film M .....Metal film W .....Cement FR .....Fusible

Eg. 1

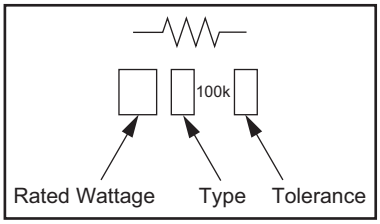


Fig. 3-1-1

1-3. Capacitance Indication

Symbol	.....Electrolytic, Special electrolytic .....Non polarity electrolytic .....Ceramic, plastic .....Film .....Trimmer
Unit	None .....F µ .....µF p .....pF
Rated voltage	None .....50V For other than 50V and electrolytic capacitors, described in the Circuit Diagram.
Tolerance	(1) Ceramic, plastic, and film capacitors of which capacitance are more than 10 pF. None .....±5% or more B .....±0.1% C .....±0.25% D .....±0.5% F .....±1% G .....±2% (2) Ceramic, plastic, and film capacitors of which capacitance are 10 pF or less. None .....more than ±5 pF B .....±0.1 pF C .....±0.25 pF (3) Electrolytic, Trimmer Tolerance is not described.
Temperature characteristic (Ceramic capacitor)	None .....SL For others, temperature characteristics are described. (For capacitors of 0.01 µF and no indications are described as F.)
Static electricity capacity (Ceramic capacitor)	Sometimes described with abbreviated letters as shown in Eg. 3.

Eg. 2

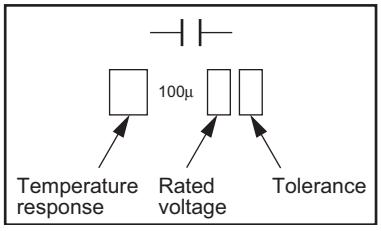


Fig. 3-1-2

Eg. 3

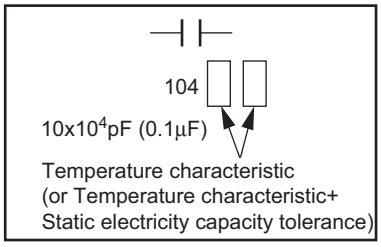


Fig. 3-1-3

1-4. Inductor Indication

Unit	None ..... H µ ..... µH m ..... mH
Tolerance	None .....±5% B .....±0.1% C .....±0.25% D .....±0.5% F .....±1% G .....±2% K .....±10% M .....±20%

Eg. 4

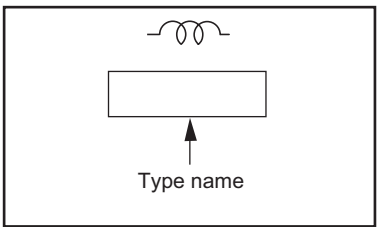


Fig. 3-1-4

1-5. Waveform and Voltage Measurement

- The waveforms for CD/DVD and RF shown in the circuit diagrams are obtained when a test disc is played back.
- All voltage values except the waveforms are expressed in DC and measured by a digital voltmeter.

Eg. 5

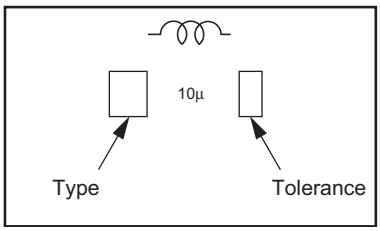


Fig. 3-1-5

1-6. Others

- The parts indicated with "NC" or "KETU" etc. are not used in the circuits of this model.

2. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

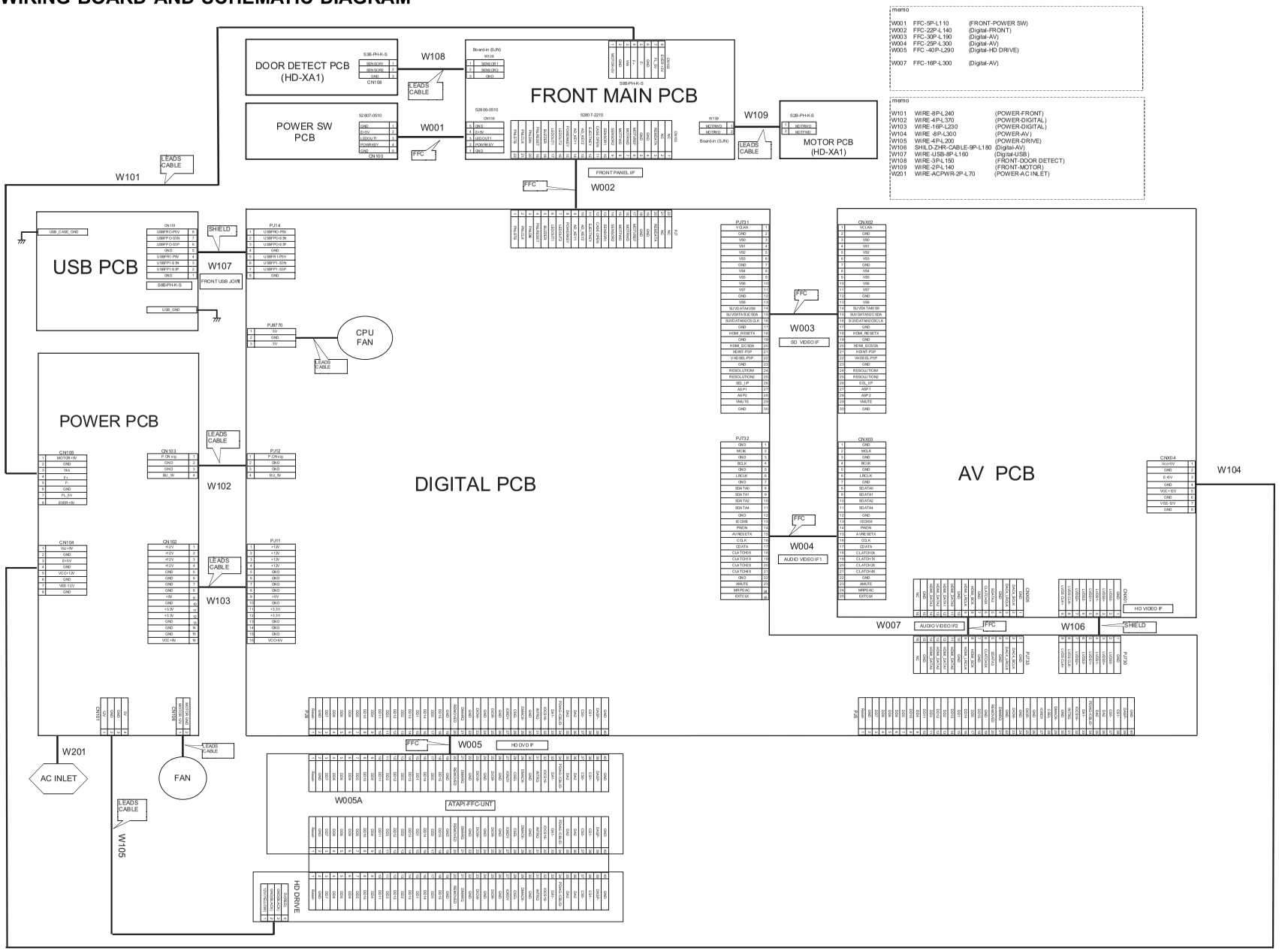


Fig. 3-2-1

3. BLOCK DIAGRAMS

3-1. Overall Block Diagram

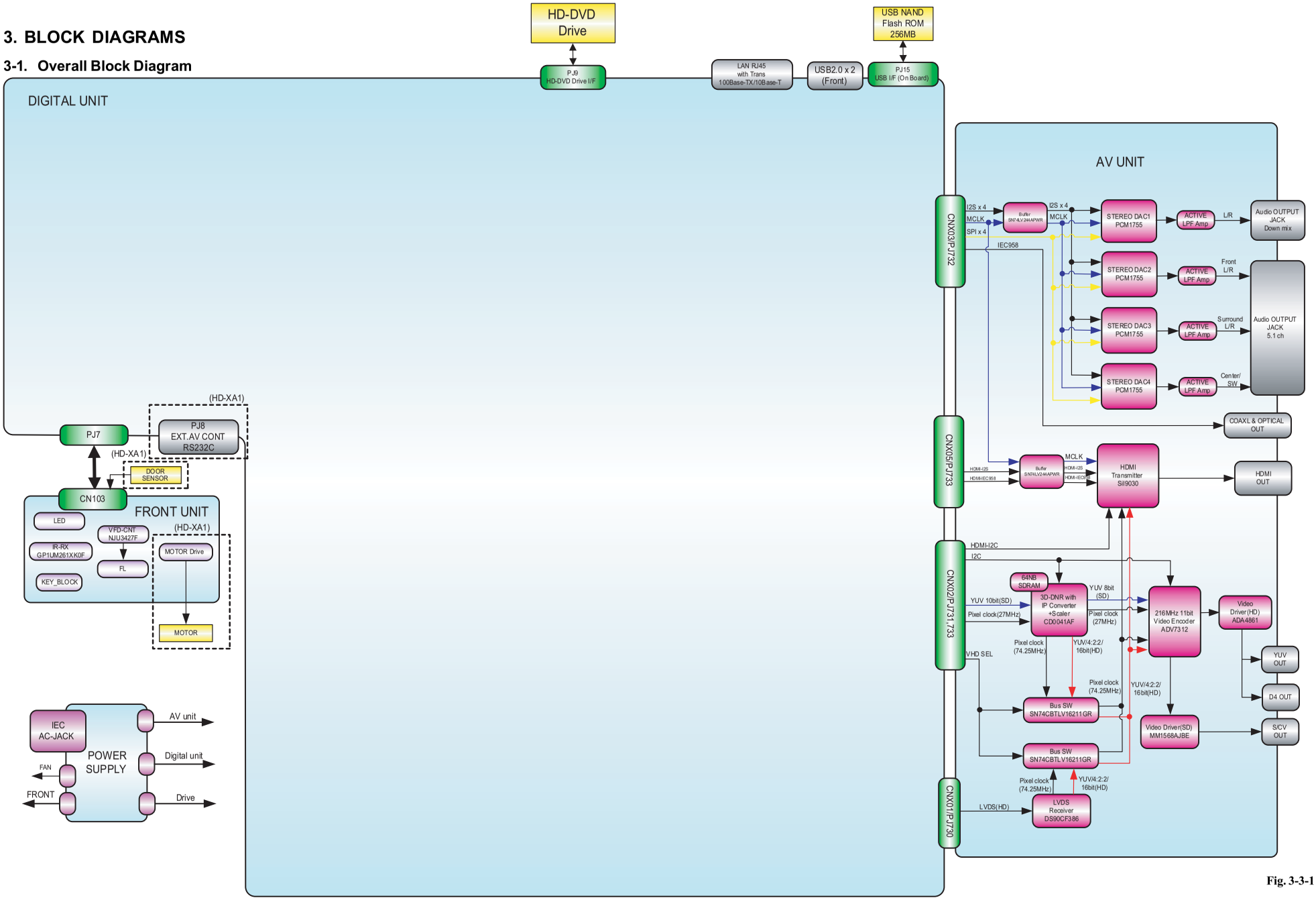


Fig. 3-3-1

4. CIRCUIT DIAGRAMS

4-1. Power Supply Circuit Diagram

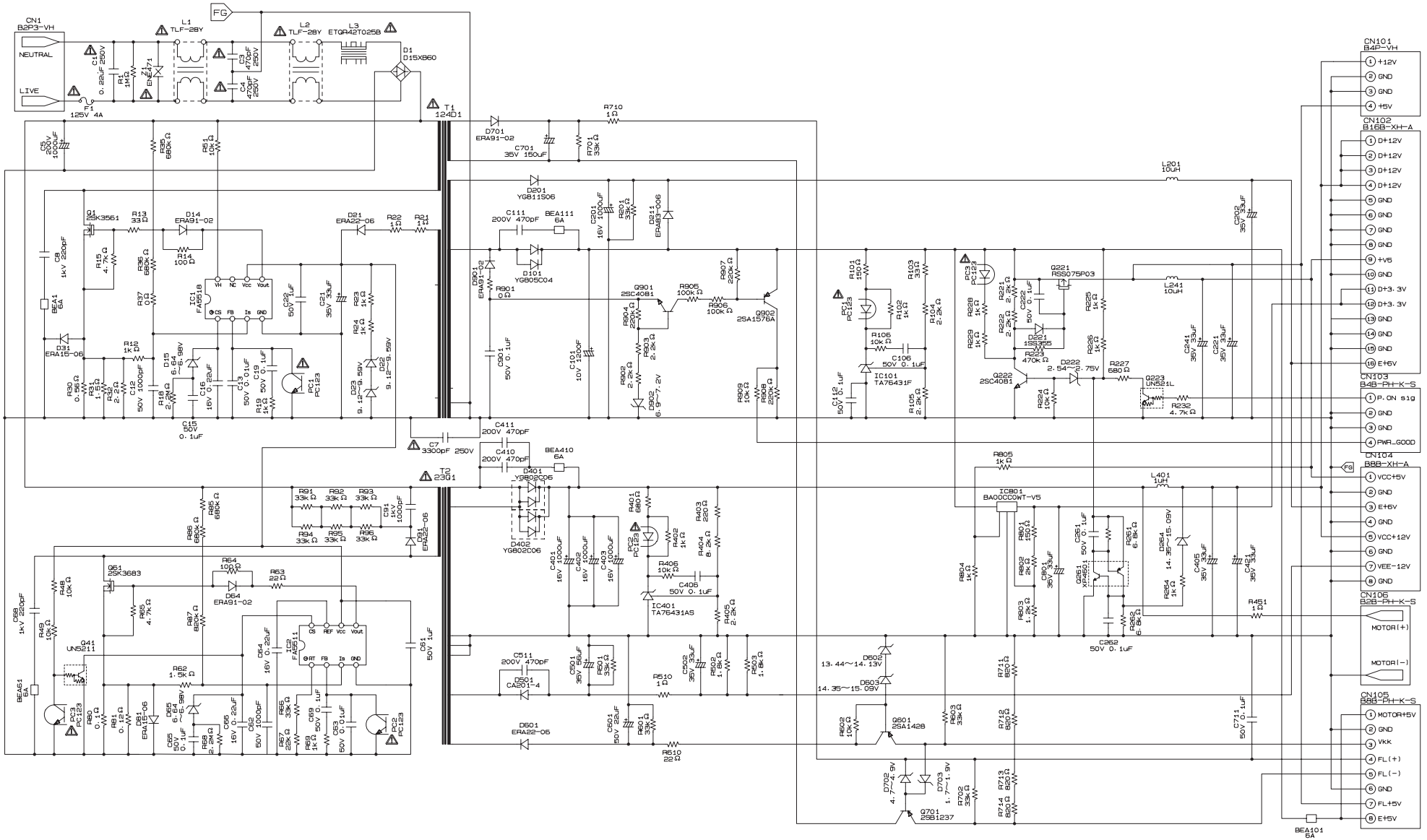


Fig. 3-4-1

4-2. Front Circuit Diagram

4-2-1. PWR-SW Circuit Diagram

MODEL NAME / PARTS No.	HD-XA1-K-TN HD-XA1-K-TJ		HD-A1-S-TN	HD-D1-K-TN
D101	×	×	—	—
R100	×	×	—	—
R101	×	×	—	—

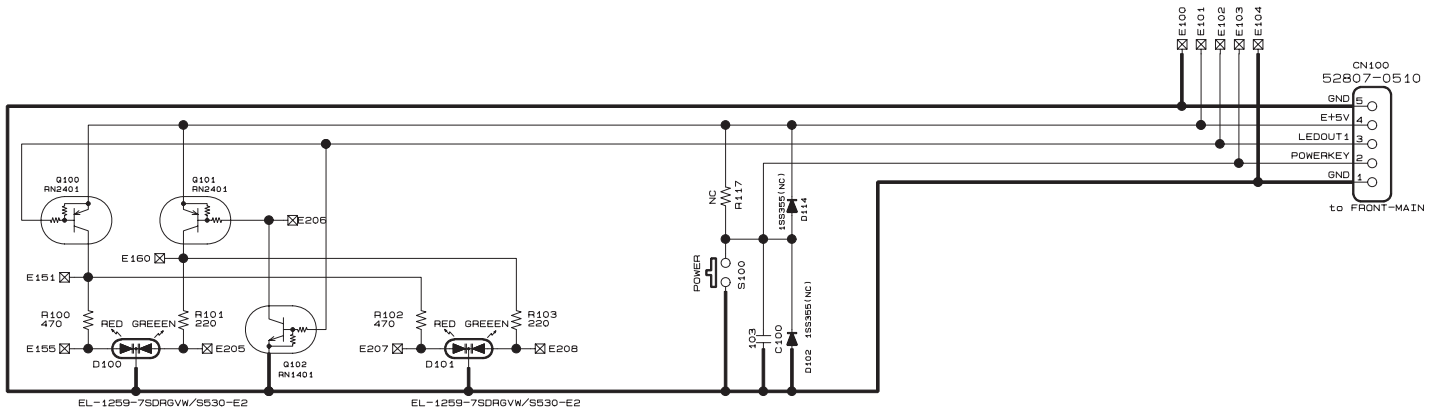


Fig. 3-4-2

4-2-2. USB Circuit Diagram

MODEL NAME / PARTS No.	HD-XA1-K-TN HD-XA1-K-TJ		HD-A1-S-TN	HD-D1-K-TN
W105 (450mm)	×	—	—	—
W105 (50mm)	—	×	×	×
W110	—	×	×	×

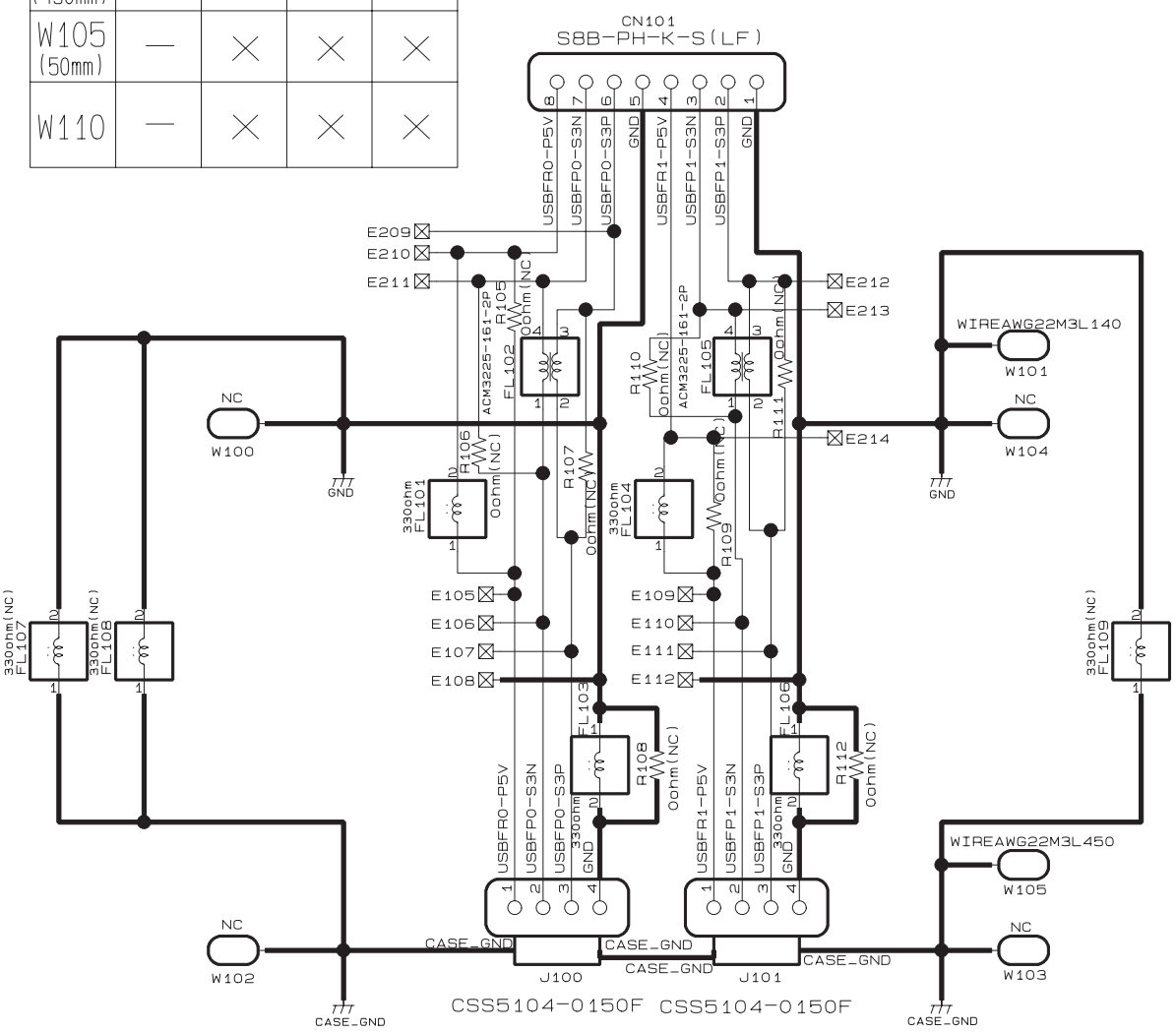
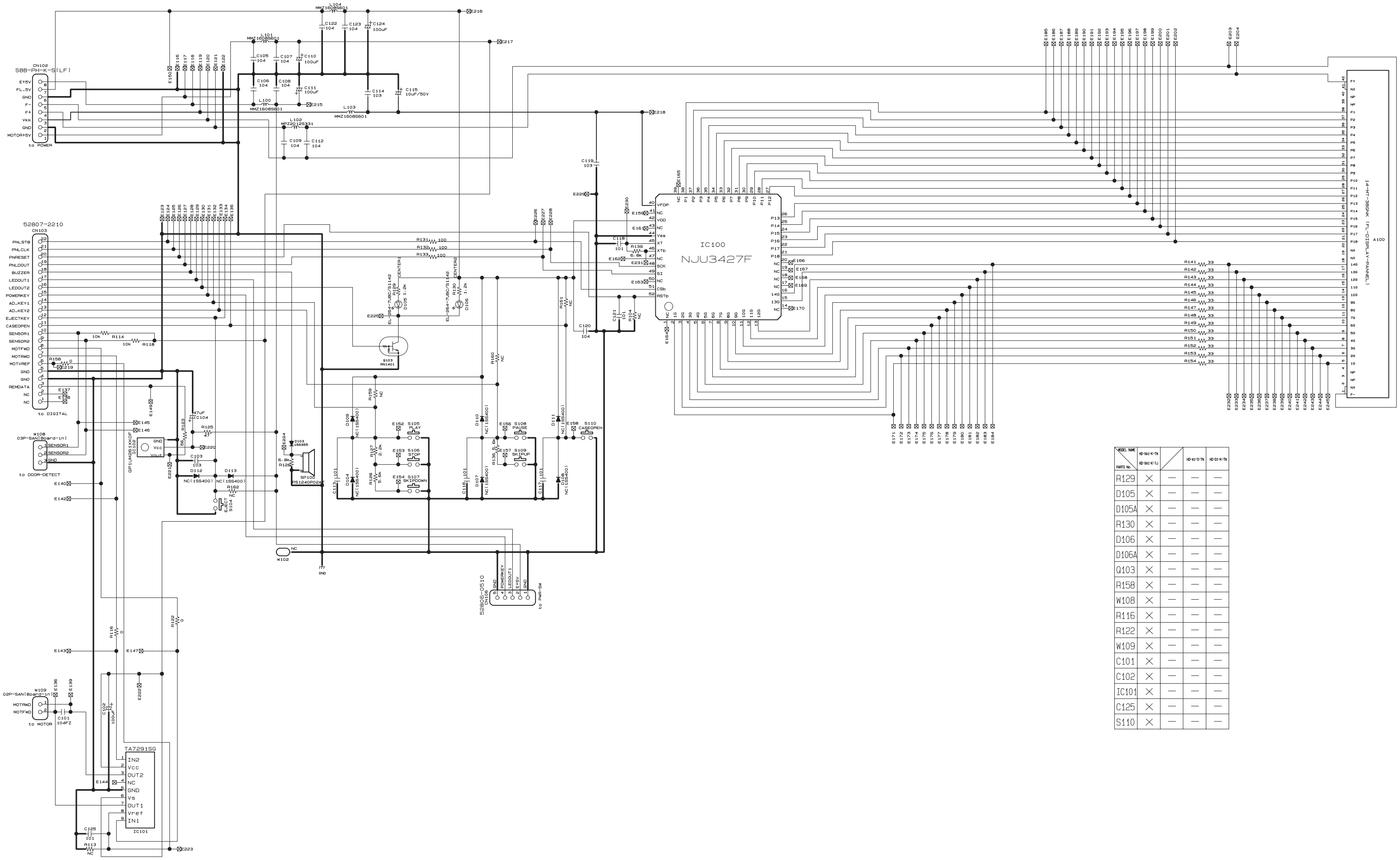


Fig. 3-4-3

4-2-3. Front-MAIN Circuit Diagram



MODEL NAME / PARTS No.	HD-XA1-K-TN HD-XA1-K-TJ		HD-A1-S-TN	HD-D1-K-TN
R129	×	—	—	—
D105	×	—	—	—
D105A	×	—	—	—
R130	×	—	—	—
D106	×	—	—	—
D106A	×	—	—	—
Q103	×	—	—	—
R158	×	—	—	—
W108	×	—	—	—
R116	×	—	—	—
R122	×	—	—	—
W109	×	—	—	—
C101	×	—	—	—
C102	×	—	—	—
IC101	×	—	—	—
C125	×	—	—	—
S110	×	—	—	—

Fig. 3-4-4

4-2-4. Door-Detect Circuit Diagram (HD-XA1)

MODEL NAME / PARTS No.	HD-XA1-K-TN HD-XA1-K-TJ		HD-A1-S-TN	HD-D1-K-TN
CN108	×	—	—	—
S101	×	—	—	—
S102	×	—	—	—

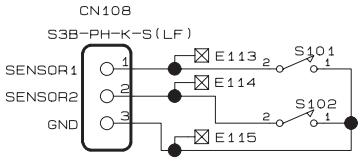


Fig. 3-4-5

4-2-5. Motor Circuit Diagram (HD-XA1)

MODEL NAME / PARTS No.	HD-XA1-K-TN HD-XA1-K-TJ		HD-A1-S-TN	HD-D1-K-TN
CN107	×	—	—	—
MOTOR1	×	—	—	—

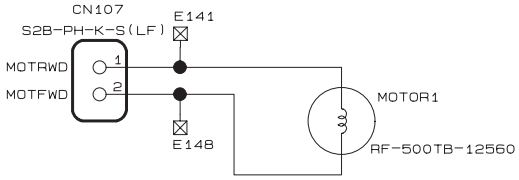


Fig. 3-4-6

4-3. AV Circuit Diagram

4-3-1. Audio Circuit Diagram

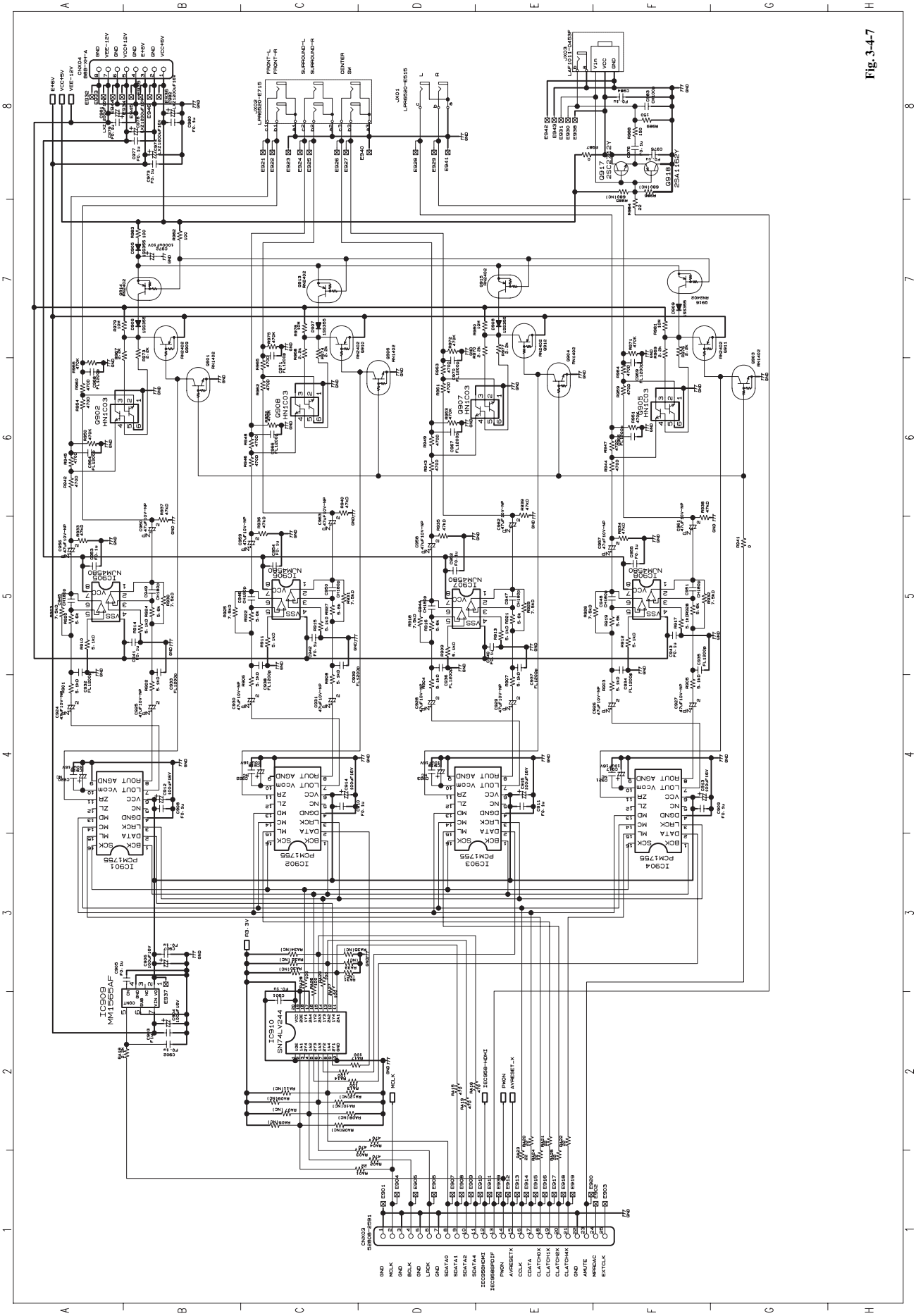


Fig. 3-4-7

4-3-2. Video Circuit Diagram

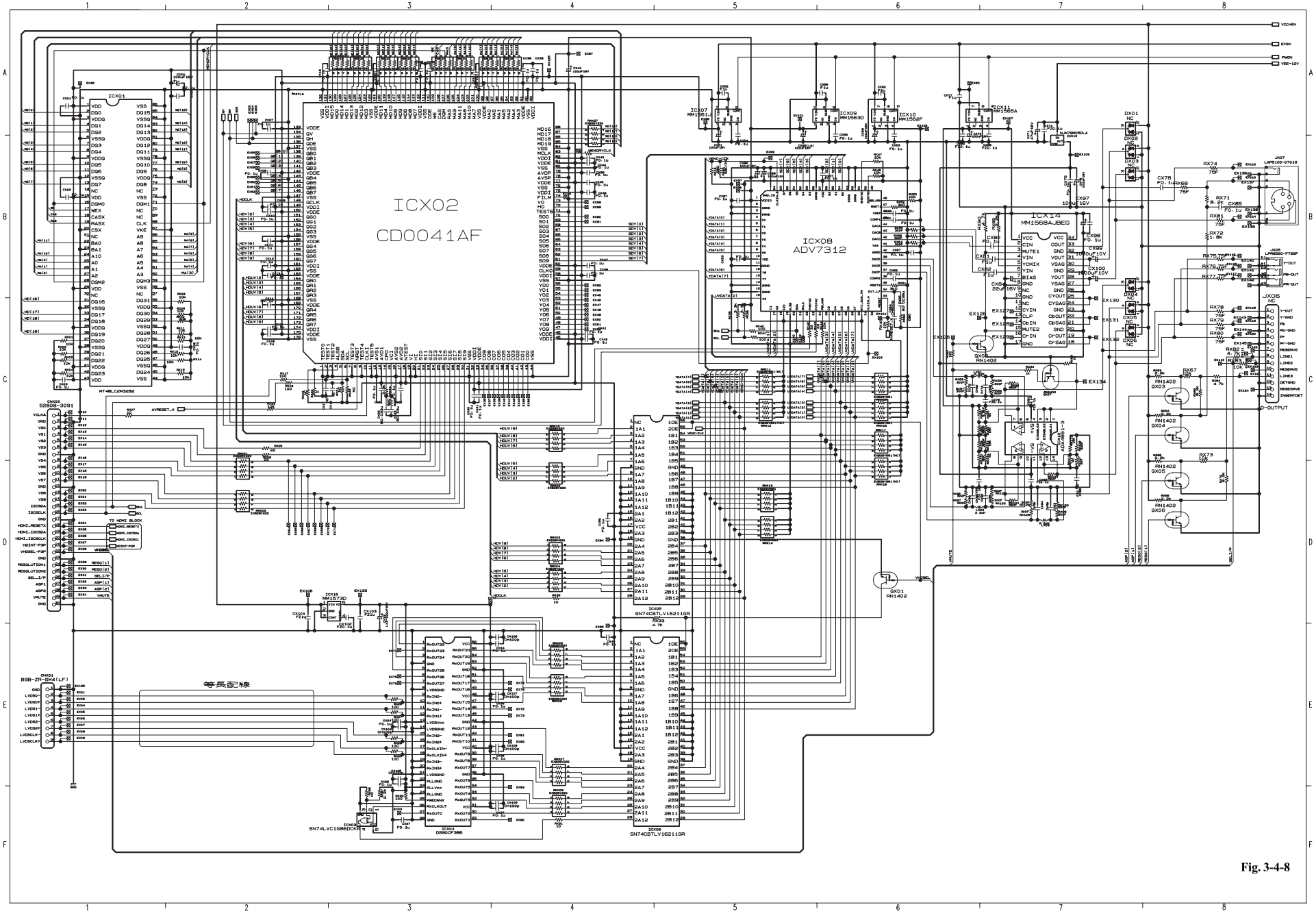


Fig. 3-4-8

4-3-3. HDMI Circuit Diagram

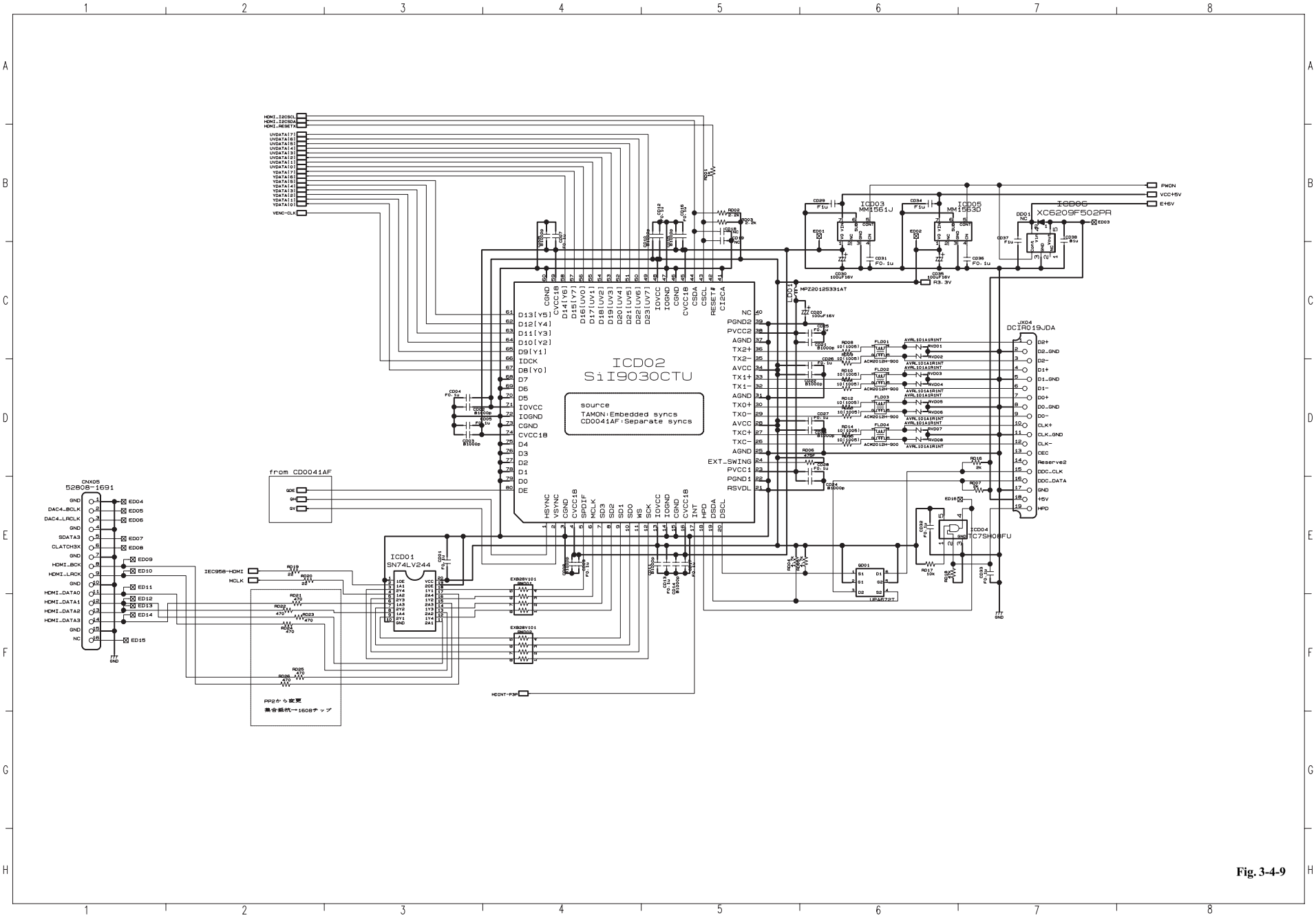


Fig. 3-4-9

5. PC BOARDS

5-1. Front MAIN PC Board

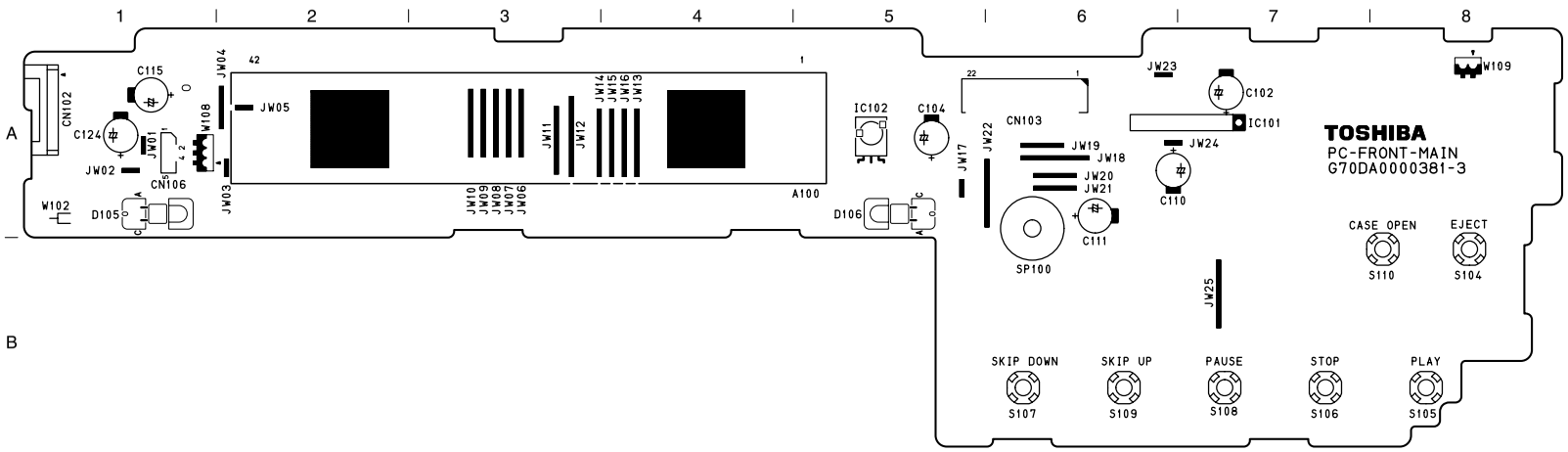


Fig. 3-5-1 Front MAIN PC Board (Top side)

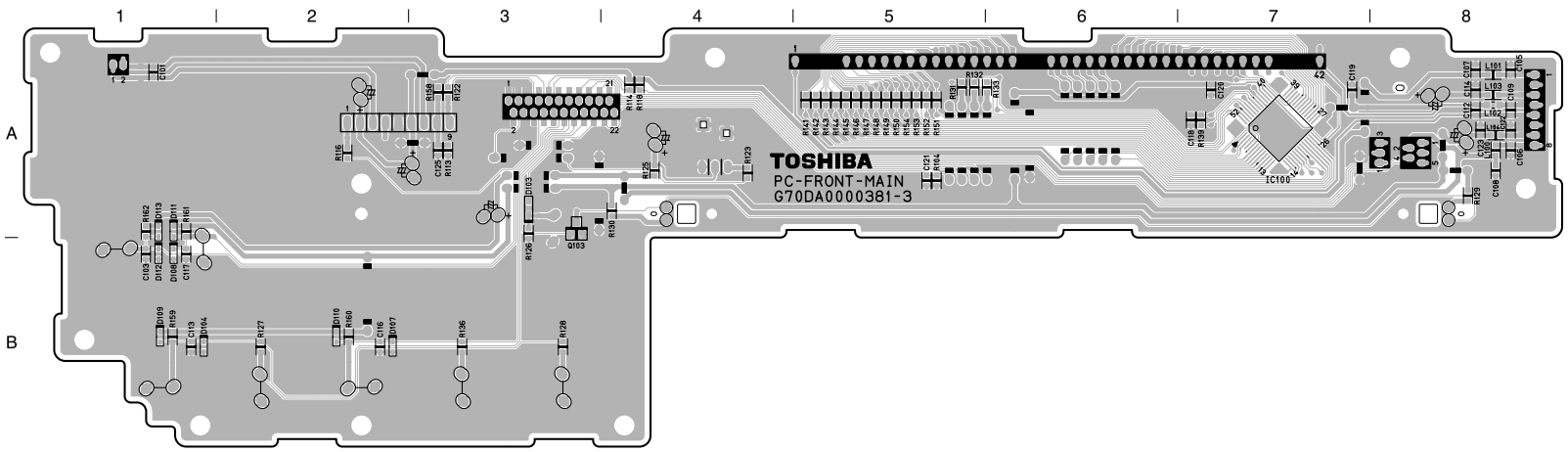


Fig. 3-5-2 Front MAIN PC Board (Bottom side)

5-2. PWR-SW PC Board

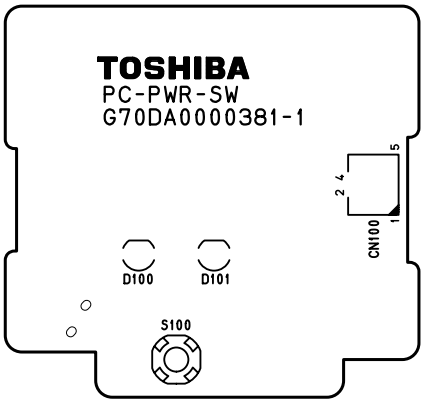


Fig. 3-5-3 PWR-SW PC Board (Top side)

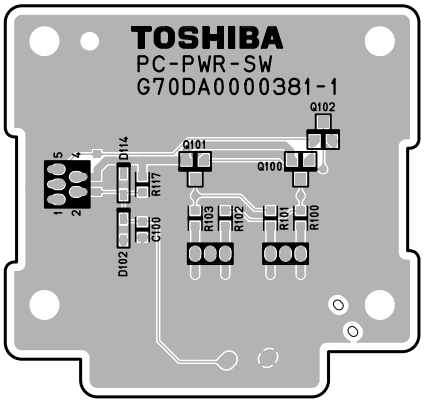


Fig. 3-5-4 PWR-SW PC Board (Bottom side)

5-3. Door-Detect PC Board (HD-XA1)

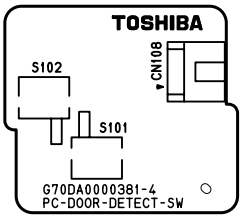


Fig. 3-5-5 Door-Detect PC Board (Top side)

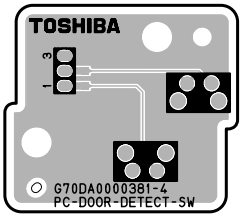


Fig. 3-5-6 Door-Detect PC Board (Bottom side)

5-4. USB PC Board

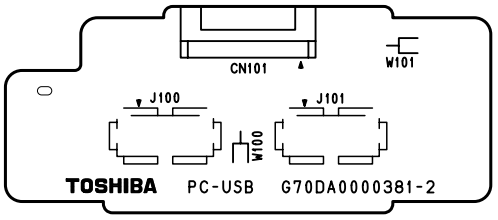


Fig. 3-5-7 USB PC Board (Top side)

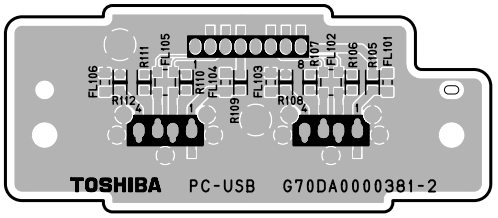


Fig. 3-5-8 USB PC Board (Bottom side)

5-5. Motor PC Board (HD-XA1)

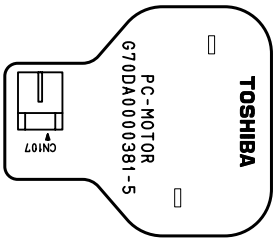


Fig. 3-5-9 Motor PC Board (Top side)

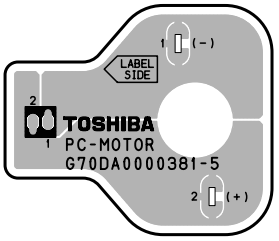


Fig. 3-5-10 Motor PC Board (Bottom side)

5-6. AV PC Board

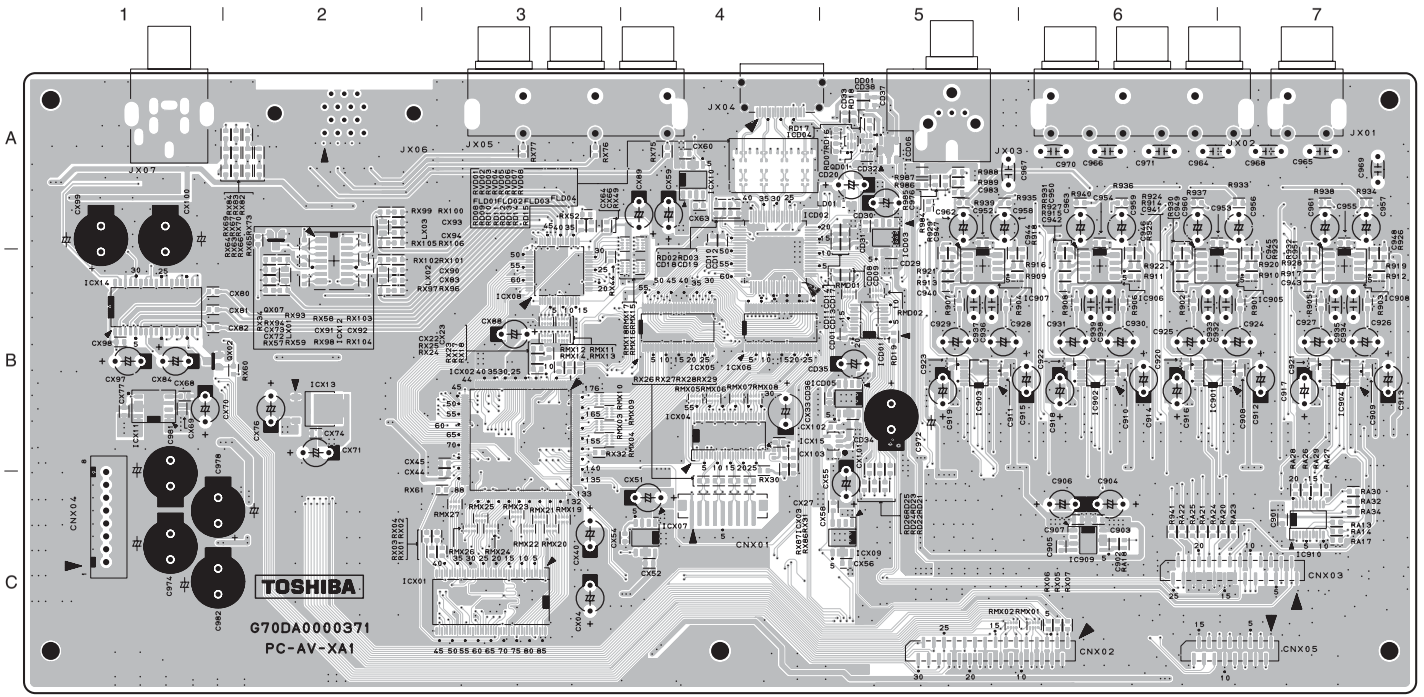


Fig. 3-5-11 AV PC Board (Top side)

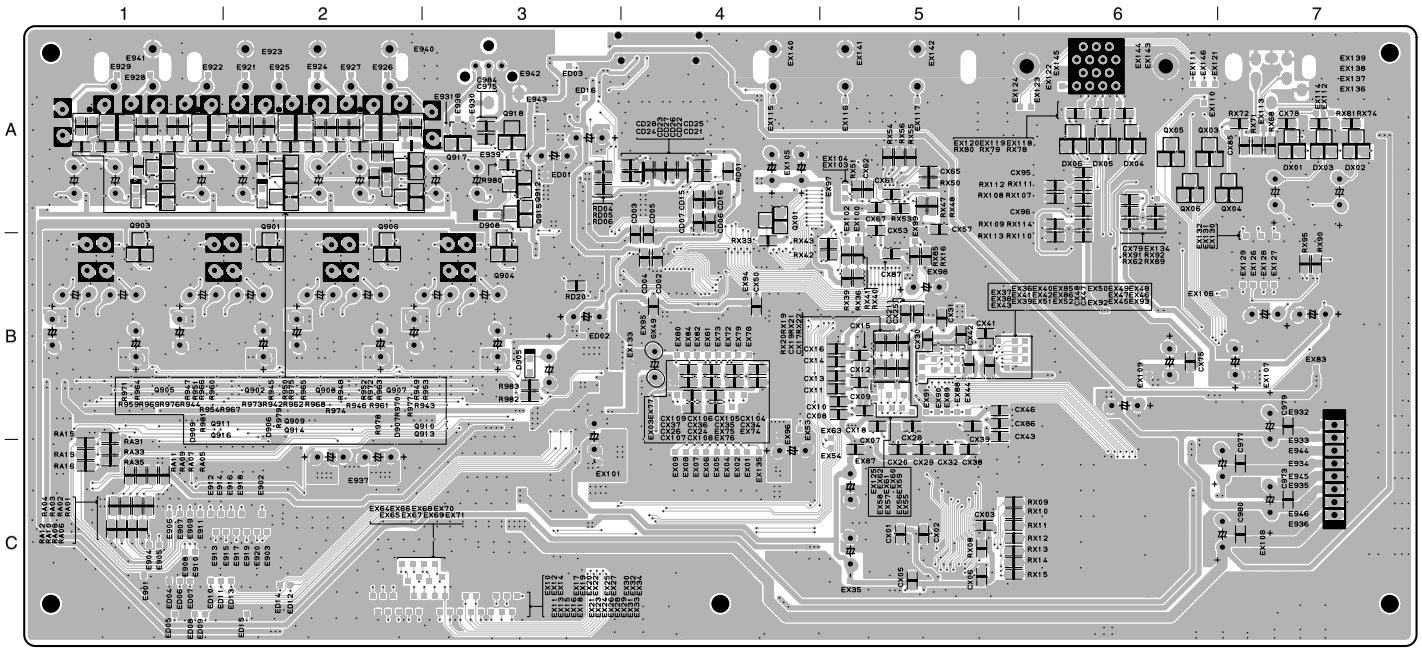


Fig. 3-5-12 AV PC Board (Bottom side)

SECTION 4
PARTS LIST

SAFETY PRECAUTION

The parts identified by ! (⚠) mark are critical for safety. Replace only with part number specified.

The mounting position of replacement is to be identical with originals.

The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

NOTICE

The part number must be used when ordering parts in order to assist in processing, be sure to include the model number and description.

ABBREVIATIONS

- **Integrated Circuit (IC)**
- **Capacitor (Cap)**
  - **Capacitance Tolerance (for Nominal Capacitance more than 10pF)**

Table 4-2-1

Symbol	B	C	D	F	G	J	K	M	N
Tolerance %	±0.1	±0.25	±0.5	±1	±2	±5	±10	±20	±30

Symbol	P	Q	T	U	V	W	X	Y	Z
Tolerance %	+100 0	+30 −10	+50 −10	+75 −10	+20 −10	+100 −10	+40 −20	+150 −10	+80 −20

Ex. 10μF J = 10μF ± 5%

  - **Capacitance Tolerance (for Nominal Capacitance 10pF or less)**

Table 4-2-2

Symbol	B	C	D	F	G
Tolerance pF	±0.1	±0.25	±0.5	±1	±2

Ex. 10pF G = 10pF ± 2pF

- **Resistor (Res)**
  - **Resistance tolerance**

Table 4-3-1

Symbol	B	C	D	F	G	J	K	M
Tolerance %	±0.1	±0.25	±0.5	±1	±2	±5	±10	±20

Ex. 470ΩJ = 470Ω± 5%

1. EXPLODED VIEWS

1-1. Packing Assembly

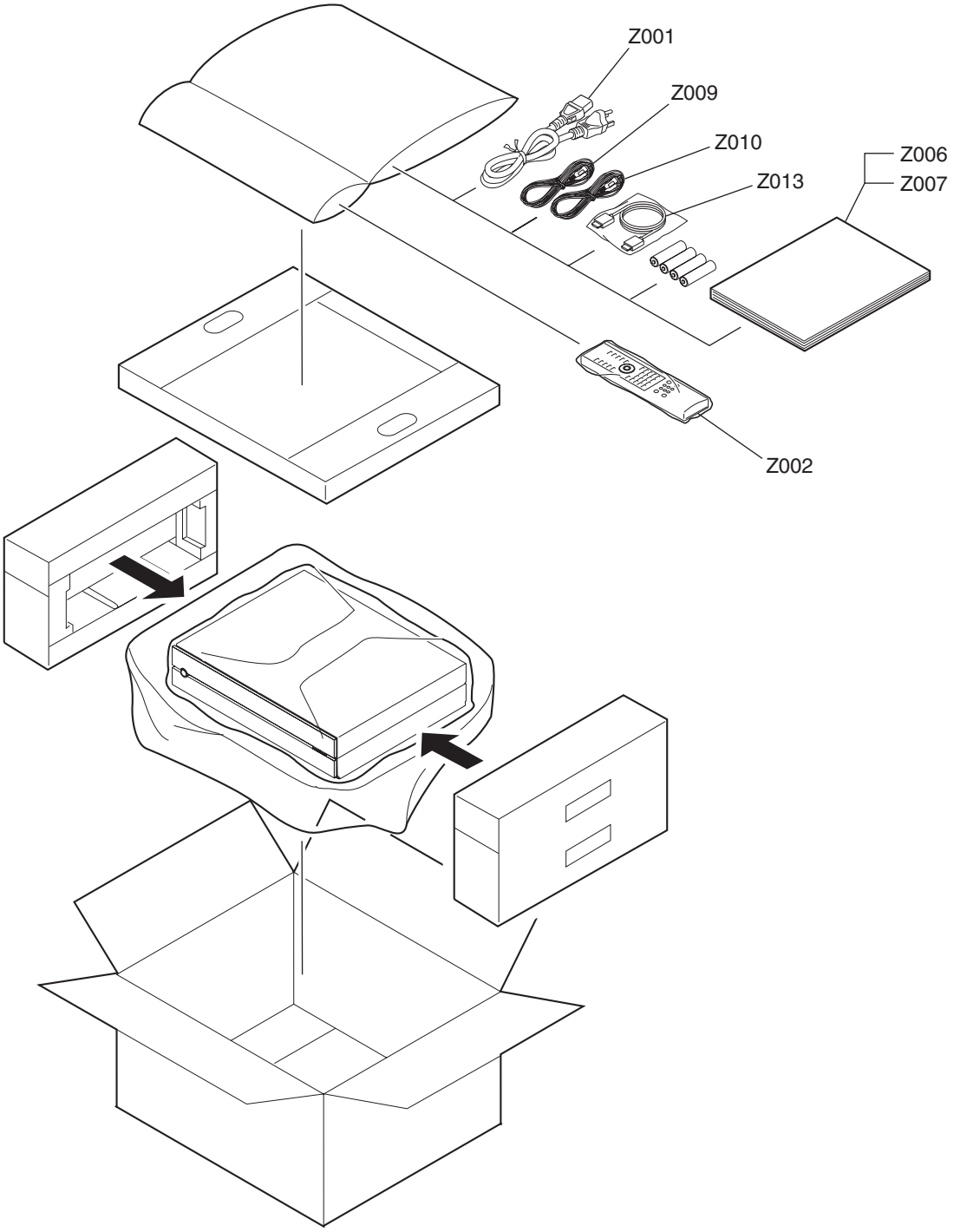


Fig. 4-1-1

1-2. Cabinet Assembly 1 (HD-XA1)

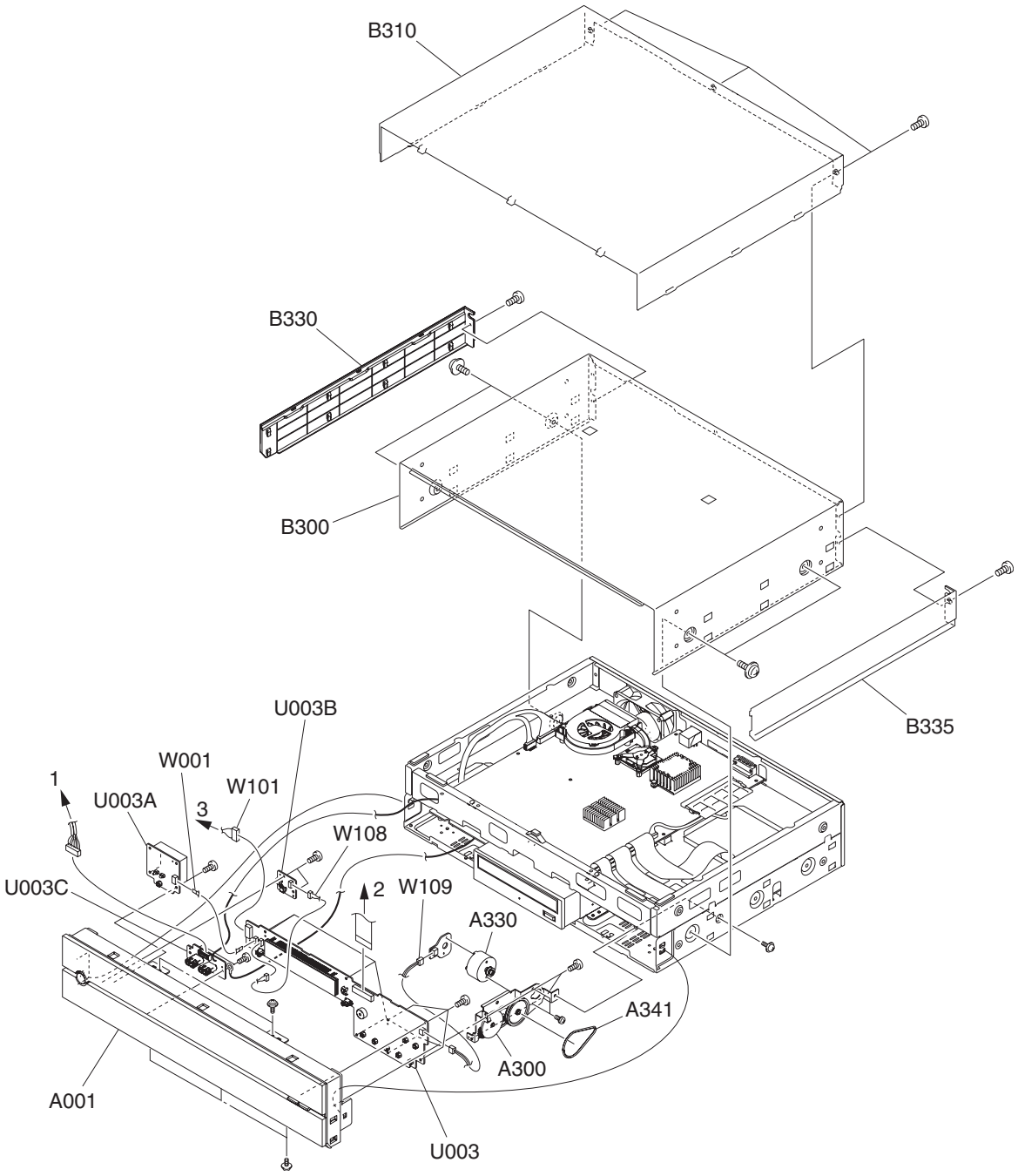
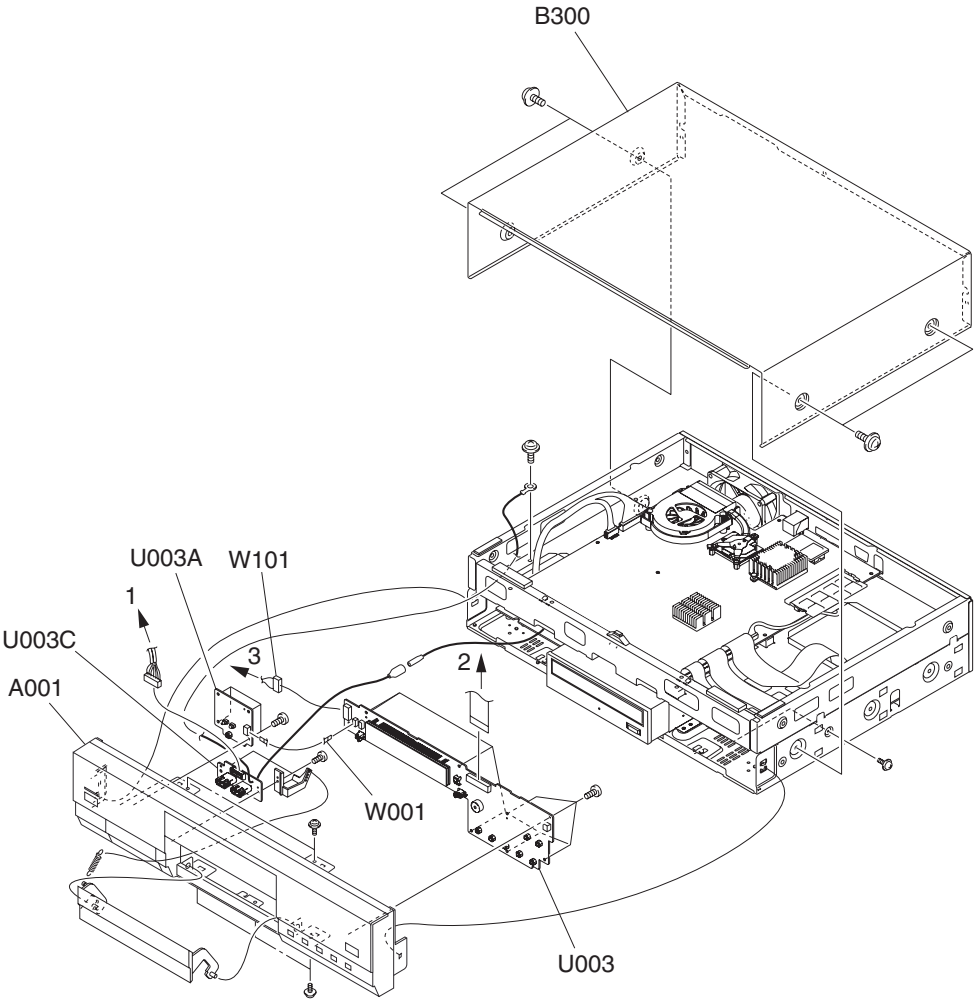


Fig. 4-1-2

1-3. Cabinet Assembly 2 (HD-A1/HD-D1)



This figure shows the cabinet assembly of HD-D1.

Fig. 4-1-3

1-4. Chassis Assembly

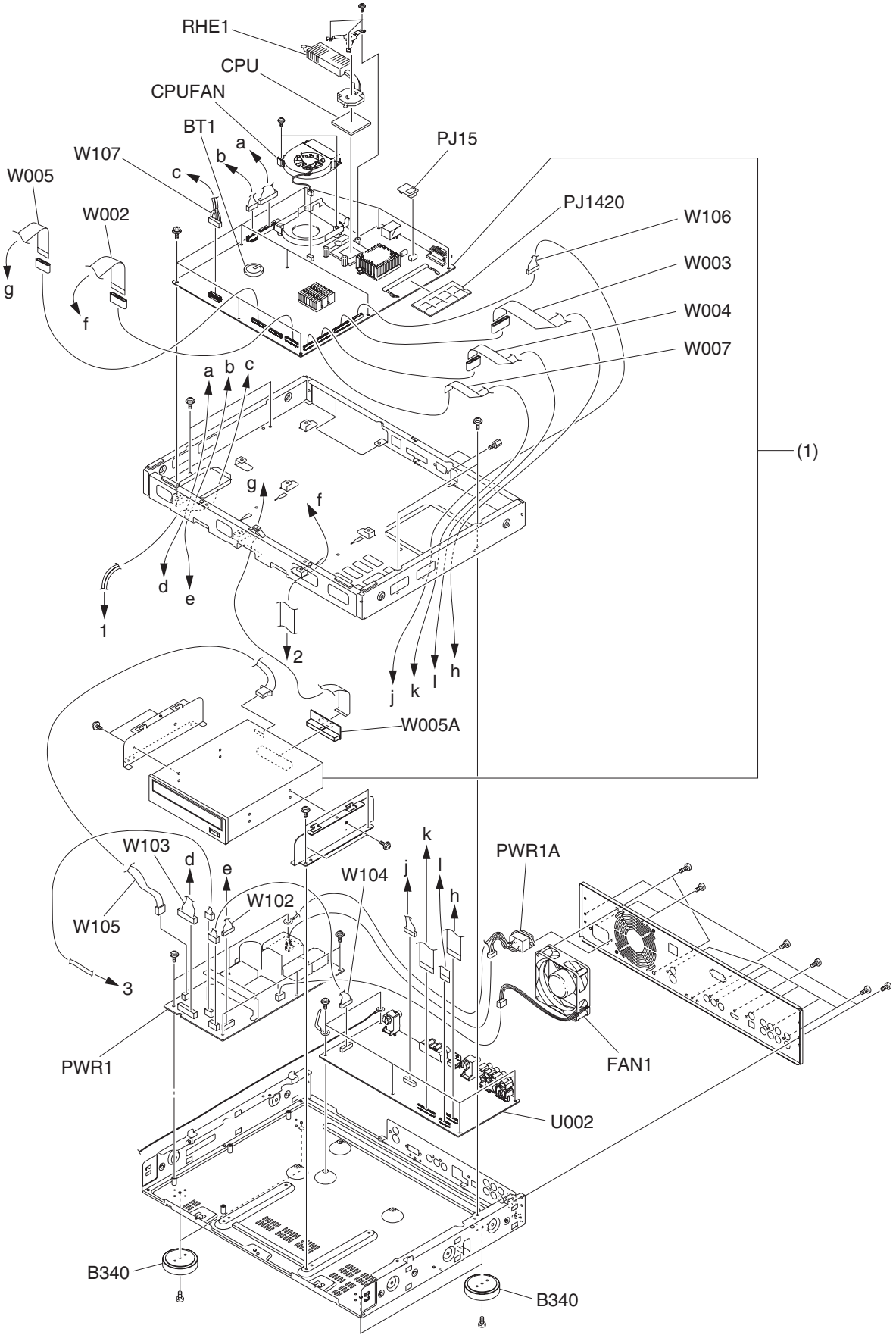


Fig. 4-1-4

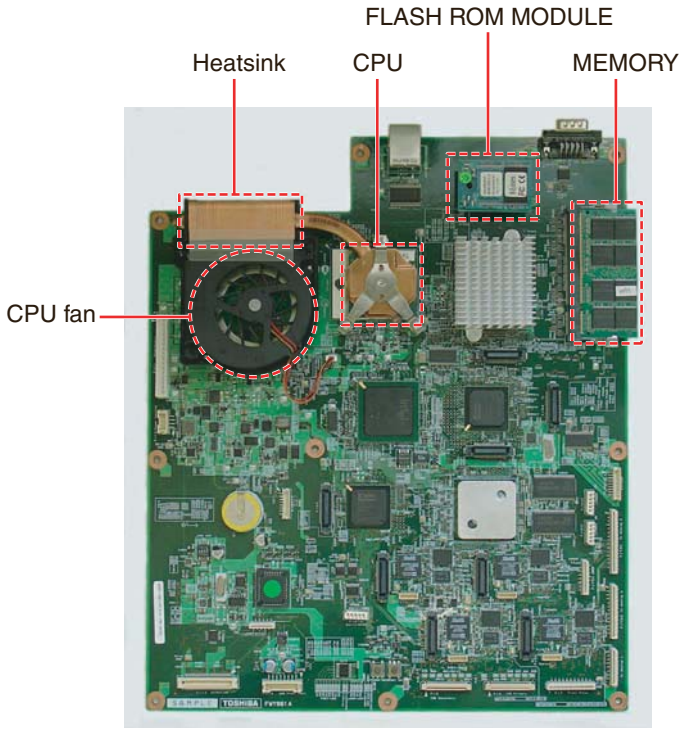
Replacement of Digital PC Board

The digital PC board for service use, on which some parts are not mounted, is supplied.

When replacing the digital PC board, mount the parts removed from the former board on a new board.

<Digital PC Board for service use>

<Completed Digital PC Board>



2. PARTS LIST

Location No.	Part No.	Description	
		- MECHANICAL PARTS -	
A001	P000461210	PANEL ASSY,FRONT	HD-XA1
A001	P000464130	PANEL ASSY,FRONT	HD-A1
A001	P000464190	PANEL ASSY,FRONT	HD-D1
A300	P000461170	GEAR ASSY	
A330	P000461190	MOTOR ASSY	
A341	P000461420	DRIVE BELT	
B300	P000461410	COVER TOP	HD-XA1
B300	P000464160	COVER TOP	HD-A1
B300	P000464200	COVER TOP	HD-D1
B310	P000461180	PANEL ASSY TOP	HD-XA1
B330	P000461510	PANEL SIDE L	HD-XA1
B335	P000461520	PANEL SIDE R	HD-XA1
B340	P000461160	FOOT KIT	4PCS WITH RUBBER,HD-XA1
B340	P000464110	FOOT KIT	HD-A1/D1
FAN1	P000461330	FAN DC	D08A-12TS602
W001	P000461460	FFC-5P-L110	FRONT-PWRSW
W002	P000461610	FFC-22P-L140	DIGITAL-FRONT
W003	P000461470	FFC-30P-L190	DIGITAL-AV
W004	P000461480	FFC-25P-L300	DIGITAL-AV
W005	P000461490	FFC-40P-L290	DIGITAL-DRIVE
W007	P000461590	FFC-16P-L300	DIGITAL-AV
W101	P000461600	WIRE-8P-L240	POWER-FRONT
W102	P000461370	WIRE-4P-L370	POWER-DIGITAL
W103	P000461360	WIRE-16P-L230	POWER-DIGITAL
W104	P000461350	WIRE-8P-L300	POWER-AV
W105	P000461500	WIRE-4P-L200	POWER-DRIVE
W106	P000461340	SHIELD-ZHR-9P-L180	DIGITAL-AV
W107	P000461380	WIRE-8P-L160	DIGITAL-USB
W108	P000461390	WIRE-3P-L150	FRONT-DOORSENSOR
W109	P000461400	WIRE-2P-L140	FRONT-MOTOR
W005A	P000461260	ATAPI ADAPTER	FFC-ATAPI CONV UNIT
⚠ Z001	P000461430	CORD POWER	UL
Z002	P000461440	REMOCON UNIT	SE-R0200,HD-XA1
Z002	P000464150	REMOCON UNIT	SE-R0237,HD-A1/D1
⚠ Z006	P000458270	OWNERS MANUAL	ENGLISH,HD-XA1
⚠ Z007	P000458280	OWNERS MANUAL	FRENCH,HD-XA1
⚠ Z006	P000464170	OWNERS MANUAL	ENGLISH,HD-A1
⚠ Z007	P000464180	OWNERS MANUAL	FRENCH,HD-A1
⚠ Z006	P000464210	OWNERS MANUAL	ENGLISH,HD-D1
⚠ Z007	P000464220	OWNERS MANUAL	FRENCH,HD-D1
Z009	P000461540	CABLE AV VISUAL	1P-L1500
Z010	P000461550	CABLE AV AUDIO	2P-L1500
Z013	P000461530	CABLE HDMI	JE-6119190803
		- ELECTRICAL PARTS -	
⚠ (1)	P000462950	HD-XA1 ASSY	DIGITAL-PCB/HD-DVD-DRIVE,HD-XA1
⚠ (1)	P000464140	HD-A1/D1 ASSY	DIGITAL-PCB/HD-DVD-DRIVE,HD-A1/D1
PJ1420	P000461280	SO-DIMM MODULE	1GB
PJ15	P000461290	FLASH MEMORY MODULE	256MB

	Location No.	Part No.	Description	
	CPU	P000461300	CPU MODULE	PENTIUM4
	CPUFAN	P000461320	FAN CPU	MCF-TS6512M05
	RHE1	P000461570	RHE-MODULE	MCF-130P-RHE
	BT1	P000461310	LI-BATTERY	CR2032-1HF
⚠	PWR1	P000461450	POWER UNIT	MPN5232XA
	PWR1A	P000461580	AC-INLET WIRE ACPWR	3P-L70
	U002	P000461200	PC BOARD ASSY	AV
	U003	P000461220	PC BOARD ASSY	FRONT MAIN,HD-XA1
	U003	P000464120	PC BOARD ASSY	FRONT MAIN,HD-A1/D1
	U003A	P000461230	PC BOARD ASSY	POWER SW
	U003B	P000461240	PC BOARD ASSY	DOOR DETECT
	U003C	P000461250	PC BOARD ASSY	USB

SUPPLEMENT

SUPPLEMENT1. Firmware Version Update

We plan to respond to these developments by providing the firmware update.
The latest information will be informed Toshiba customer support on the WEB.

1) Main Firmware
2) HD DVD Drive Firmware

1. HD DVD Player FW Update

To update the firmware, the following procedures are provided.

1) HD DVD based
   Internet connection Direct Download to player
2) PC based Download
   PC (Download) ⟶ CD-R making
3) CD-ROM
   CD-ROM (mail)

2. Check Main Firmware version (in detail)

Check Main FW Version by the special Code from the remote control

<Field Service Use only — Do not disclose to users.>

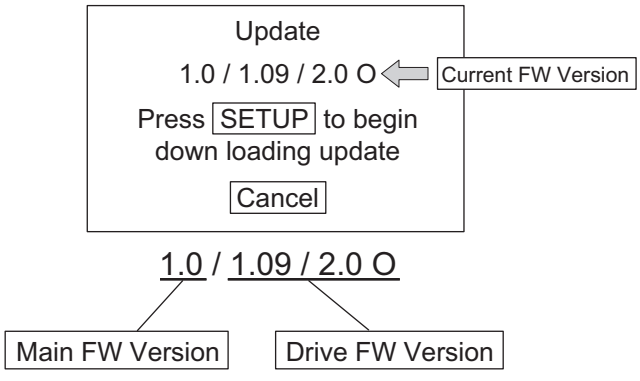
1) Press "ON / STAND BY" on the unit or remote.
2) Press "DISPLAY" -> "1"->"9"->"5"-> "DISPLAY"
3) Main FW version is shown on the unit display as "1-007".
   (ex.) Version 1.007

   The first 2 digits(1.0) is disclosed to users.
   (The following 2 digits(07) is only use for development.)
   This version can be checked from "SETUP" menu also.

3. Firmware Version Check procedure

Check from "SET UP Menu"

1) Press "ON / STAND BY" on the unit or remote.
2) Press "SETUP" button.
3) Select "General" -> "Maintenance"->"Update".
4) The firmware version is shown on TV display as below.



5) If select “SETUP”, downloading update will be started.

4. Firmware Update Procedure

(1) Main (or Drive) FW Update by CD-ROM disc

1) Insert Update disc into the unit.
2) Indicate the notice.
   -> Select YES & press “OK” button on the remote control.
3) Version update is started. Waiting a few minutes.
4) Tray will be opened and power off automatically.
5) Power On & confirm the FW version.

(2) FW Update from WEB site

From “SETUP” menu, the latest firmware can be downloaded to the unit.

* Refer to Firmware version check procedure.
* Internet always-on broadband connection is needed.

SUPPLEMENT2. Error Display

1. System Error

System Error Code Table

External error code	Content of error	OSD	VFD
0x81xxxxxx	Application error	YES	ERROR
0x83xxxxxx	Application error	YES	ERROR
0x84xxxxxx	Application error	YES	ERROR
0x85xxxxxx	Application error	YES	ERROR
0x4094C000	Fatal error of Advanced Player	YES	external error code
0x4094C002	Application error	YES	external error code
0x4094C004	System error (such as initialization failure)	YES	external error code
0x4094C005	AACS error	YES	external error code
0x4094C006	Error from VCP	YES	external error code
0x4094C007	Error from GCP	YES	external error code
0x4094C008	When SecureAccessControllerFailure occurs	YES	external error code
0x4094C009	For VCPFailure (Not to be used)	YES	external error code
0x4094C00A	For PrivateFailure (Do not use it.)	YES	external error code
0x4094C00B	When ResourceLoadFailure occurs	YES	external error code
0x4094C00C	When ScriptFailure occurs	YES	external error code
0x4094C00D	Error occurred at Markup anomaly	YES	external error code
0x4094C00F	Error from AdvUI (Returned Value)	YES	external error code
0x4094C0FE	Fatal error of advanced Player	YES	external error code
0x4094C100	Fatal error of AdvMain	YES	external error code
0x4094C1FE	Fatal error of AdvMain	YES	external error code
0x4094C200	Fatal error of iHD	YES	external error code
0x4094C201	AACS error of Load Playlist processing	YES	external error code
0x4094C202	Fatal error of AACS processing	YES	external error code
0x4094C203	Playlist read-in/Analysis error	YES	external error code
0x4094C2FE	Fatal error of iHD	YES	external error code
0x4094C300	Fatal error of SMX	YES	external error code
0x4094C3FE	Fatal error of SMX	YES	external error code
0x4094C400	Fatal error of Ecma Script Engine	YES	external error code
0x4094C4FE	Fatal error of Ecma Script Engine	YES	external error code
0x4094C500	Fatal error of VCP	YES	external error code
0x4094C502	Incorrect support for PAL/NTSC	YES	external error code
0x4094C503	Error related to AACS	YES	external error code
0x4094C504	Error of disc content	YES	external error code
0x4094C5FE	Un-expected error	YES	external error code
0x4094C600	Fatal error of GCP	YES	external error code
0x4094C601	Use of Pixel Buffer exceeds 4.15M pixels.	YES	external error code
0x4094C6FE	Fatal error of GCP	YES	external error code

note: *OSD is a display of the TV monitor screen.
*VFD is a display of the indicator of the front panel.

Message on OSD

English

Cannot play the disc.
Error code : 0x00000000

Japanese

再生できません。
予期せぬエラーが発生しました。
エラーコード: 0x00000000

French

Impossible de reproduire le disque.
Code d'erreur : 0x00000000

2. HDMI error

VFD	content of error
HDMI ERROR 0	Error related to HDMI connection
HDMI ERROR 1	Error related to HDCP approval

3. Update error

Content of error	Message on VFD	Message on OSD		
		Japanese	English	French
When the network connection is failed	The following reference.	サーバーにつながりません。	Can not find out server.	Impossible de trouver le serveur.
When the network connection is interrupted		ダウンロードに失敗しました。 しばらくしてから、再度バージョンアップをしてください。	The download failed. Wait a while and then try to update the software again.	Le téléchargement a échoué. Attendez un moment et puis essayez de mettre à jour le logiciel encore.
When the software is already updated		すでにソフトウェアは更新されています。 更新処理を終了します。	The software has already been updated. The update process will end.	Le logiciel a été déjà mis à jour. Le processus de mise à jour finira.

Code	Message on VFD	Content	Cause	Remarks
101	VUP□ERROR□101	Initialization error	Illegal arguments at the start-up	Finished
102	VUP□ERROR□102	Initialization error	Initialization error of SubMicom	Finished
103	VUP□ERROR□103	Initialization error	Failed to create RAM DISK.	Finished
104	VUP□ERROR□104	Finishing process	Failed to delete RAM DISK.	Finished
105	VUP□ERROR□105	Finishing process	Error of finishing process of SubMicom	Finished
106	VUP□ERROR□106			
107	VUP□ERROR□107			
108	VUP□ERROR□108			
109	VUP□ERROR□109			
110	VUP□ERROR□110			
111	VUP□ERROR□111	Version Updated from Disc.	Failed to open a device.	Finished
112	VUP□ERROR□112	Version Updated from Disc.	Failed to read the header information.	Finished
113	VUP□ERROR□113	Version Updated from Disc.	Failed to read the data information.	Finished
114	VUP□ERROR□114	Version Updated from Disc.	Unmatched checksum	Finished
115	VUP□ERROR□115			
116	VUP□ERROR□116			
117	VUP□ERROR□117			
118	VUP□ERROR□118			
119	VUP□ERROR□119			
120	VUP□ERROR□120			
121	VUP□ERROR□121	Version Updated from Net.	Connection error	Finished
122	VUP□ERROR□122	Version Updated from Net.	Reception error	Finished
123	VUP□ERROR□123	Version Updated from Net.	Improper download information	Finished
124	VUP□ERROR□124	Version Updated from Net.	3 times of unmatched CRC32 value of data file	Finished
125	VUP□ERROR□125	Version Updated from Net.	Transmission ewrror of data download finish	Continued
126	VUP□ERROR□126	Version Updated from Net.	Trasmission error at the download finish	Continued
127	VUP□ERROR□127	Version Updated from Net.	Failed to concatenate files.	Finished
128	VUP□ERROR□128	Version Updated from Net.	Failed to read the header information.	Finished
129	VUP□ERROR□129	Version Updated from Net.	Failed to read the data information.	Finished
130	VUP□ERROR□130	Version Updated from Net.	Unmatched checksum	Finished
131	VUP□ERROR□131	Version Updated from Net.	Transmission error	Finished
132	VUP□ERROR□132	Version Updated from Net.	Disconnection error	Finished
133	VUP□ERROR□133	Version Updated from Net.	Illegal Proxy setting	Finished
134	VUP□ERROR□134	Version Updated from Net.	Error of Proxy connection	Finished
135	VUP□ERROR□135	Version Updated from Net.	3 times of time-over	Finished
136	VUP□ERROR□136	Version Updated from Net.	Files in the server are old.	Finished
137	VUP□ERROR□137	Version Updated from Net.	Time-over of server connection at the request of program information	Finished
138	VUP□ERROR□138			
139	VUP□ERROR□139			
140	VUP□ERROR□140			
141	VUP□ERROR□141	Version Updated from USB MEMORY.	Failed to mount.	Finished
142	VUP□ERROR□142	Version Updated from USB MEMORY.	Failed to read the header information.	Finished
143	VUP□ERROR□143	Version Updated from USB MEMORY.	Failed to read the data information.	Finished
144	VUP□ERROR□144	Version Updated from USB MEMORY.	Unmatched checksum	Finished
145	VUP□ERROR□145			
146	VUP□ERROR□146			
147	VUP□ERROR□147			
148	VUP□ERROR□148			
149	VUP□ERROR□149			
150	VUP□ERROR□150			
151	VUP□ERROR□151	Common to read-out	Identical version/Version down	Finished
152	VUP□ERROR□152	Common to read-out	Unmatched language	Finished
153	VUP□ERROR□153	Common to read-out	Unmatched hardware	Finished
154	VUP□ERROR□154	Common to read-out	Unmatched user	Finished
155	VUP□ERROR□155			
156	VUP□ERROR□156			
157	VUP□ERROR□157			
158	VUP□ERROR□158			
159	VUP□ERROR□159			
160	VUP□ERROR□160			
161	VUP□ERROR□161	When extracting	Error of lock file creation	Continued
162	VUP□ERROR□162	When extracting	Error of lock file deletion	Continued
163	VUP□ERROR□163			
164	VUP□ERROR□164			
165	VUP□ERROR□165			
166	VUP□ERROR□166			
167	VUP□ERROR□167			
168	VUP□ERROR□168			
169	VUP□ERROR□169			
170	VUP□ERROR□170			

201	VUP□ERROR□201	When extracting	Error at extracting a tar	Finished
202	VUP□ERROR□202	When extracting	Error at executing postcommand.sh	Finished
203	VUP□ERROR□203	When extracting	NG code returned from postcommand.sh	Not set
204	VUP□ERROR□204	Finishing process	Error at executing sync command	Finished
205	VUP□ERROR□205			
206	VUP□ERROR□206			
207	VUP□ERROR□207			
208	VUP□ERROR□208			
209	VUP□ERROR□209			
210	VUP□ERROR□210			
211	VUP□ERROR□211	Ciphering process	Failed to restore a tar.gz file.	Finished
212	VUP□ERROR□212	Ciphering process	Failed to re-cipher the application.	Finished
213	VUP□ERROR□213			
214	VUP□ERROR□214			
215	VUP□ERROR□215			
216	VUP□ERROR□216			
217	VUP□ERROR□217			
218	VUP□ERROR□218			
219	VUP□ERROR□219			
220	VUP□ERROR□220			

SPECIFICATIONS

Power requirement during operation	90.0W
Power supply	120V AC, 60 Hz
Mass	HD-XA1: 8.9kg, HD-A1•D1: 7.4kg
External dimension	HD-XA1: Width 437 x Height 115 x Depth 354mm, HD-A1•D1: Width 430 x Height 103 x Depth 353mm
Signal system	Standard NTSC Color TV system
Laser	Semiconductor laser, Wavelength : 405nm/650nm/780nm
VIDEO output	1.0Vp-p (75Ω), Sync signal negative, Pin jack x 1 system
S-VIDEO output	(Y) 1.0Vp-p (75Ω), Sync signal negative, (C) 0.286Vp-p (75Ω) 1 at rear Mini DIN4 Pin x 1 system
COMPONENT output(Y, P_B, P_R)	Y output (green), 1.0Vp-p (75Ω), Sync signal negative, Pin jack x 1 system P_B, P_R output (blue, red), 0.7Vp-p (75Ω), Pin jack x 1 system each
ANALOG AUDIO output	2.0V (rms), 2.2kΩ or below, pin jack (L, R) x 2 systems 2.0V (rms), 2.2kΩ or below, pin jack, Pin jack x 6
DIGITAL AUDIO OUTPUT (BITSTREAM/PCM jack)	Optical connector x 1 system Coaxial pin jack x 1 system, 0.5Vp-p (75Ω)
LAN port	100BASE-TX/10BASE-T x 1
EXTENSION port	EXTENSION port x 2 systems
RS-232C connector (HD-XA1)	DSUB 9 pin
HDMI output	19 pin
Remote control	Wireless remote control (HD-XA1: SE-R0200, HD-A1•D1: SE-R0237)
Operating conditions	Temperature: 41°F~95°F (5°C~35°C) Position: Horizontal
Clock accuracy	Quartz (monthly deviation: approximately ±30 seconds)

- This model complies with the above specifications.
- Designs and specifications are subject to change without notice.
- This model may not be compatible with features and/or specifications that may be added in the future.
- The Illustrations and screens described in this manual may be exaggerated or simplified for easy recognition and may be slightly different from the actual unit.

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN