SONY

LCD MONITOR

LMD-1750W

MONITOR STAND
SU-561

SERVICE MANUAL
1st Edition

⚠警告

このマニュアルは，サービス専用です。
お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

When using a modular jack cable:
For safety, do not connect to the connector for peripheral device wiring that might have excessive voltage.

PARALLEL REMOTE connector (modular connector, 8-pin)
CAUTION
For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to this port. Follow the instructions for this port.

SERIAL REMOTE connector (RJ-45)
CAUTION
For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to this port. Follow the instructions for this port.

Attention-when the product is installed in Rack:

1. **Prevention against overloading of branch circuit**
   When this product is installed in a rack and is supplied power from an outlet on the rack, please make sure that the rack does not overload the supply circuit.

2. **Providing protective earth**
   When this product is installed in a rack and is supplied power from an outlet on the rack, please confirm that the outlet is provided with a suitable protective earth connection.

3. **Internal air ambient temperature of the rack**
   When this product is installed in a rack, please make sure that the internal air ambient temperature of the rack is within the specified limit of this product.

4. **Prevention against achieving hazardous condition due to uneven mechanical loading**
   When this product is installed in a rack, please make sure that the rack does not achieve hazardous condition due to uneven mechanical loading.

5. **Install the equipment while taking the operating temperature of the equipment into consideration**
   For the operating temperature of the equipment, refer to the specifications of the Operation Manual.

6. **When performing the installation, keep the following space away from walls in order to obtain proper exhaust and radiation of heat.**
   Lower, Upper: 4.4 cm (1 3/4 inches) or more

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Manual Structure

Purpose of this manual

This manual is the Service Manual of the LCD Monitor LMD-1750W.
This manual contains the service overview, electrical alignments, troubleshooting, spare parts, block diagrams, and frame wiring.

The service of this unit is basically performed by the replacement of board. Therefore, the schematic diagram, board layout and electrical parts list are not contained.

Related manuals

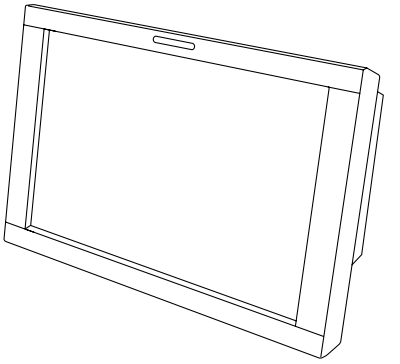
In addition to this Service Manual the following manual is provided.

- **“Operating Instructions” (supplied with this unit)**
  This manual is necessary for application and operation of this unit.

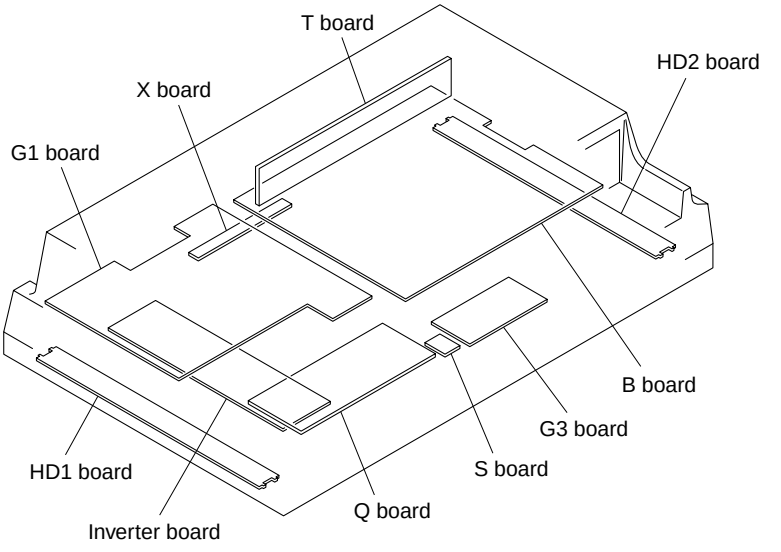
- **“Semiconductor Pin Assignments” CD-ROM (Available on request)**
  This “Semiconductor Pin Assignments” CD-ROM allows you to search for semiconductors used in Broadcast and Professional equipment.
  This manual contains a complete list of semiconductors and their ID Nos., and thus should be used together with the CD-ROM.
  Part number: 9-968-546-06

Section 1
Service Overview

1-1. Appearance Figure



1-2. Board Location

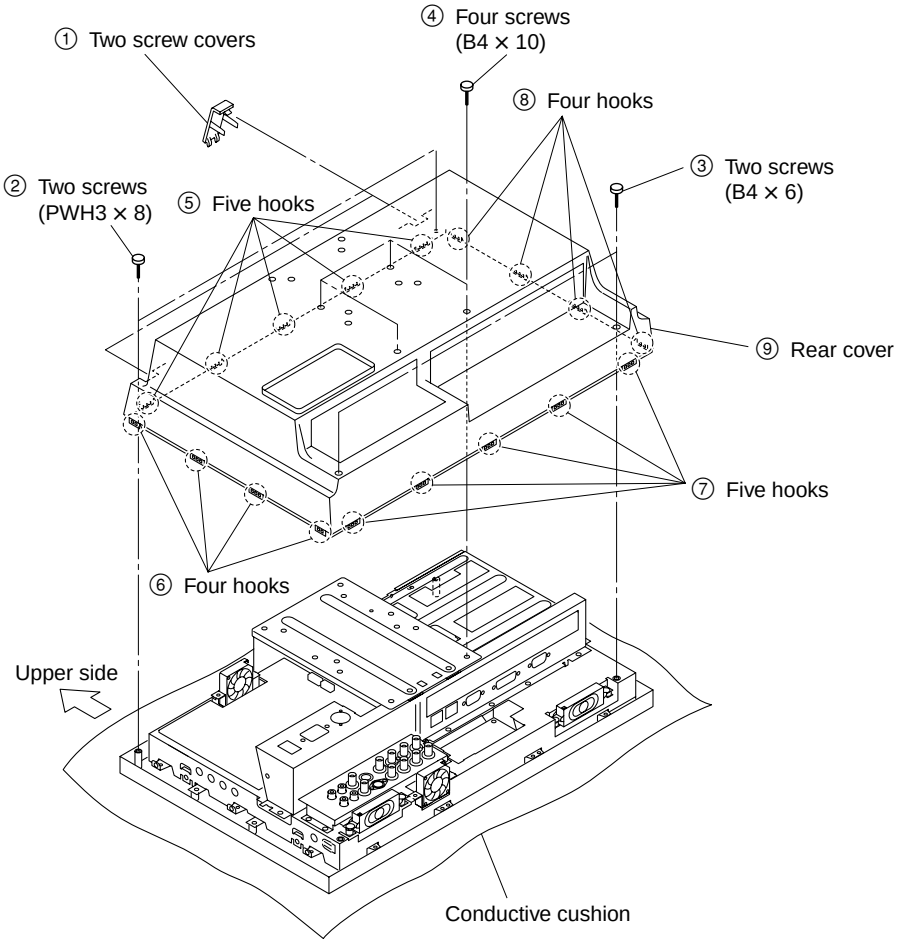


1-3. Disassembly

Notes

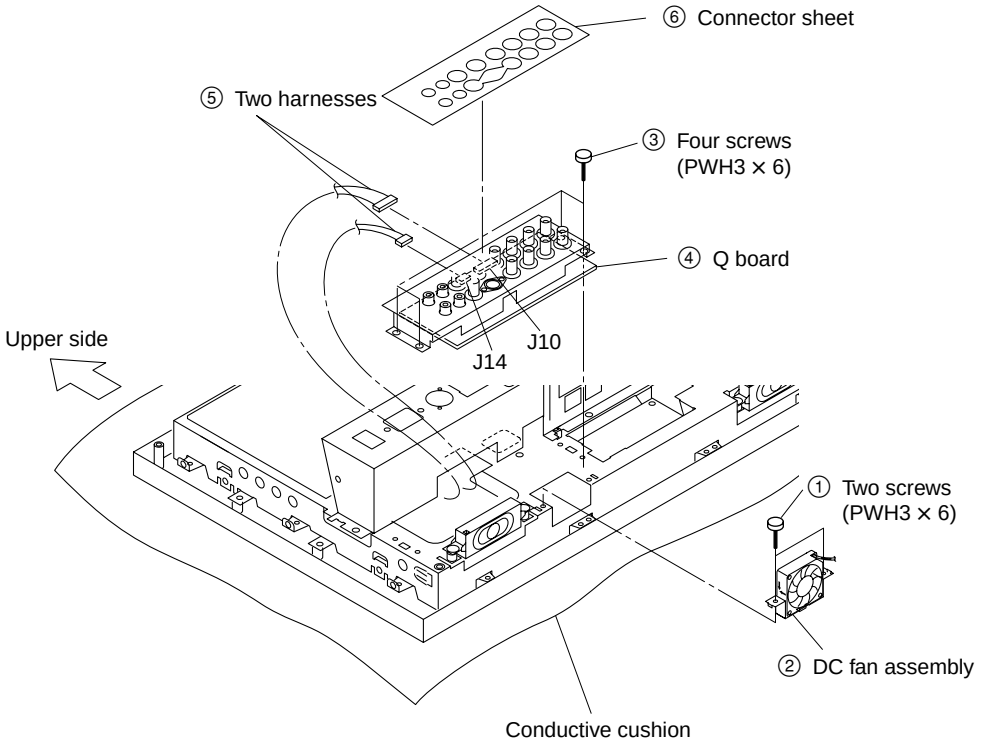
- Remove parts in the order of numbers shown in the figure.
- When removing/installing the cabinet and replacing the board, place the unit on the conductive cushion.

1-3-1. Rear Cover



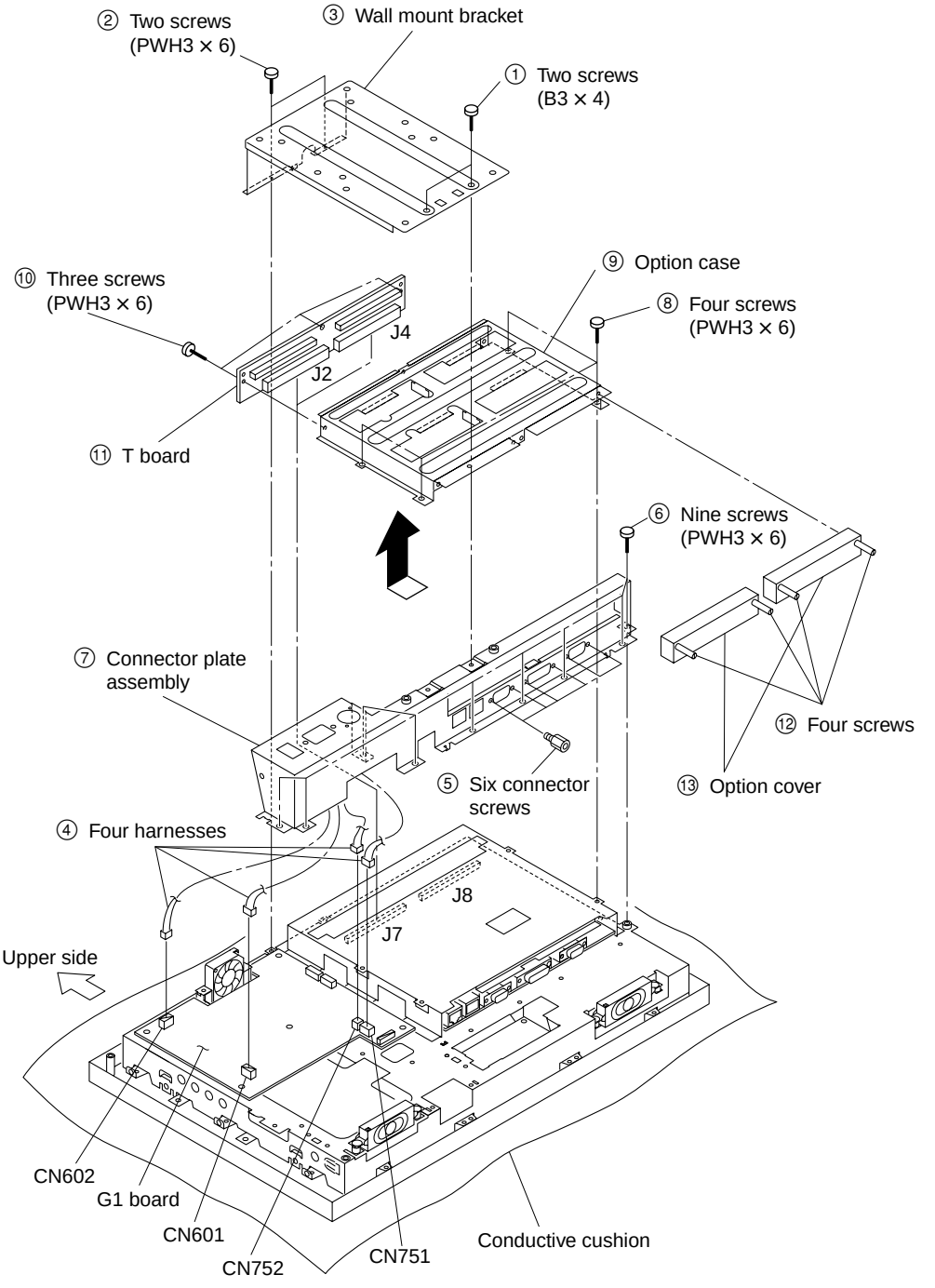
1-3-2. Q Board

• Remove the rear cover. (Refer to Section 1-3-1.)



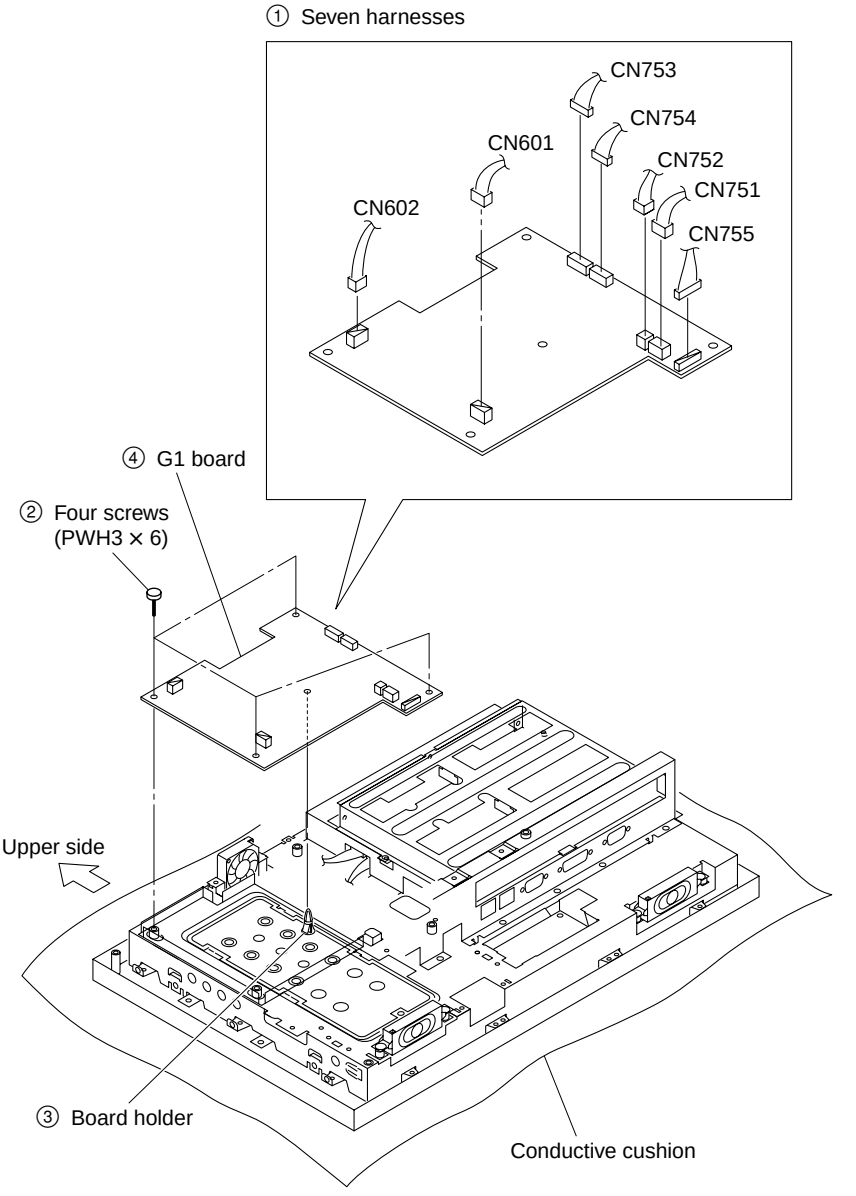
1-3-3. Connector Plate Assembly/T Board

- Remove the rear cover. (Refer to Section 1-3-1.)
- Remove the Q board. (Refer to Section 1-3-2.)



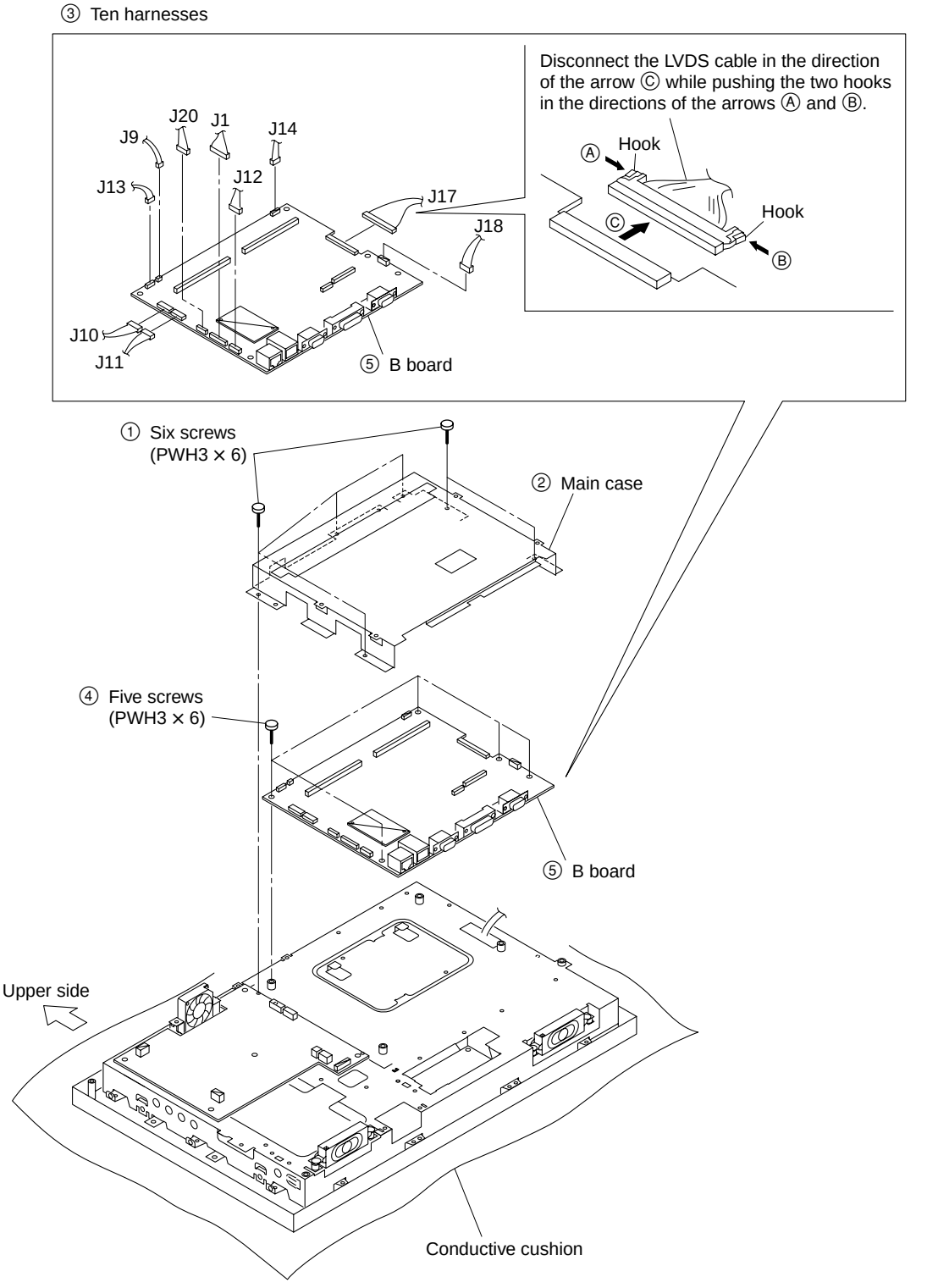
1-3-4. G1 Board

- Remove the rear cover. (Refer to Section 1-3-1.)
- Remove the wall mount bracket. (Refer to steps ① to ③ of Section 1-3-3.)



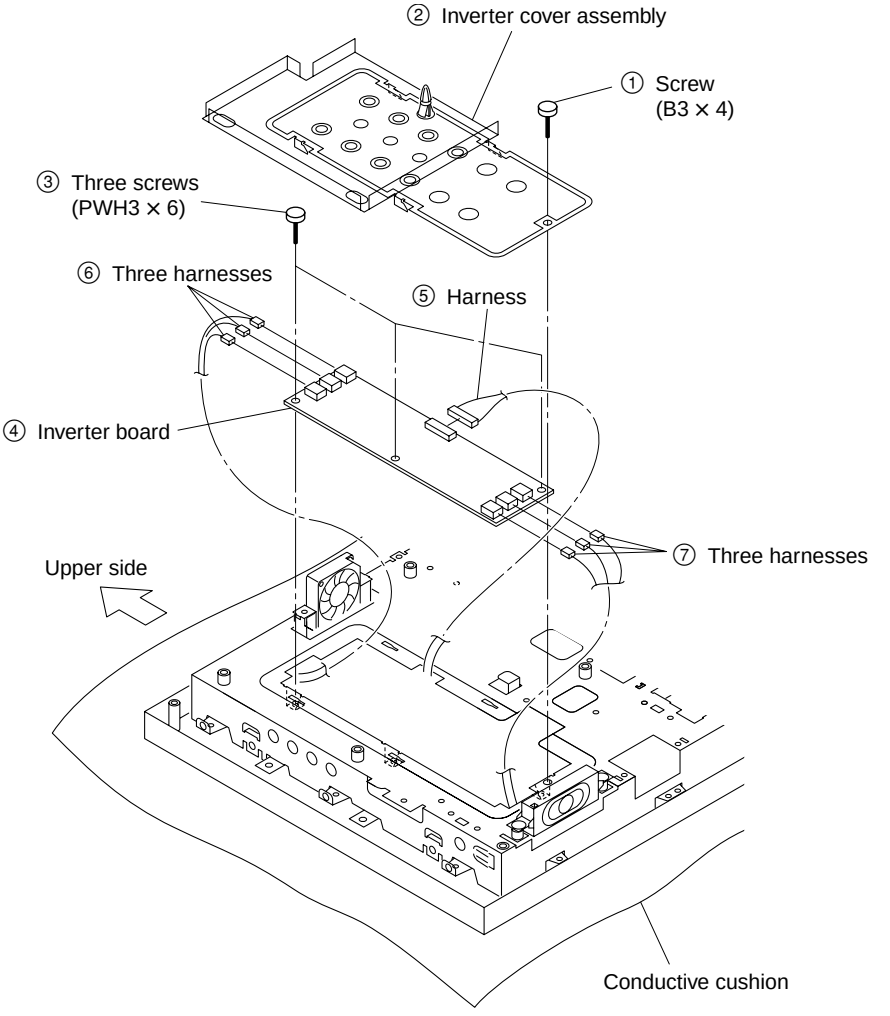
1-3-5. B Board

- Remove the rear cover. (Refer to Section 1-3-1.)
- Remove the Q board. (Refer to Section 1-3-2.)
- Remove the connector plate assembly and option case. (Refer to Section 1-3-3.)



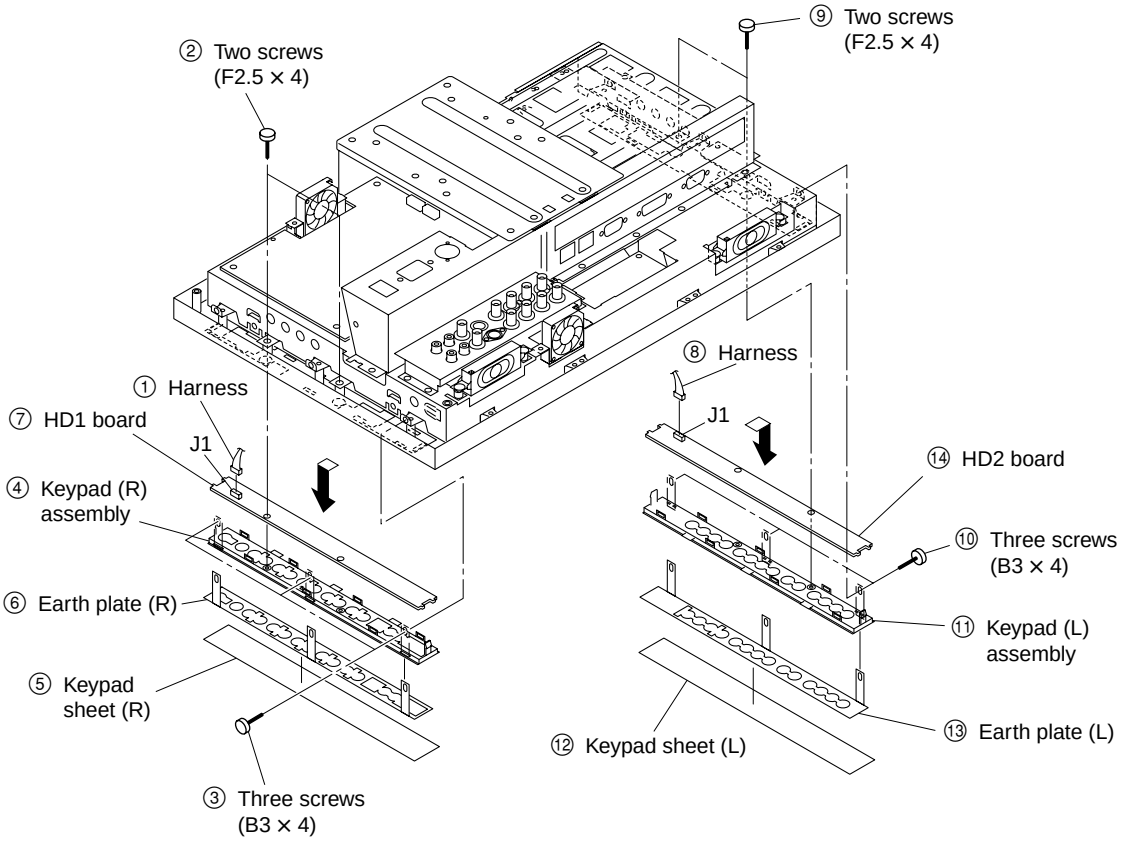
1-3-6. Inverter Board

- Remove the rear cover. (Refer to Section 1-3-1.)
- Remove the Q board. (Refer to Section 1-3-2.)
- Remove the connector plate assembly and option case. (Refer to Section 1-3-3.)
- Remove the G1 board. (Refer to Section 1-3-4.)



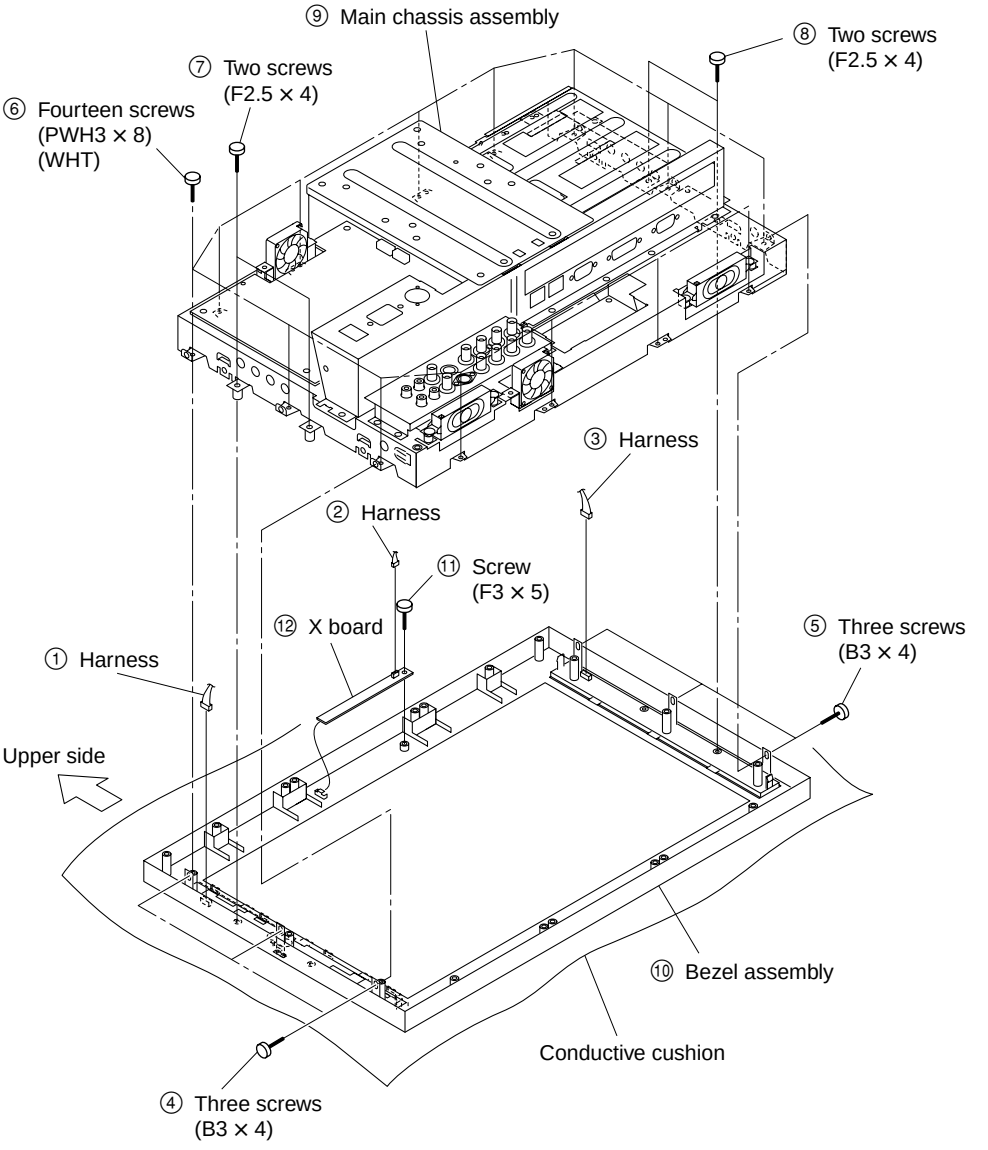
1-3-7. HD1/HD2 Board

• Remove the rear cover. (Refer to Section 1-3-1.)



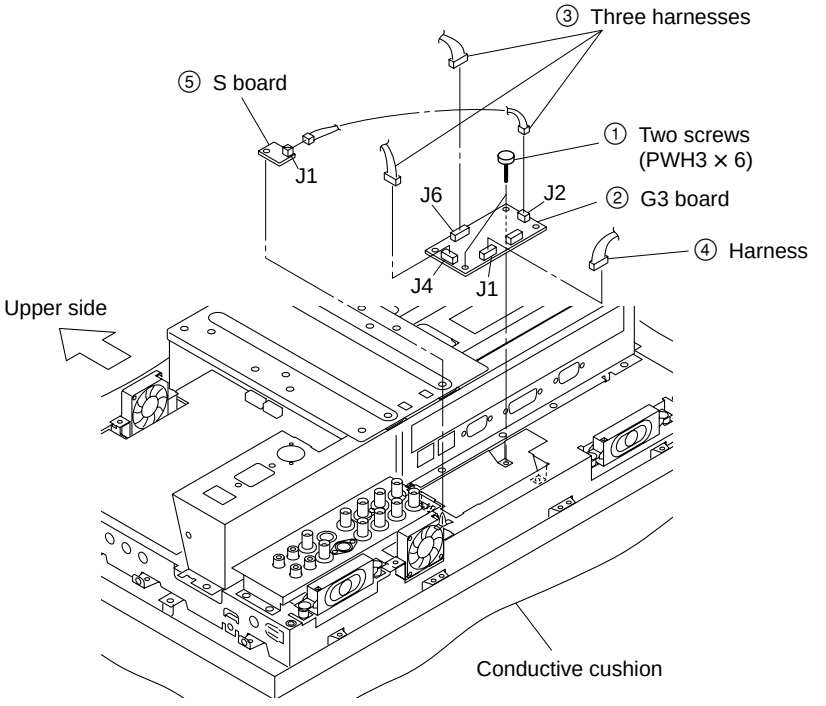
1-3-8. Bezel Assembly/X Board

• Remove the rear cover. (Refer to Section 1-3-1.)



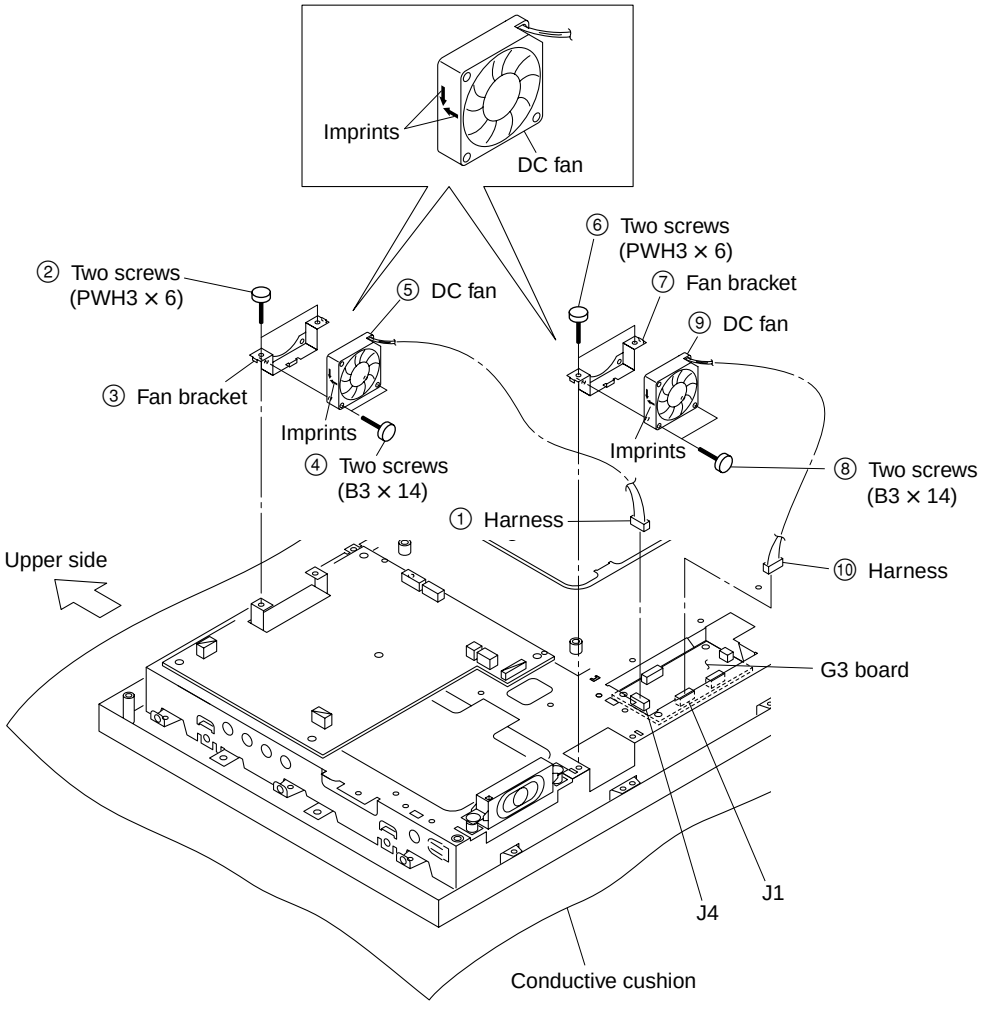
1-3-9. G3 Board/S Board

• Remove the rear cover. (Refer to Section 1-3-1.)



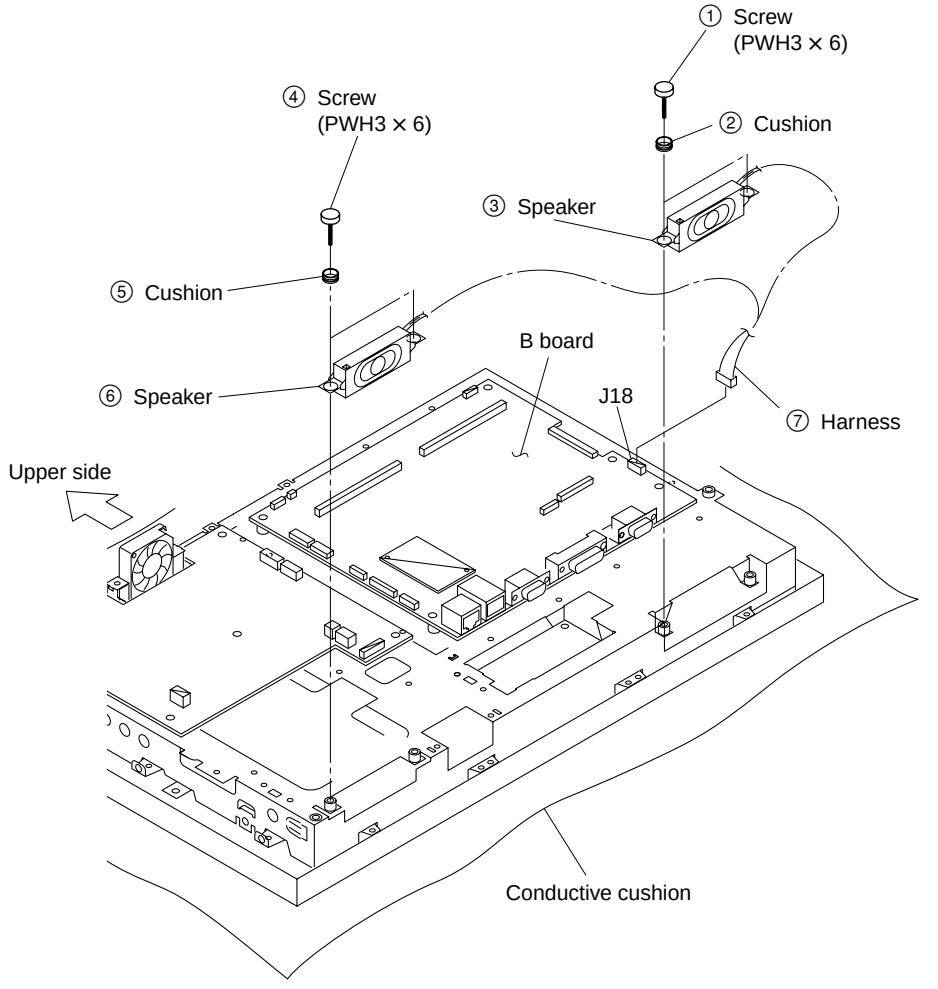
1-3-10. DC Fan

• Remove the rear cover. (Refer to Section 1-3-1.)



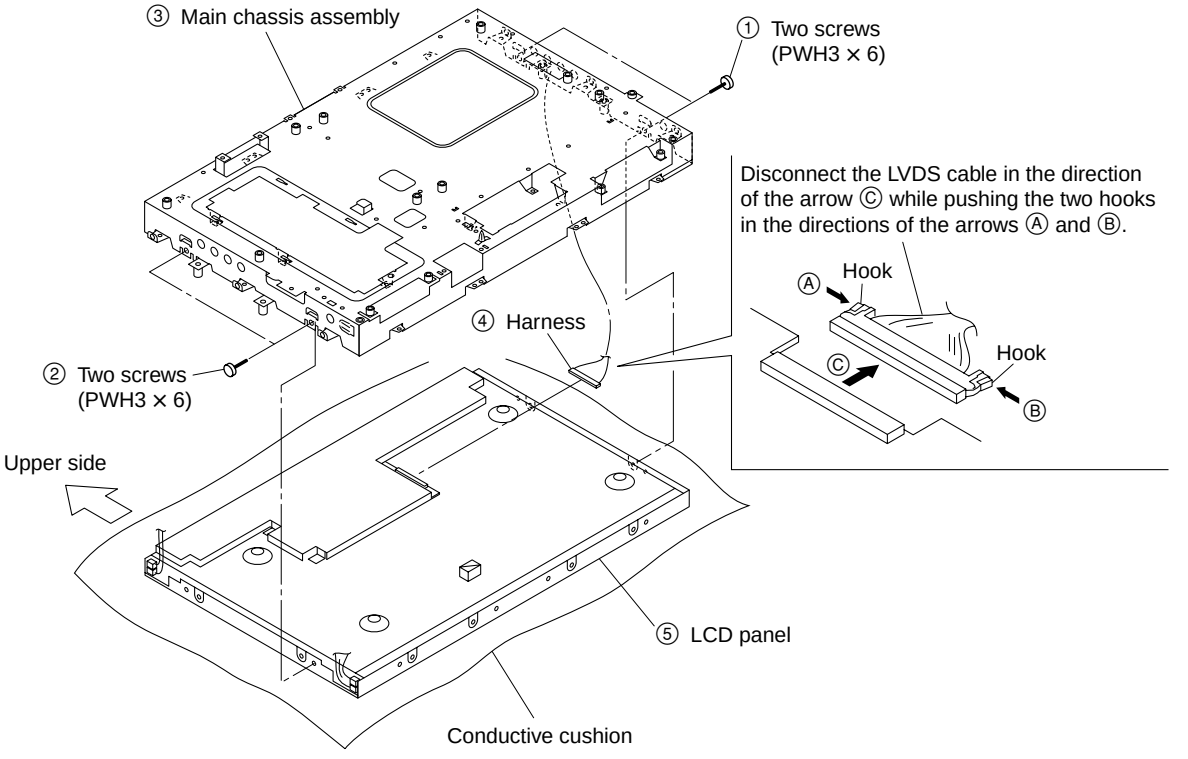
1-3-11. Speaker

- Remove the rear cover. (Refer to Section 1-3-1.)
- Remove the main case. (Refer to steps ① and ② of Section 1-3-5.)



1-3-12. LCD Panel

• Remove each part. (Refer to Sections 1-3-1 to 1-3-11.)



1-4. Unleaded Solder

Boards requiring use of unleaded solder are printed with a lead free mark (LF) indicating the solder contains no lead. (Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

 : LEAD FREE MARK

Notes

- Be sure to use the unleaded solder for the printed circuit board printed with the lead free mark.
- The unleaded solder melts at a temperature about 40 °C higher than the ordinary solder, therefore, it is recommended to use the soldering iron having a temperature regulator.
- The ordinary soldering iron can be used but the iron tip has to be applied to the solder joint for a slightly longer time. The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful.

Section 2
Electrical Alignments

2-1. Preparation

Required tools and measuring equipment

- Luminance meter:
  Minolta CA-210, CA-110 or equivalent.
  If equivalent is not available, make adjustment by comparing the LCD monitor with the reference monitor that has already been calibrated correctly.
- Signal generator: VG-854 or equivalent

Warm-up time

Before starting adjustment, allow a warm-up of minimum 120 minutes to stabilize the back light of the LCD panel.

How to enter service mode

1. Press the MENU button to display the MENU screen.
2. Press the CONTROL and RETURN buttons simultaneously.

Preparing the power supply and signals

1. Connect the supplied AC cord of this unit.
   Power voltage: 100 to 240 V AC, 50/60 Hz
2. Turn on the power of this unit.

2-2. White Balance Adjustment

If the LCD panel is changed, perform the white balance adjustment.

1. Move the cursor to SIGNAL using the ↓ key and press the ENTER button to enter the SIGNAL layer.
2. Move the cursor to WHITE BALANCE using the ↓ key and press the ENTER button to enter the SIGNAL/WHITE BALANCE layer.

To move the cursor to select an item, use the ↑ or ↓ key.
To set the selected item, press the ENTER button.

D93 adjustment

1. Select D93 from COLOR TEMP and set it by pressing ENTER button.
   Target value : x = 0.283, y = 0.298
2. Select ADJUST GAIN, and adjust the GAIN. Adjust using R and B while G is fixed.
3. Select ADJUST BIAS, and adjust the BIAS. Adjust using R and B while G is fixed.
4. Repeat steps 2 and 3 until all of the required specifications are met all at the same time.

D65 adjustment

1. Select D65 from COLOR TEMP and set it by pressing ENTER button.
   Target value : x = 0.313, y = 0.329
2. Select ADJUST GAIN, and adjust the GAIN.
   Adjust using R and B while G is fixed.
3. Select ADJUST BIAS, and adjust the BIAS.
   Adjust using R and B while G is fixed.
4. Repeat steps 2 and 3 until all of the required specifications are met all at the same time.

2-3. A/D Adjustment (COMPONENT)

1. Input the 575/50I 100% 8 color-bar COMPONENT signal to this unit.
2. Press the input switch to accept the COMPONENT input signal.
3. Enter the Service menu, then select SIGNAL → SIGNAL LEVEL → AUTO ADJ. Perform the following automatic adjustments.
   • Y/G LEVEL
   • PB LEVEL
   • PR LEVEL
   • Y OFFSET
   • PB OFFSET
   • PR OFFSET
4. Perform the adjustments of items 1-2 to 1-4 in table 1 shown below by repeating the above described procedures.
   However, before performing AUTO ADJ, adjust the COMPONENT level or NTSC SETUP appropriately according to the respective conditions described in table 1.

COMPONENT selection input

1-1	575/50I 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	Conditions:
	PR/R LEVEL	COMPONENT LEVEL No specific conditions
	Y/G OFFSET	NTSC SETUP No specific conditions
	PB/B OFFSET	
	PR/R OFFSET	
1-2	480/60I BETA0 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	Conditions:
	PR/R LEVEL	COMPONENT LEVEL BETA 0
	Y/G OFFSET	NTSC SETUP No specific conditions
	PB/B OFFSET	
	PR/R OFFSET	
1-3	480/60I BETA7.5 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	Conditions:
	PR/R LEVEL	COMPONENT LEVEL BETA 7.5
	Y/G OFFSET	NTSC SETUP No specific conditions
	PB/B OFFSET	
	PR/R OFFSET	
1-4	1080/60I 100% 8 color bar-signal	
	Y/G LEVEL	
	PB/B LEVEL	Conditions:
	PR/R LEVEL	COMPONENT LEVEL No specific conditions
	Y/G OFFSET	NTSC SETUP No specific conditions
	PB/B OFFSET	
	PR/R OFFSET	

Table 1

2-4. A/D Adjustment (RGB)

1. Input the 480/60I 100% 8 color-bar RGB signal to this unit.
2. Press the input switch to accept the RGB input signal.
3. Enter the Service menu, then select SIGNAL → SIGNAL LEVEL → AUTO ADJ. Perform the following automatic adjustments.
   • Y LEVEL
   • PB LEVEL
   • PR LEVEL
   • Y OFFSET
   • PB OFFSET
   • PR OFFSET
4. Perform the adjustment of item 1-6 in table 2 shown below by repeating the above described procedures.

RGB selection input

1-5	480/60I RGB 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	
	PR/R LEVEL	Conditions:
	Y/G OFFSET	No specific conditions
	PB/B OFFSET	
	PR/R OFFSET	
1-6	1080/60I RGB 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	
	PR/R LEVEL	Conditions:
	Y/G OFFSET	No specific conditions
	PB/B OFFSET	
	PR/R OFFSET	

Table 2

2-5. A/D Adjustment (COMPOSITE)

1. Input the NTSC 100% 8 color-bar COMPOSITE signal to this unit.
2. Press the input switch to accept the COMPOSITE input signal.
3. Enter the Service menu, then select SIGNAL → SIGNAL LEVEL → AUTO ADJ. Perform the following automatic adjustments.
   • Y/G LEVEL
   • PB LEVEL
   • PR LEVEL
4. Perform the adjustments of items 1-8 and 1-9 in table 3 shown below by repeating the above described procedures.

COMPOSITE selection input

1-7	NTSC SETUP 0 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	Conditions:
	PR/R LEVEL	NTSC SETUP 0
1-8	PAL 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	Conditions:
	PR/R LEVEL	No specific conditions
1-9	NTSC SETUP 7.5 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	Conditions:
	PR/R LEVEL	NTSC SETUP 7.5

Table 3

2-6. A/D Adjustment (Y/C)

1. Input the NTSC 100% 8 color-bar Y/C signal to this unit.
2. Press the input switch to accept the Y/C input signal.
3. Enter the Service menu, then select SIGNAL → SIGNAL LEVEL → AUTO ADJ. Perform the following automatic adjustments.
   • Y/G LEVEL
   • PB LEVEL
   • PR LEVEL
4. Perform the adjustments of items 1-11 and 1-12 in table 4 shown below by repeating the above described procedures.

Y/C selection input

1-10	NTSC SETUP 0 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	Conditions:
	PR/R LEVEL	NTSC SETUP 0
1-11	PAL 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	Conditions:
	PR/R LEVEL	No specific conditions
1-12	NTSC SETUP 7.5 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	Conditions:
	PR/R LEVEL	NTSC SETUP 7.5

Table 4

2-7. A/D Adjustment (COMPUTER)

1. Input the COMPUTER HD15 640 × 480 60 Hz 100% 8 color-bar signal to this unit.
2. Press the input switch to accept the COMPUTER (HD15) input signal.
3. Enter the Service menu, then select SIGNAL → SIGNAL LEVEL → AUTO ADJ. Perform the following automatic adjustments.
   - Y/G LEVEL
   - PB LEVEL
   - PR LEVEL
   - Y OFFSET
   - PB OFFSET
   - PR OFFSET

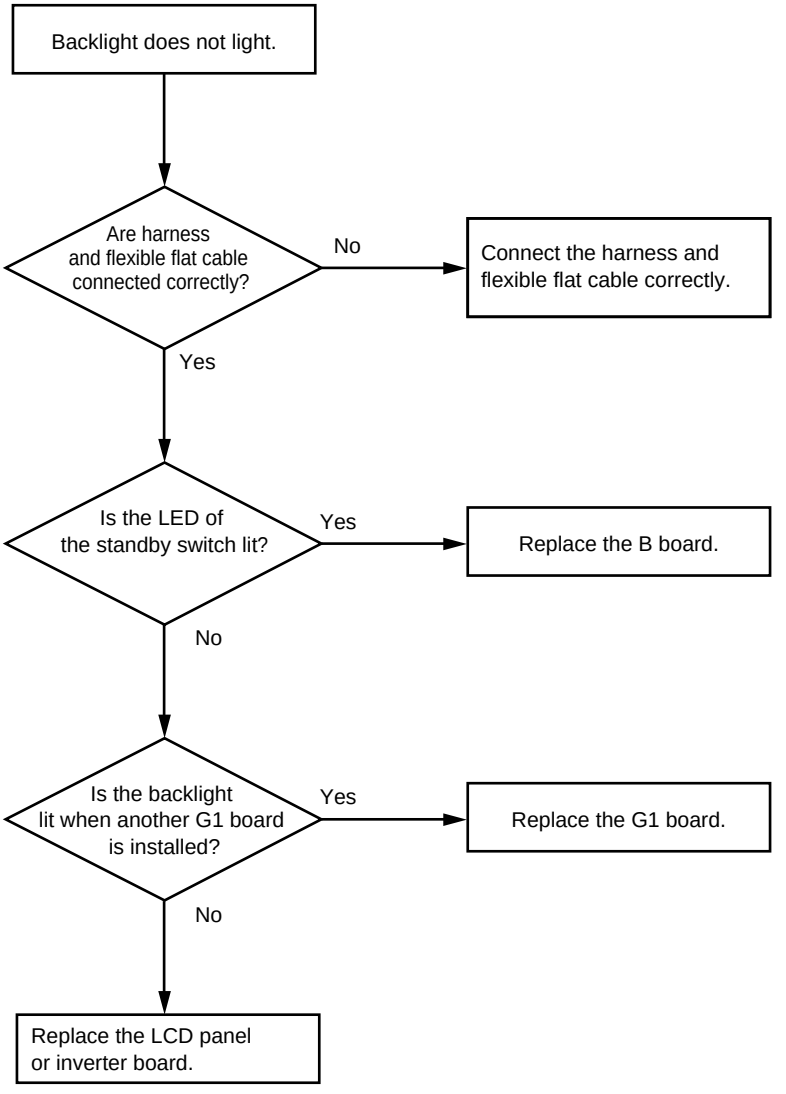
COMPUTER selection input

1-13	VGA60 100% 8 color-bar signal	
	Y/G LEVEL	
	PB/B LEVEL	
	PR/R LEVEL	Conditions:
	Y/G OFFSET	No specific conditions
	PB/B OFFSET	
	PR/R OFFSET	

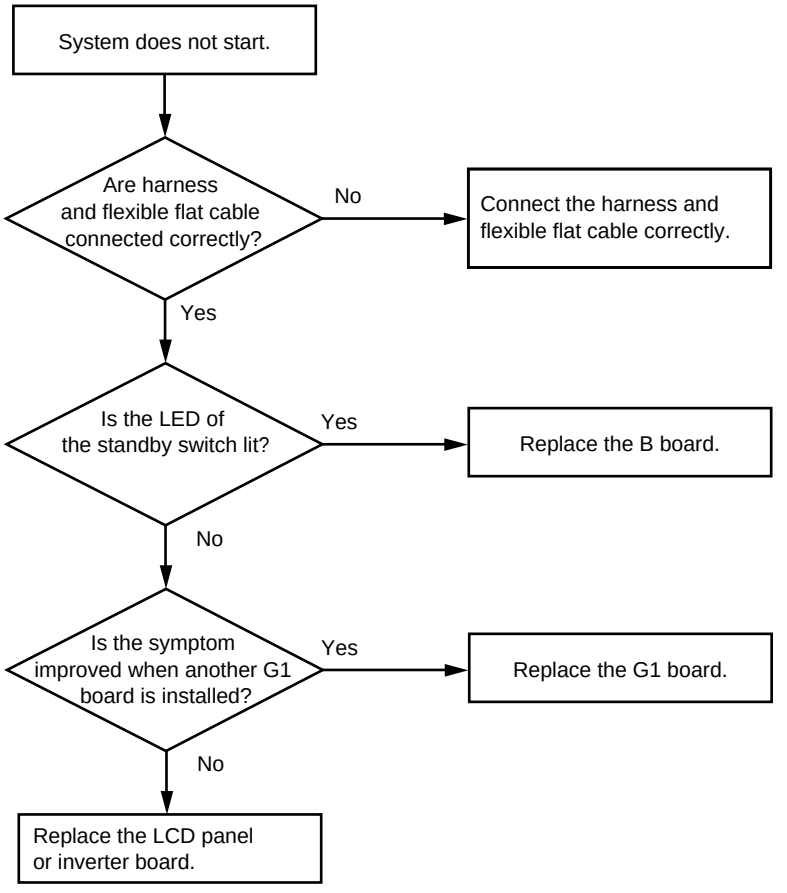
Table 5

Section 3
Troubleshooting

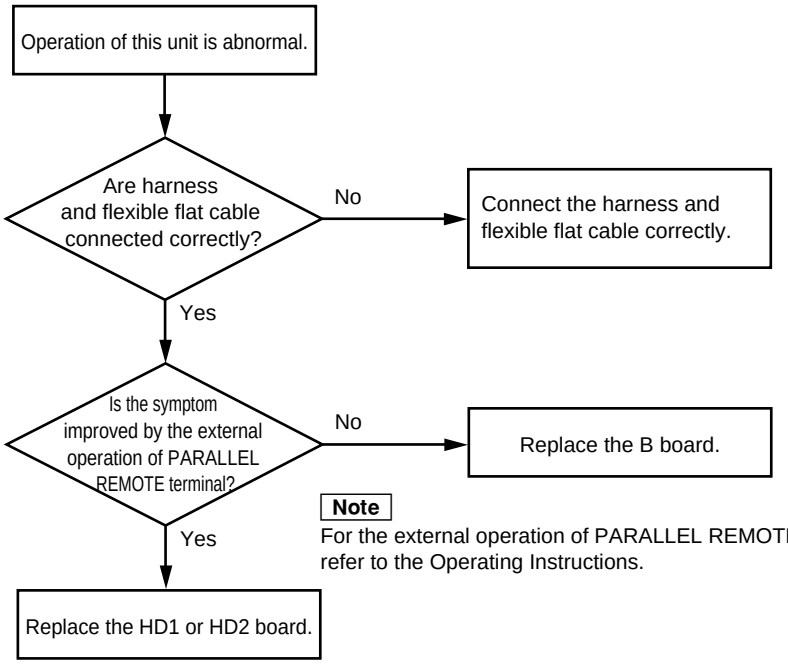
3-1. Backlight does not light



3-2. System does not start



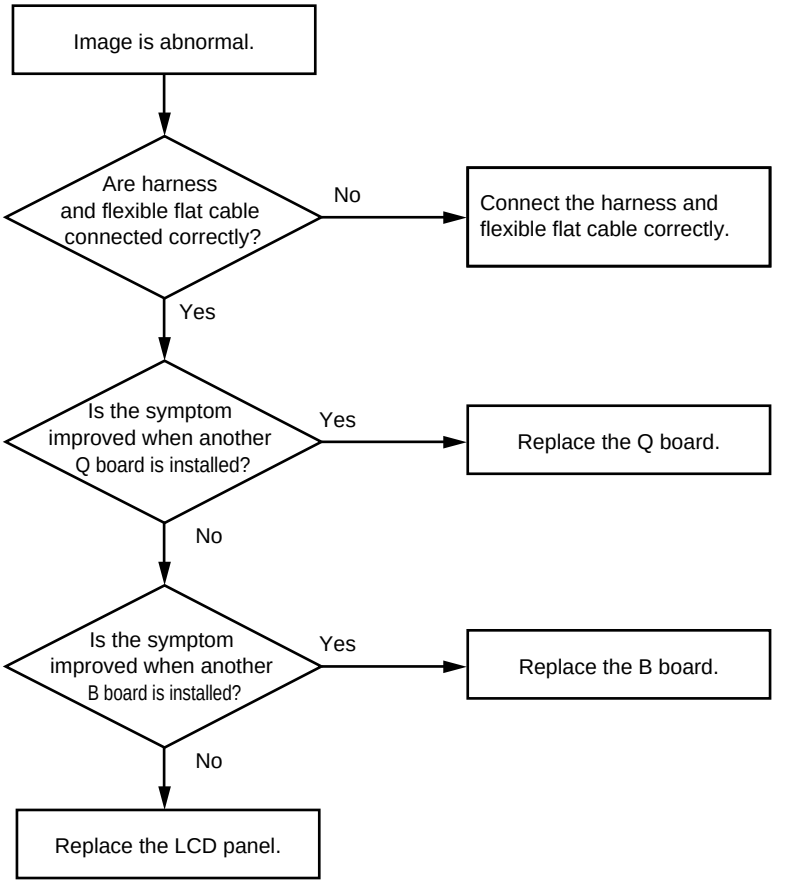
3-3. Control operation of this unit is abnormal



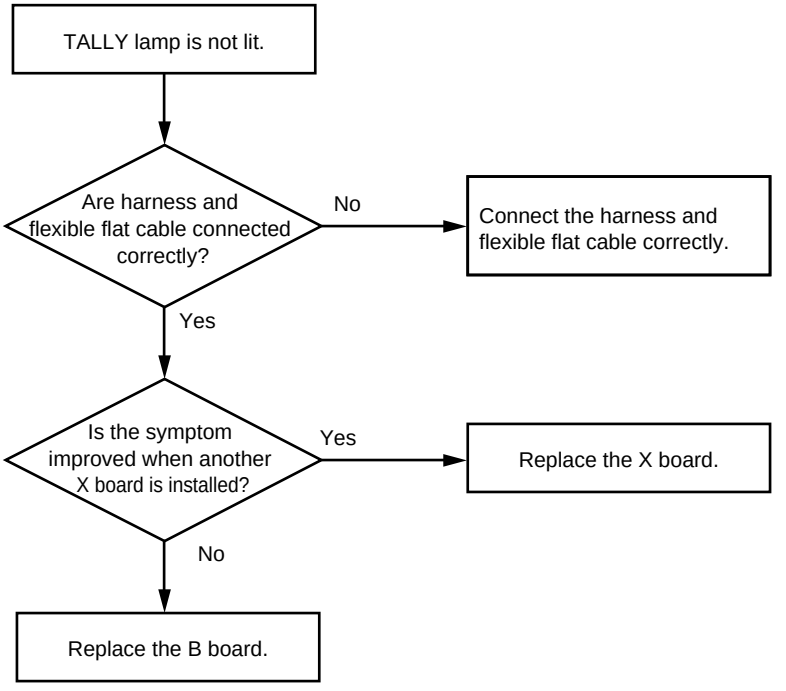
Note

For the external operation of PARALLEL REMOTE terminal, refer to the Operating Instructions.

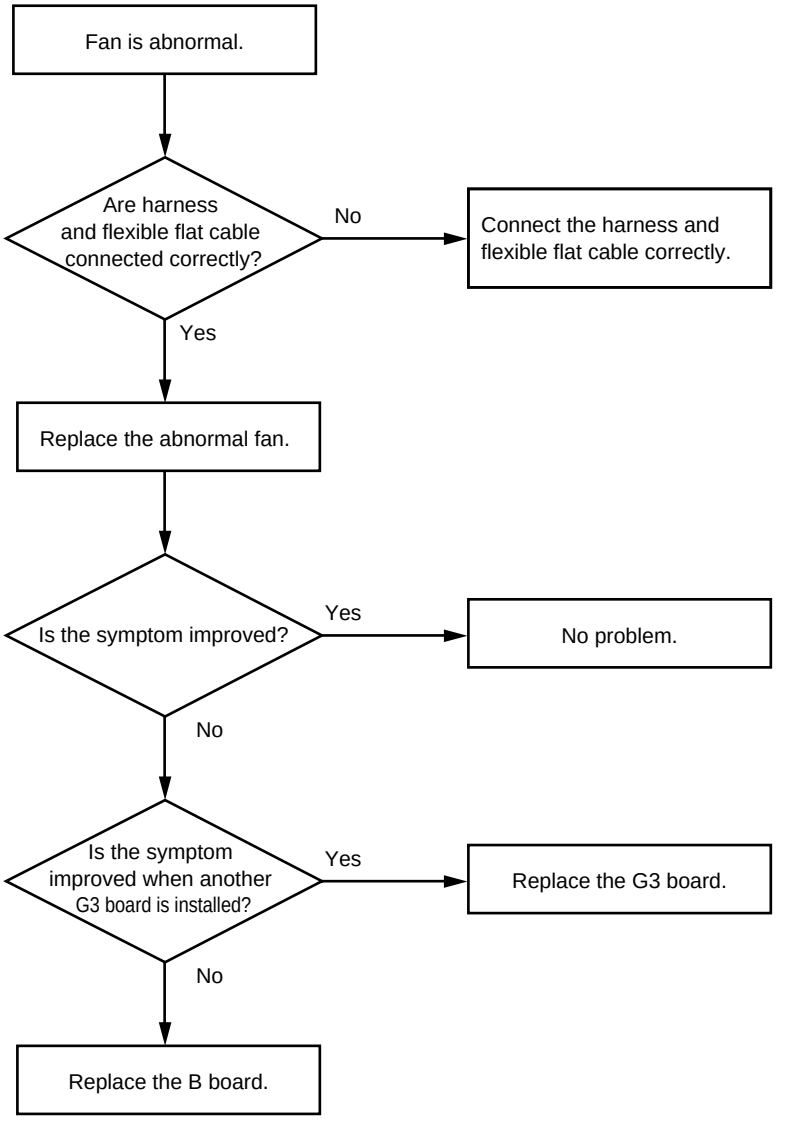
3-4. Image is abnormal



3-5. TALLY lamp is not lit



3-6. Fan is abnormal



Section 4
Spare Parts

4-1. Notes on Repair Parts

1. Safety Related Components Warning

WARNING

Components marked ⚠ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.

3. Stock of Parts

Parts marked with “o” at SP (Supply Code) column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

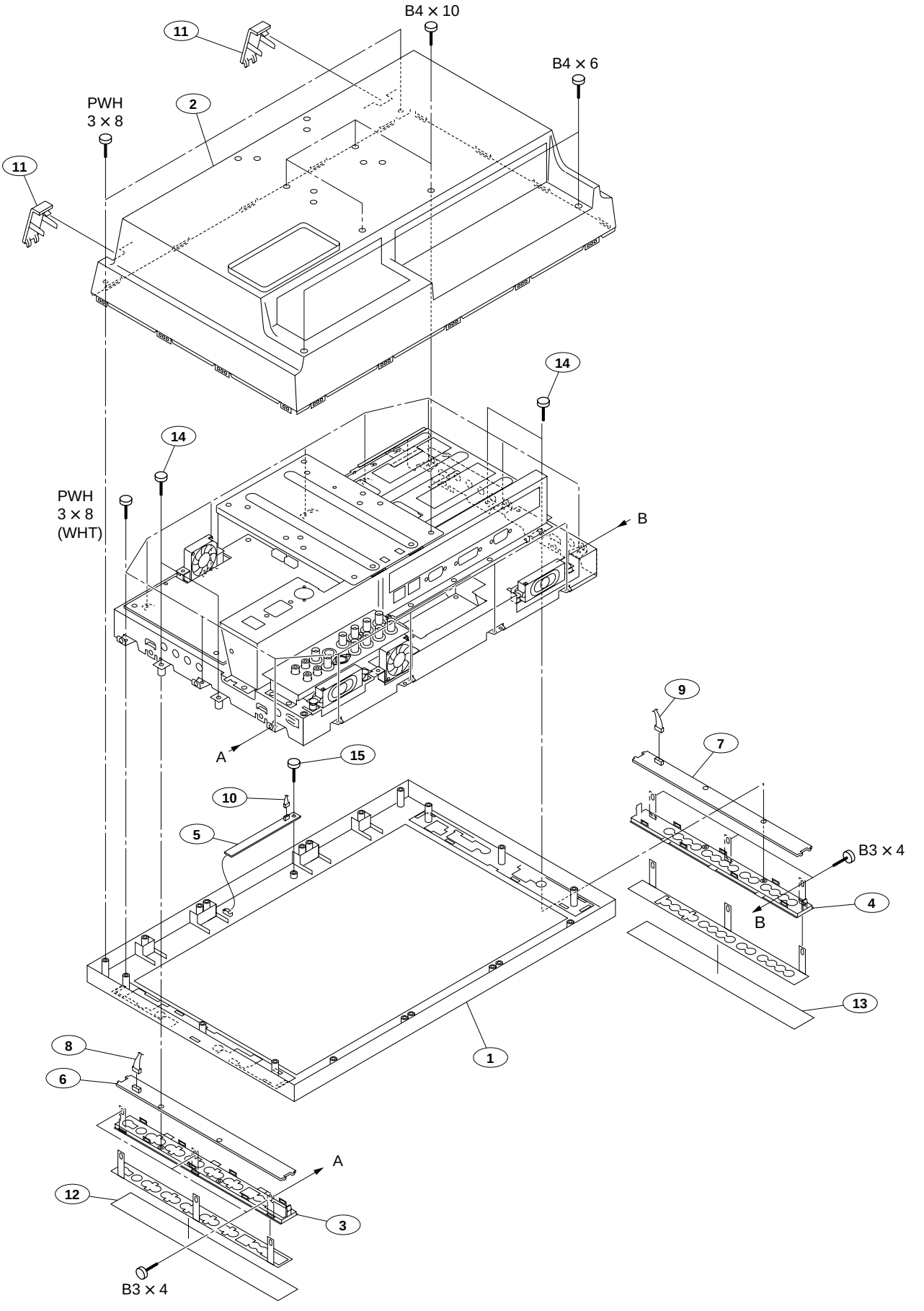
4. Harness

Harnesses with no part number are not registered as spare parts.

5. 🔒 Parts

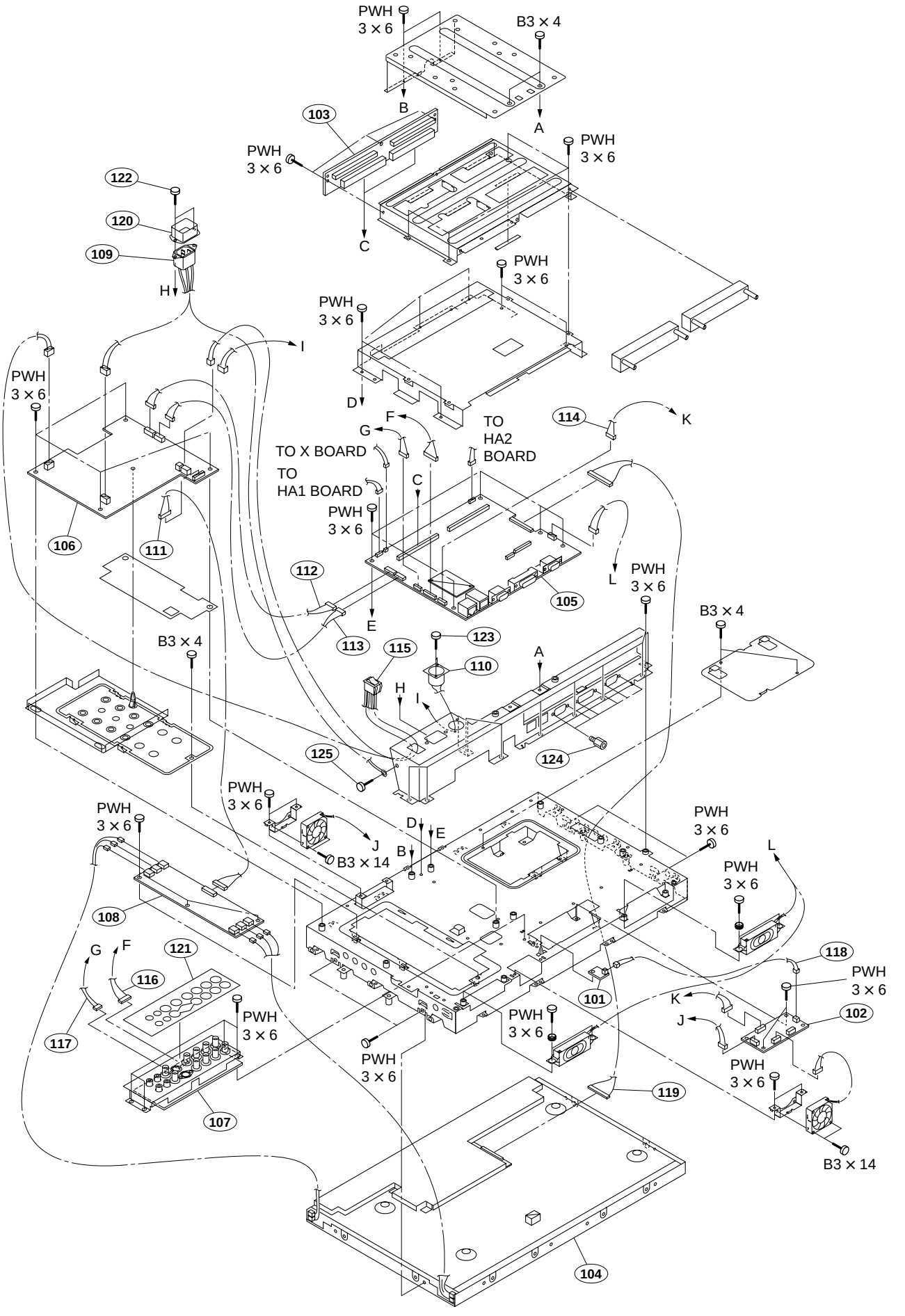
The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

4-2. Exploded Views

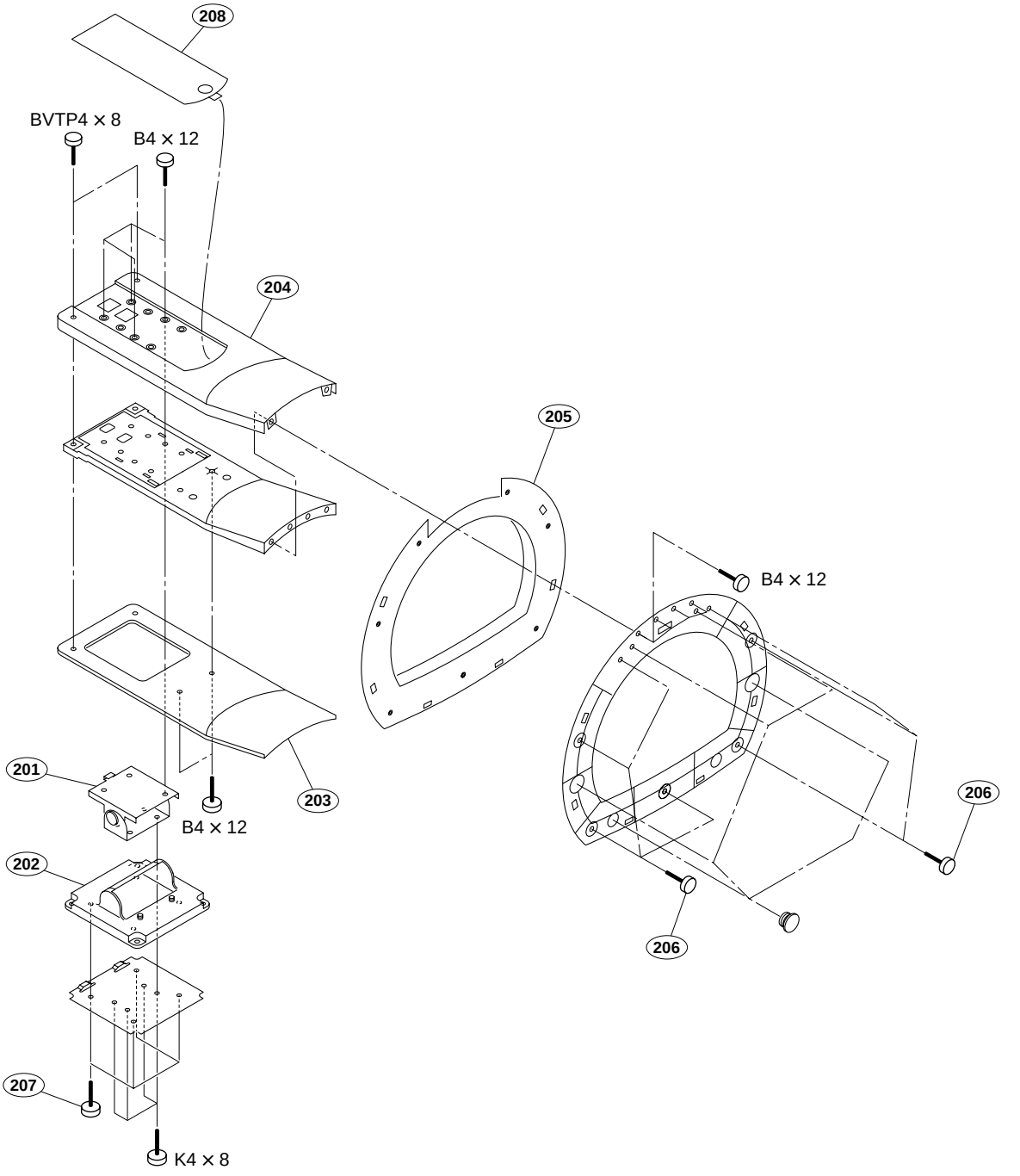


No.	Part No.	SP	Description
1	X-2190-742-1	s	BEZEL ASSY
2	X-2190-743-1	s	REAR COVER ASSY
3	X-2190-744-1	s	KEYPAD ASSY (R)
4	X-2190-745-1	s	KEYPAD ASSY (L)
5	1-789-802-11	s	MOUNTED CIRCUIT BOARD, X
6	1-857-087-11	s	MOUNTED CIRCUIT BOARD, HD1
7	1-857-088-11	s	MOUNTED CIRCUIT BOARD, HD2
8	1-910-046-22	s	CONNECTOR ASSY, SH 8P
9	1-910-046-23	s	CONNECTOR ASSY, SH 7P
10	1-910-046-25	s	CONNECTOR ASSY, SH 3P
11	3-870-551-01	s	COVER, SCREW
12	3-874-094-01	s	SHEET (R), KEYPAD
13	3-874-095-01	s	SHEET (L), KEYPAD
14	3-268-744-01	s	SCREW F2.5X4
15	3-879-604-01	s	SCREW F3X5
	7-682-545-09	s	SCREW +B 3X4
	7-682-560-09	s	SCREW +B 4X6
	7-682-562-09	s	SCREW +B 4X10
	7-681-000-61	s	TAPPING +PWH 3X8 TYPE2 N-S
	7-685-903-21	s	TAPPING +PWH 3X8 TYPE2 N-S (WHT)

Chassis Block



No.		Part No.	SP	Description
101		1-789-265-11	s	MOUNTED CIRCUIT BOARD, S
102		1-789-805-11	s	MOUNTED CIRCUIT BOARD, G3
103		1-789-809-11	s	MOUNTED CIRCUIT BOARD, T
104		1-802-702-11	s	LCD PANEL
105	🔒	1-857-086-11	s	MOUNTED CIRCUIT BOARD, B
106	⚠	1-857-089-11	s	MOUNTED CIRCUIT BOARD, G1
107		1-857-090-11	s	MOUNTED CIRCUIT BOARD, Q
108		1-857-091-11	s	MOUNTED CIRCUIT BOARD, INVERTER
109	⚠	1-910-046-17	s	ASSY, AC INLET
110		1-910-046-18	s	CONNECTOR ASSY, XLR
111		1-910-046-19	s	CONNECTOR ASSY, PH 8P
112		1-910-046-20	s	CONNECTOR ASSY, PHD 14P
113		1-910-046-21	s	CONNECTOR ASSY, PHD 12P
114		1-910-046-24	s	CONNECTOR ASSY, PH 5P
115	⚠	1-910-046-37	s	ASSY, AC SWICH
116		1-910-046-38	s	CONNECTOR ASSY, DF13 15P
117		1-910-046-39	s	CONNECTOR ASSY, DF13 8P
118		1-910-046-40	s	CONNECTOR ASSY, DF13 2-3P
119		1-910-046-41	s	CONNECTOR ASSY, FI 30P
120		2-990-241-02	s	HOLDER (A), PLUG
121		3-874-093-01	s	SHEET, CONNECTOR
122		2-580-595-01	s	SCREW, +PSW M3X12
123		3-268-744-01	s	SCREW F2.5X4
124		4-635-966-01	s	SCREW (HEX)
125		2-686-285-01	s	(+)T M4 WITH LW
		7-682-903-19	s	SCREW +PWH 3X6
		7-682-545-09	s	SCREW +B 3X4
		7-682-551-09	s	SCREW +B 3X14



No.	Part No.	SP	Description
201	3-212-906-01	s	HINGE
202	3-212-907-01	s	COVER, HINGE
203	3-212-909-01	s	COVER (FRONT), ARM
204	3-212-910-01	s	COVER (REAR), ARM
205	3-212-911-01	s	COVER, BASE
206	2-580-638-01	s	SCREW, +BVTP2 4X8
207	2-580-644-01	s	SCREW, +KTP2 3X8
208	3-212-908-01	s	COVER (TOP), ARM
	7-682-563-09	s	SCREW +B 4X12
	7-682-261-04	s	SCREW +K 4X8

4-3. Packing Materials & Supplied Accessories

PACKING MATERIALS & SUPPLIED ACCESSORIES
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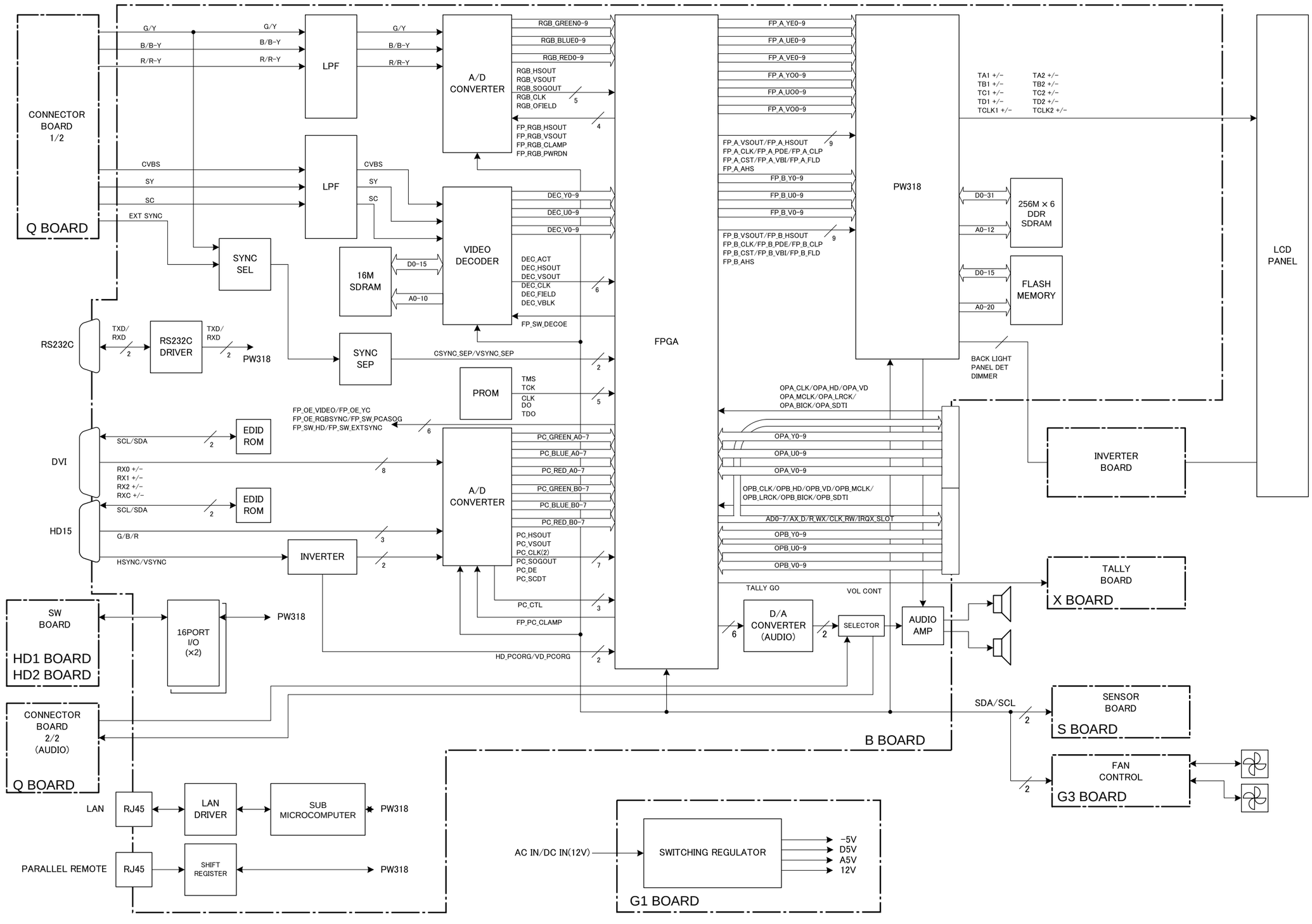
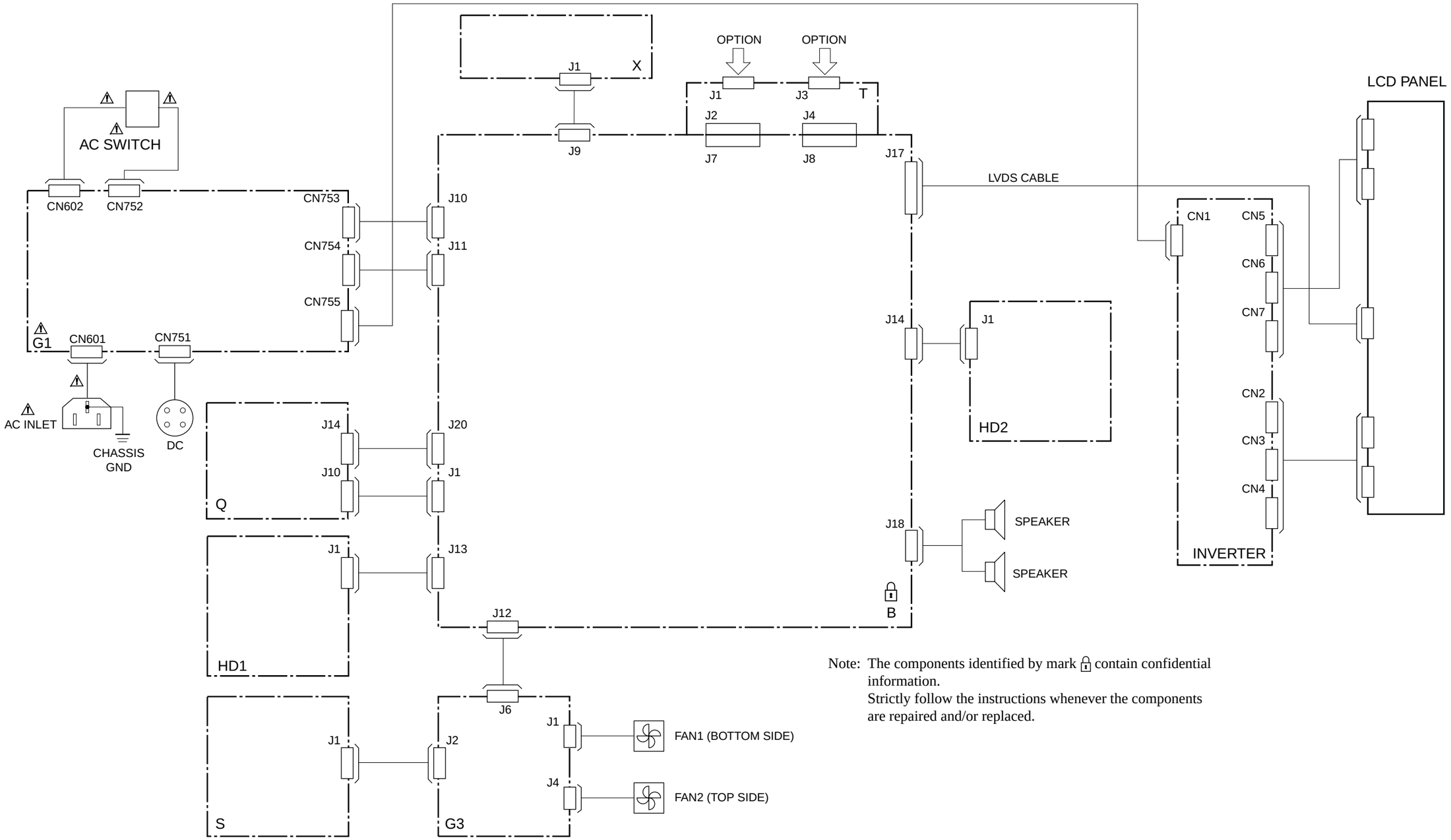
*1:[LMD-1750W(SY)]
*2:[LMD-1750W(CH)]

Ref. No. or Q'ty	Part No.	SP	Description
1pc	2-990-242-01	s	HOLDER (B), PLUG
1pc *1	3-296-136-01	s	MANUAL, INSTRUCTION (JAPANESE,ENGLISH)
1pc *2	3-296-136-11	s	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE)
1pc *1	3-296-137-01	s	CD-ROM (JAPANESE,ENGLISH,FRENCH,GERMAN, SPANISH,ITALIAN,TRADITIONAL CHINESE,SIMPLIFIED CHINESE, KOREAN)
1pc	⚠ 1-690-669-14	s	CORD, POWER (13A 125V)(FOR J)

Section 5
Block Diagrams



Section 6
Frame Wiring



Note: The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer :

Check the metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 3.5 mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 5.25 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 20 V AC range are suitable. (See Fig. A)

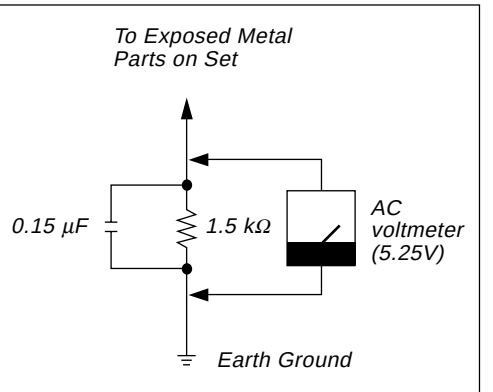


Fig A. Using an AC voltmeter to check AC leakage.

LMD-1750W (SY, CN) E
9-968-426-01

Sony Corporation

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