SONY

PROFESSIONAL VIDEO MONITOR

PVM-A170

TRIMASTER EL HDMI

SERVICE MANUAL

1st Edition (Revised 1)

⚠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.

本機をラックに設置するとき
熱の適切な排気・発散を得るために，ラックと本機の間には，以下の空間を確保してください。
・上下 1U（4.4 cm）
・左右両側面 1 cm 以上

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 Operating Instructions.

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
   Right, Left: 1.0 cm (13/32 inches) or more

警告

万一，異常が起きた際に，お客様が電源を切ることができるように，設置の際には，機器近くの固定配線内に専用遮断装置を設けるか，機器使用中に，容易に抜き差しできるコンセントに電源プラグを接続してください。

WARNING
When installing the unit, incorporate a readily accessible disconnect device in the fixed wiring, or connect the power cord to a socket-outlet which must be provided near the unit and easily accessible, so that the user can turn off the power in case a fault should occur.

WARNUNG
Beim Einbau des Geräts ist daher im Festkabel ein leicht zugänglicher Unterbrecher einzufügen, oder das Netzkabel mu*ß* mit einer in der Nähe des Geräts befindlichen, leicht zugänglichen Wandsteckdose verbunden werden, damit sich bei einer Funktionsstörung die Stromversorgung zum Gerät jederzeit unterbrechen lä*ß*t.

安全のために，周辺機器を接続する際は，過大電圧を持つ可能性があるコネクターを以下のポートに接続しないでください。
: SERIAL REMOTE コネクター
: PARALLEL REMOTE コネクター
上記のポートについては本書の指示に従ってください。

For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to the following ports.
: SERIAL REMOTE connector
: PARALLEL REMOTE connector
Follow the instructions for the above ports.

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Manual Structure

1. Service Overview

2. Circuit Description

3. Troubleshooting

4. Spare Parts

5. Block Diagrams

Manual Structure

Purpose of this manual

This manual is the Service Manual of the Professional Video Monitor PVM-A170. This manual describes the information on the premise of providing the block level service (such as service overview, circuit description, troubleshooting, spare parts and block diagrams).

Related manuals

The following manual is provided for this unit in addition to this “Service Manual”.

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

- **“Factory Service Manual” (available on request)**
  This manual describes the information required for the part level service such as electrical parts list, schematic diagrams, and board layouts.

Trademarks

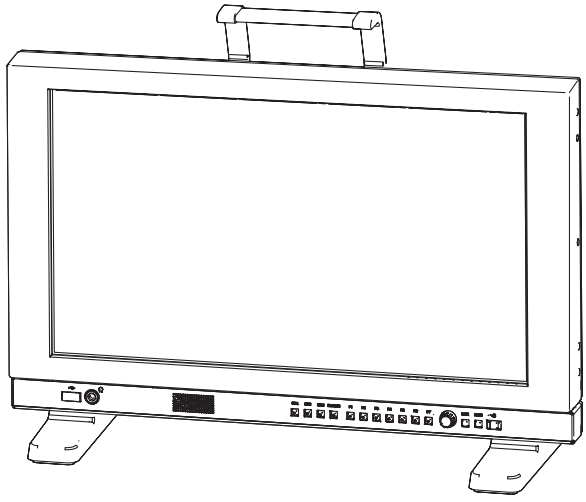
Trademarks and registered trademarks used in this manual are as follows.

- Windows, Windows Vista, and Internet Explorer are the registered trademarks of Microsoft Corporation in the United States and Other countries.

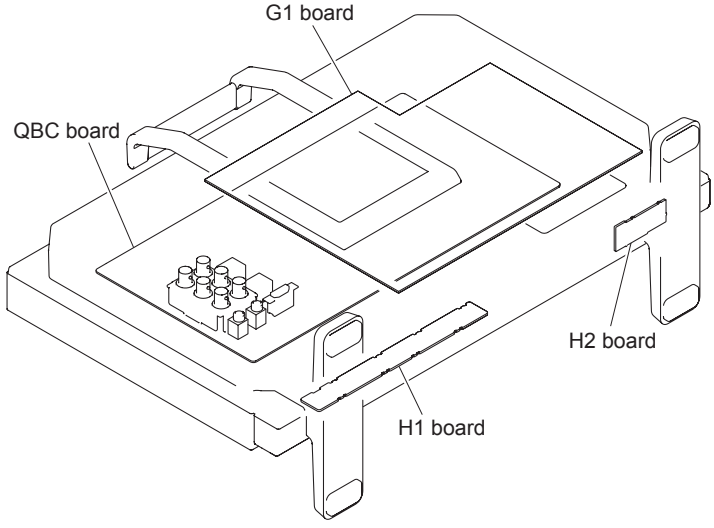
Other system names, product names, and company names appearing in this manual are trademarks or registered trademarks of their respective holders.

Section 1
Service Overview

1-1. Appearance Figure



1-2. Board Location



1-3. Tighten Torque

Tighten the each screw of this unit with the torque below.

Note

- The screw (B3 × 5) of this unit has two type of the tighten torque. Be careful not to confuse.
- The screw (PSW4 × 8) of this unit has two type of the tighten torque. Be careful not to confuse.
- When using the torque driver with the notation of cN•m, interpret it as follows.
  Example: 0.8 N•m = 80 cN•m

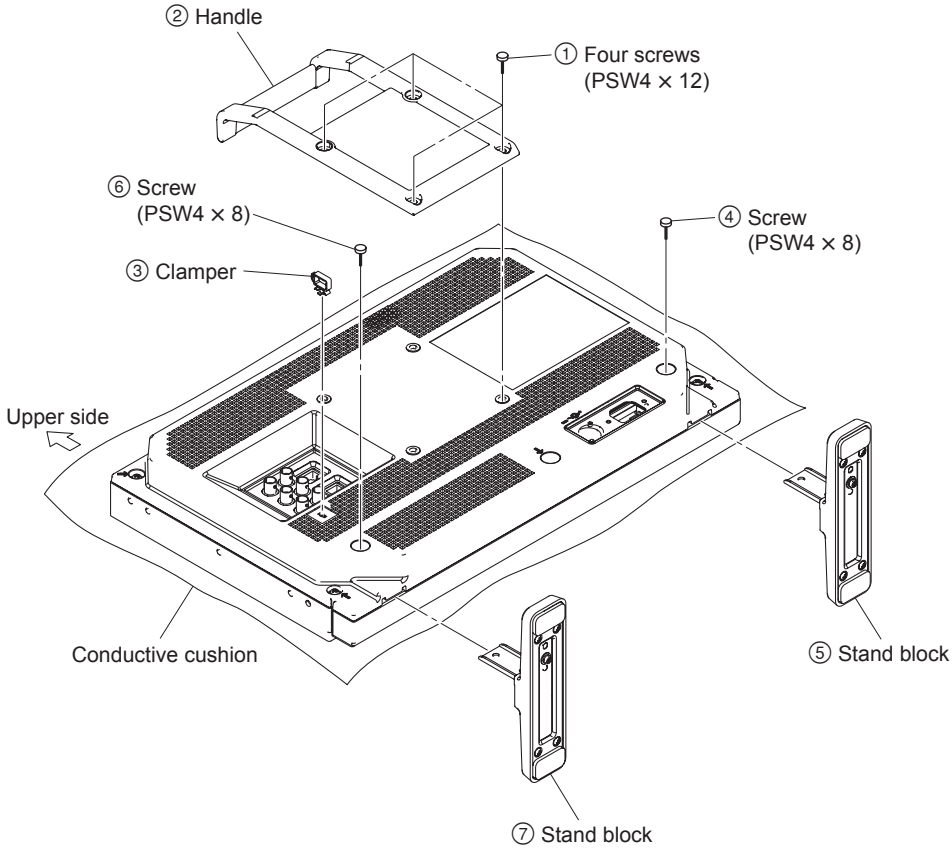
- B3 × 5 (BNC and HDMI connectors): 0.40 ±0.10 N•m (4.07 ±1.01 kgf•cm)
- B3 × 5 (except for BNC and HDMI connectors): 0.80 ±0.10 N•m (8.15 ±1.01 kgf•cm)
- BVTP3 × 8: 0.60 ±0.10 N•m (6.11 ±1.01 kgf•cm)
- BVTP3 × 10: 0.60 ±0.10 N•m (6.11 ±1.01 kgf•cm)
- RK2.6 × 6: 0.40 ±0.10 N•m (4.07 ±1.01 kgf•cm)
- PSW3 × 6: 0.80 ±0.10 N•m (8.15 ±1.01 kgf•cm)
- PSW4 × 8 (stand block and ground terminal): 1.20 ±0.10 N•m (12.23 ±1.01 kgf•cm)
- PSW4 × 8 (except for stand block and ground terminal): 1.50 ±0.10 N•m (15.29 ±1.01 kgf•cm)
- PSW4 × 12: 1.20 ±0.10 N•m (12.23 ±1.01 kgf•cm)
- 3 × 4: 0.40 ±0.10 N•m (4.07 ±1.01 kgf•cm)
- NUT (M6 × 0.5): 0.40 ±0.10 N•m (4.07 ±1.01 kgf•cm)

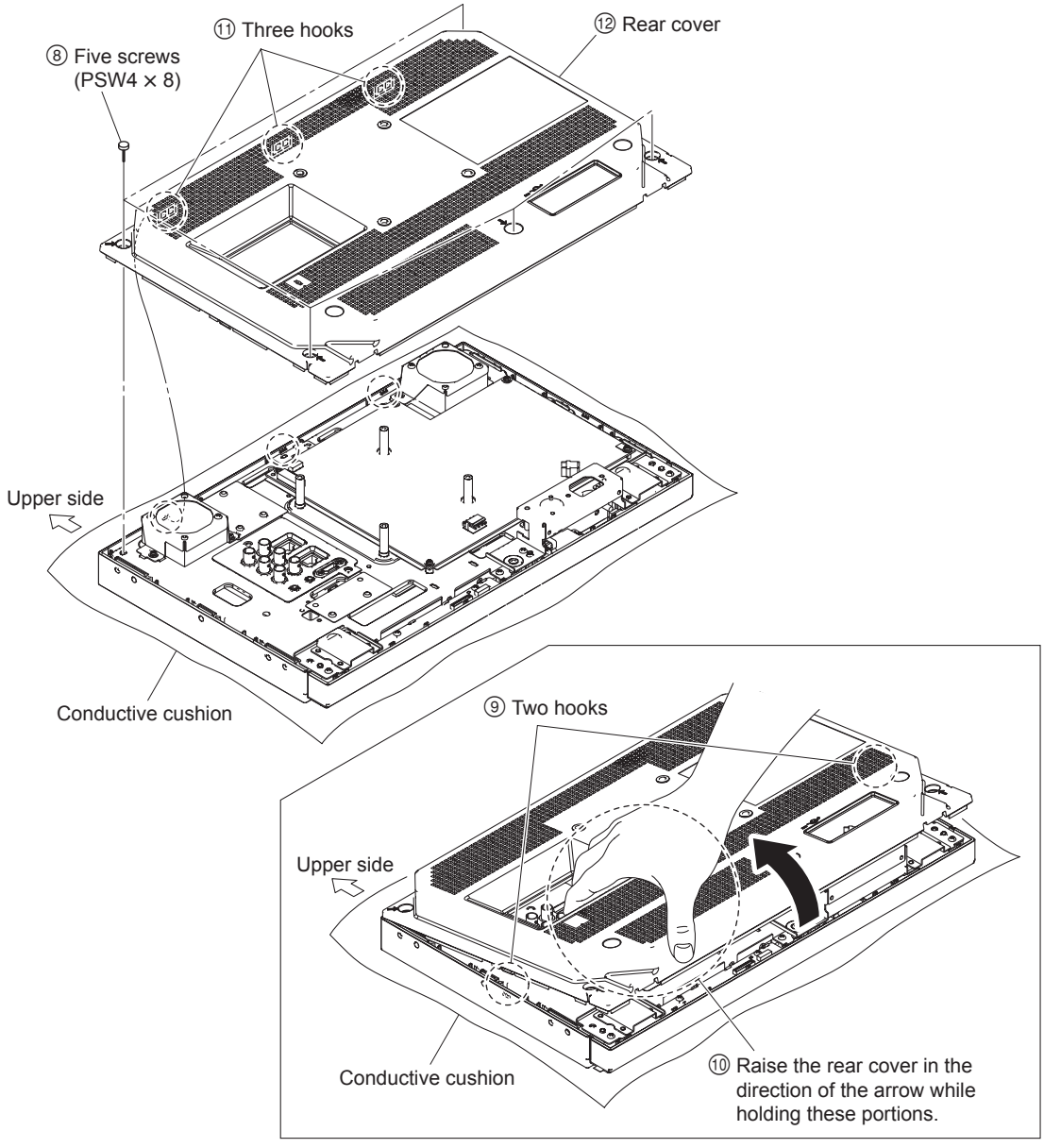
1-4. Disassembly

Note

- In this section, 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.
- QBC board is not prepared for spare parts. When the QBC board is broken, replace the OLED module assembly.

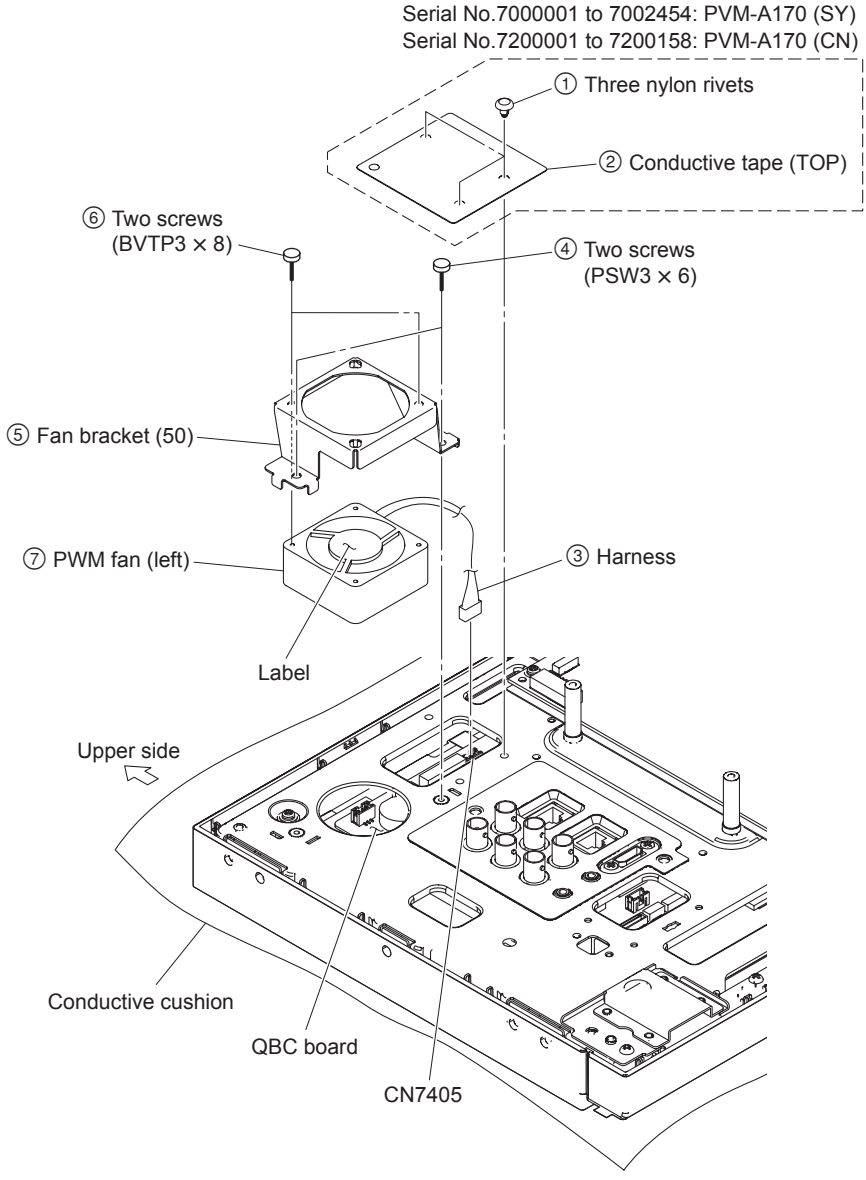
1-4-1. Rear Cover




⑪ Three hooks
⑫ Rear cover
⑧ Five screws
(PSW4 × 8)
Upper side
Conductive cushion
⑨ Two hooks
Upper side
Conductive cushion
⑩ Raise the rear cover in the direction of the arrow while holding these portions.

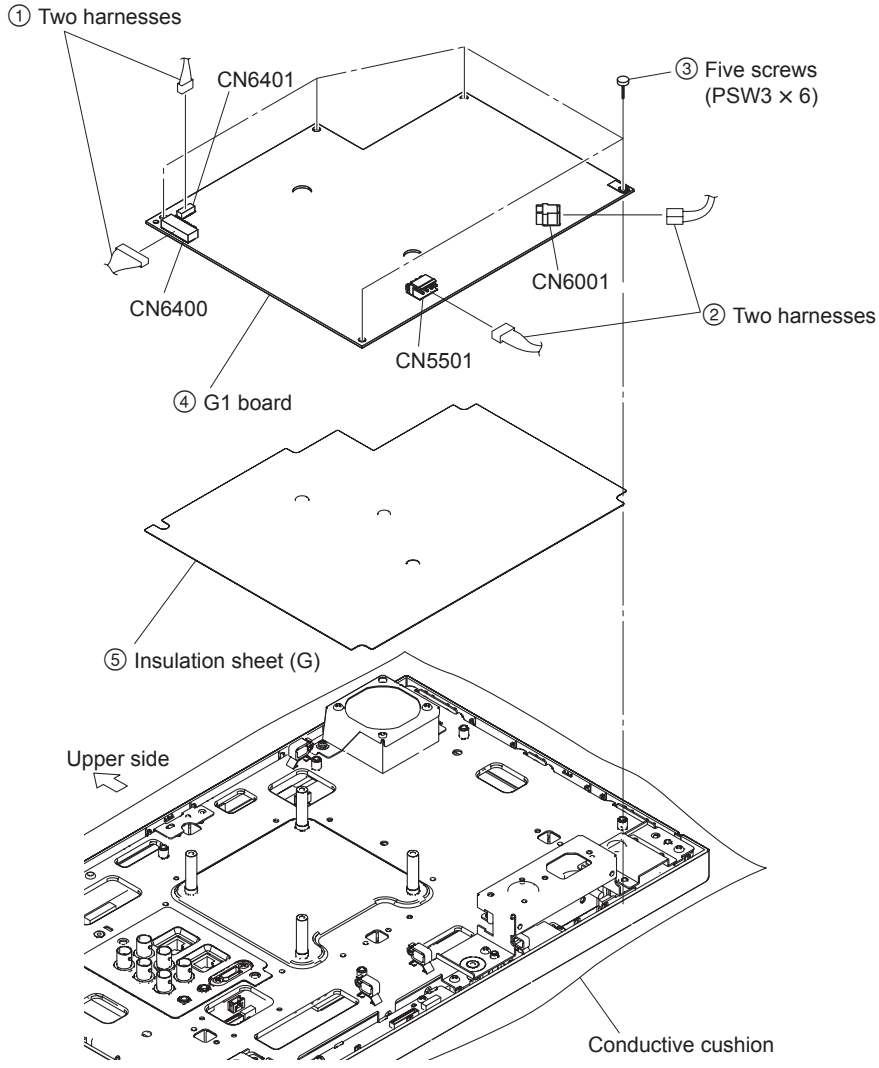
1-4-2. PWM Fan (Left)

• Remove the rear cover. (Refer to Section 1-4-1.)



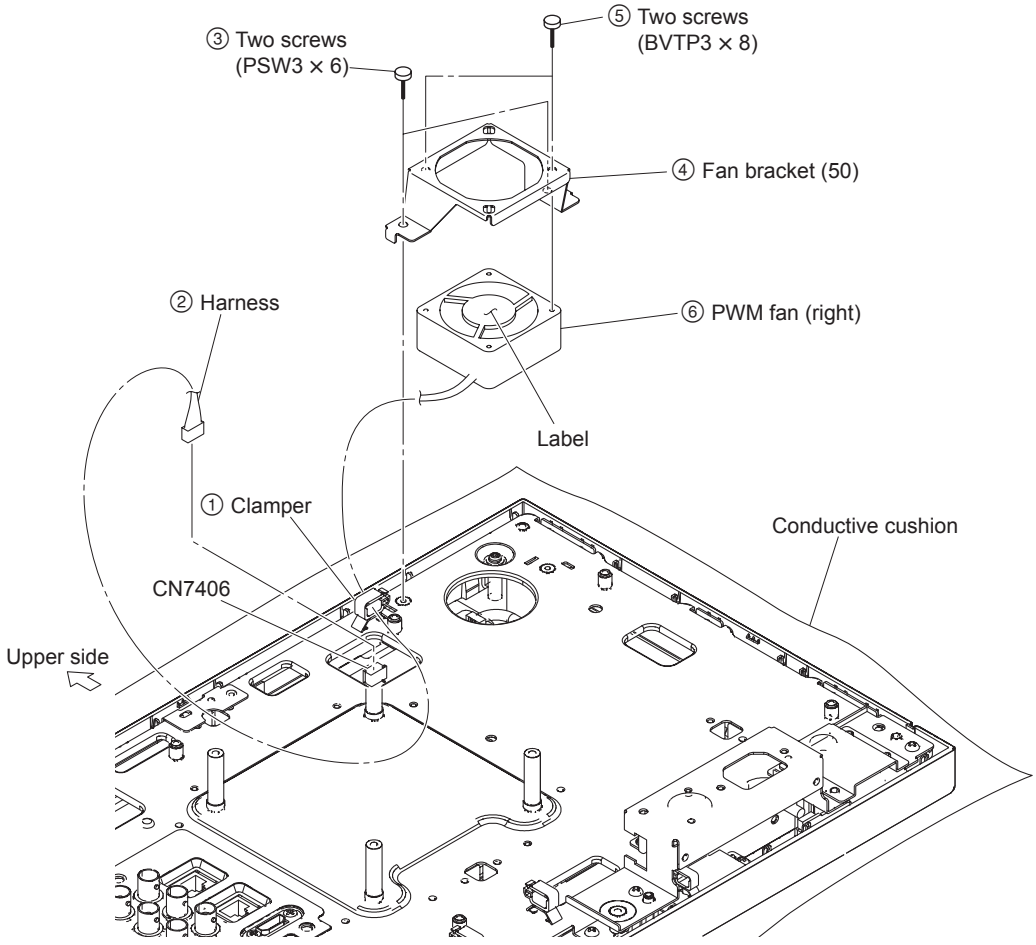
1-4-3. G1 Board

• Remove the rear cover. (Refer to Section 1-4-1.)



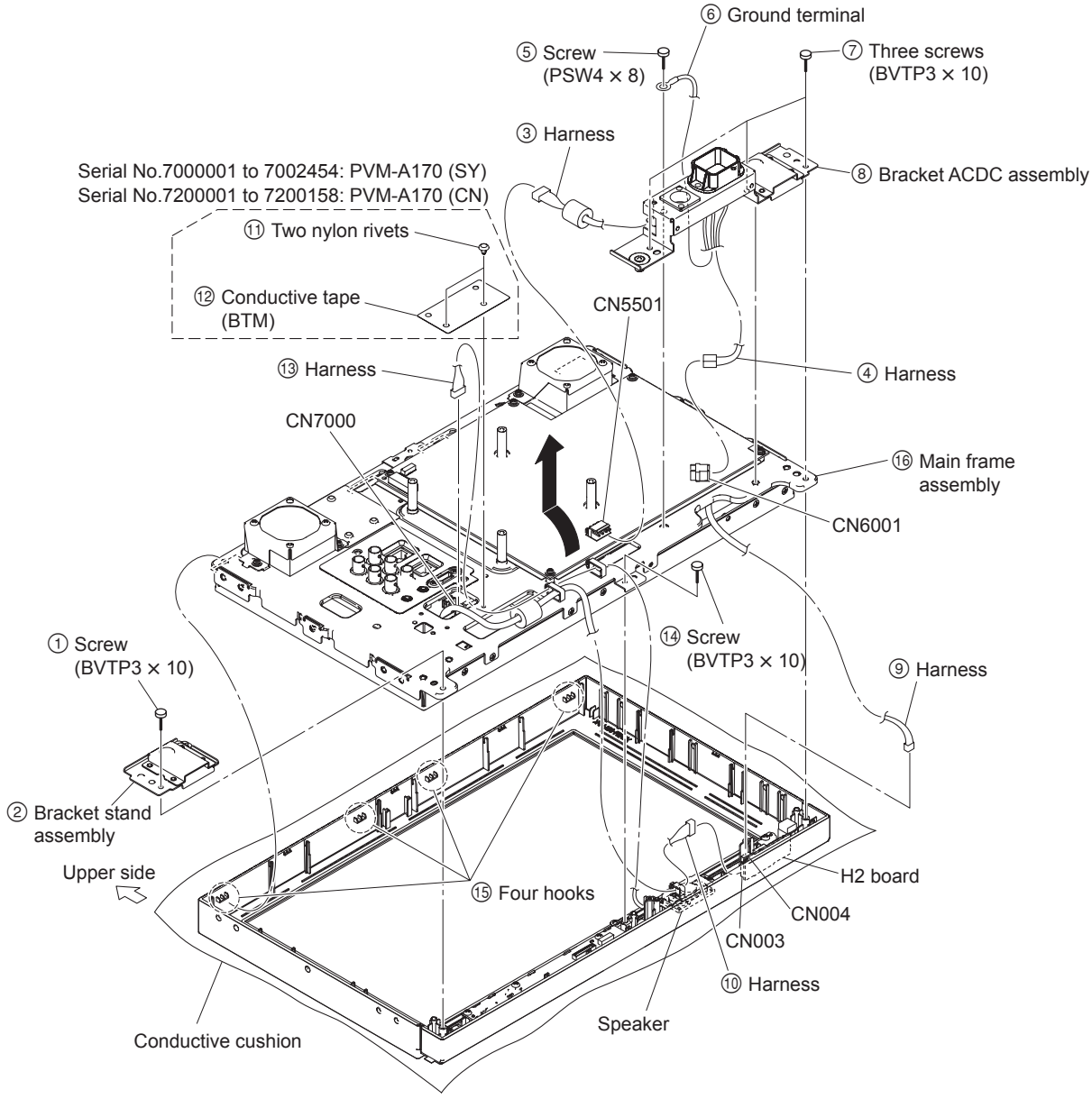
1-4-4. PWM Fan (Right)

- Remove the rear cover. (Refer to Section 1-4-1.)
- Remove the G1 board. (Refer to Section 1-4-3.)

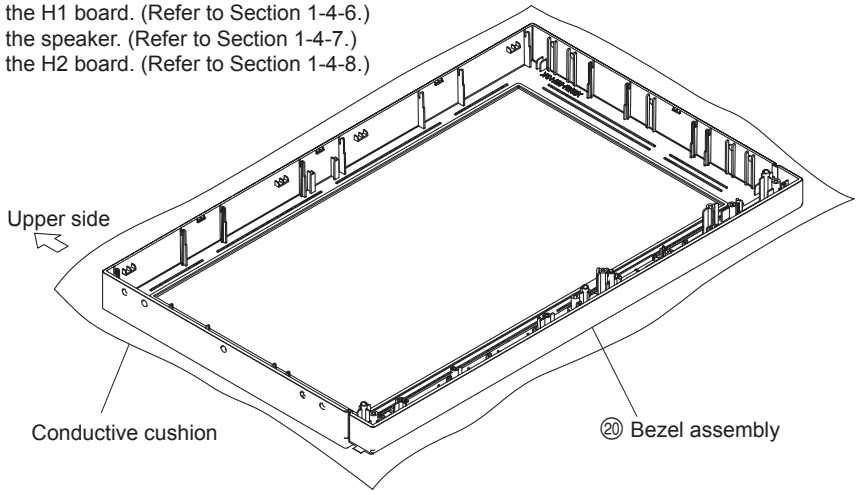


1-4-5. Bezel Assembly

• Remove the rear cover. (Refer to Section 1-4-1.)

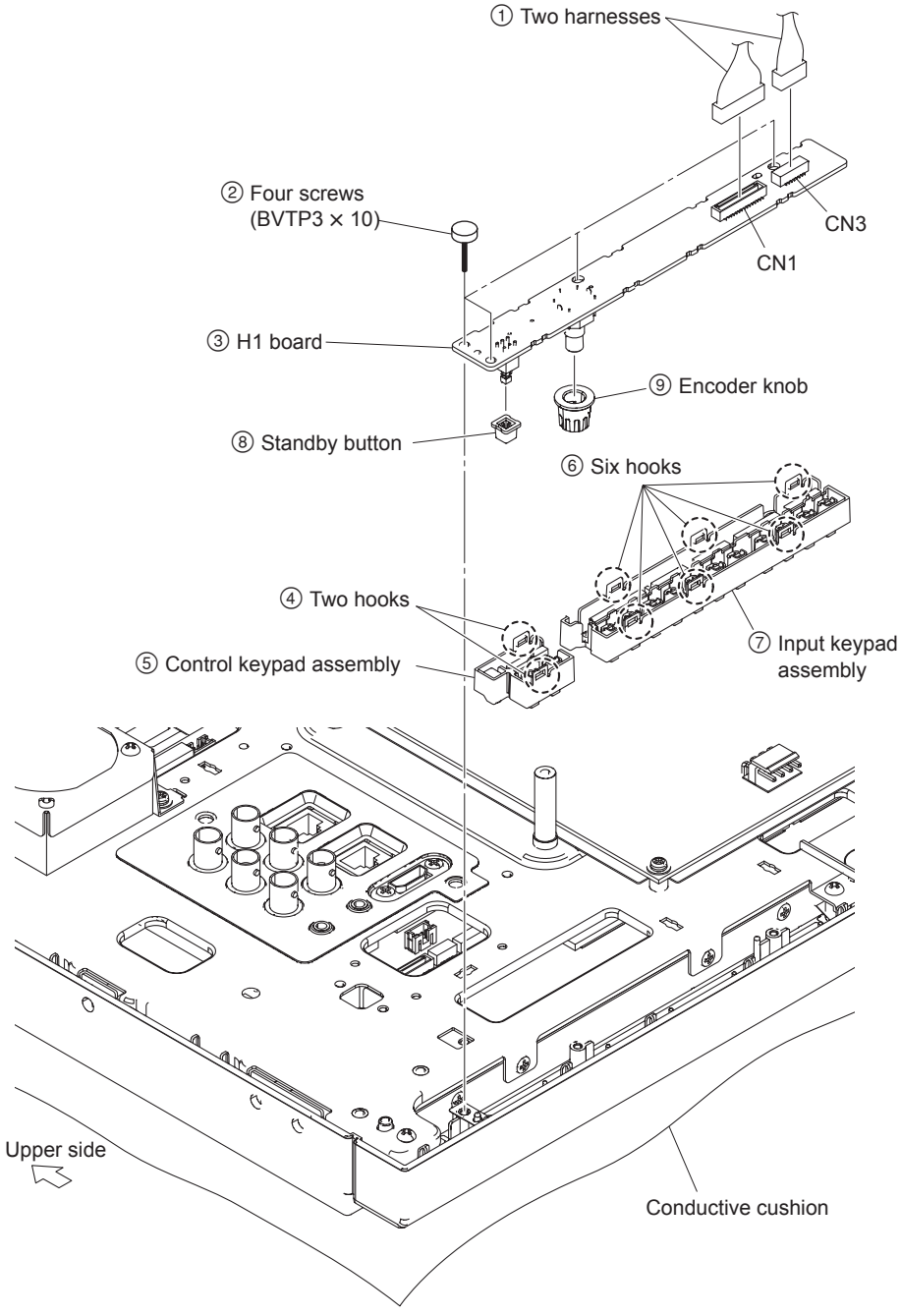


⑰ Remove the H1 board. (Refer to Section 1-4-6.)
⑱ Remove the speaker. (Refer to Section 1-4-7.)
⑲ Remove the H2 board. (Refer to Section 1-4-8.)



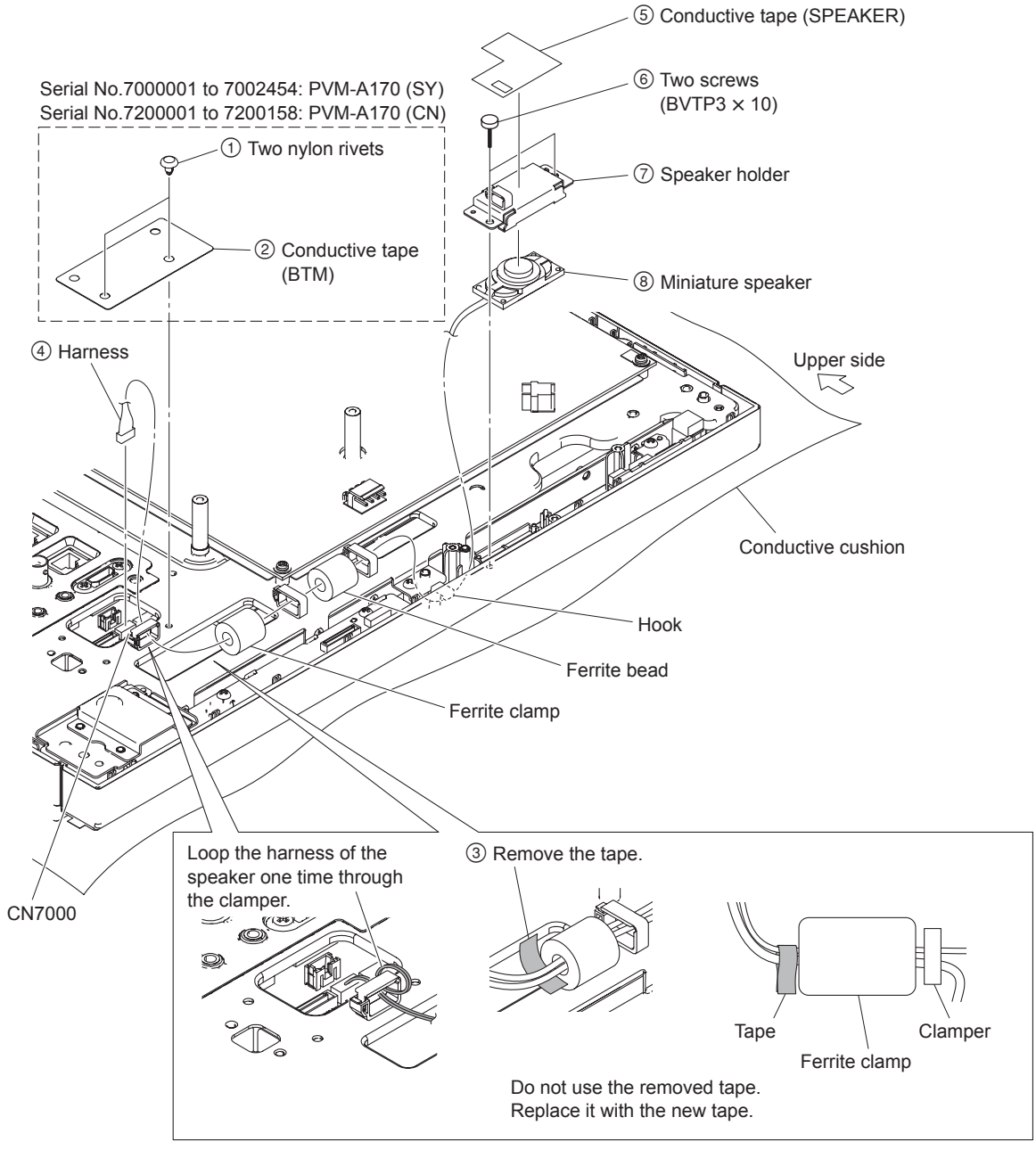
1-4-6. H1 Board

- Remove the rear cover. (Refer to Section 1-4-1.)
- Remove the bracket stand assembly. (Refer to steps 1 and 2 in Section 1-4-5.)



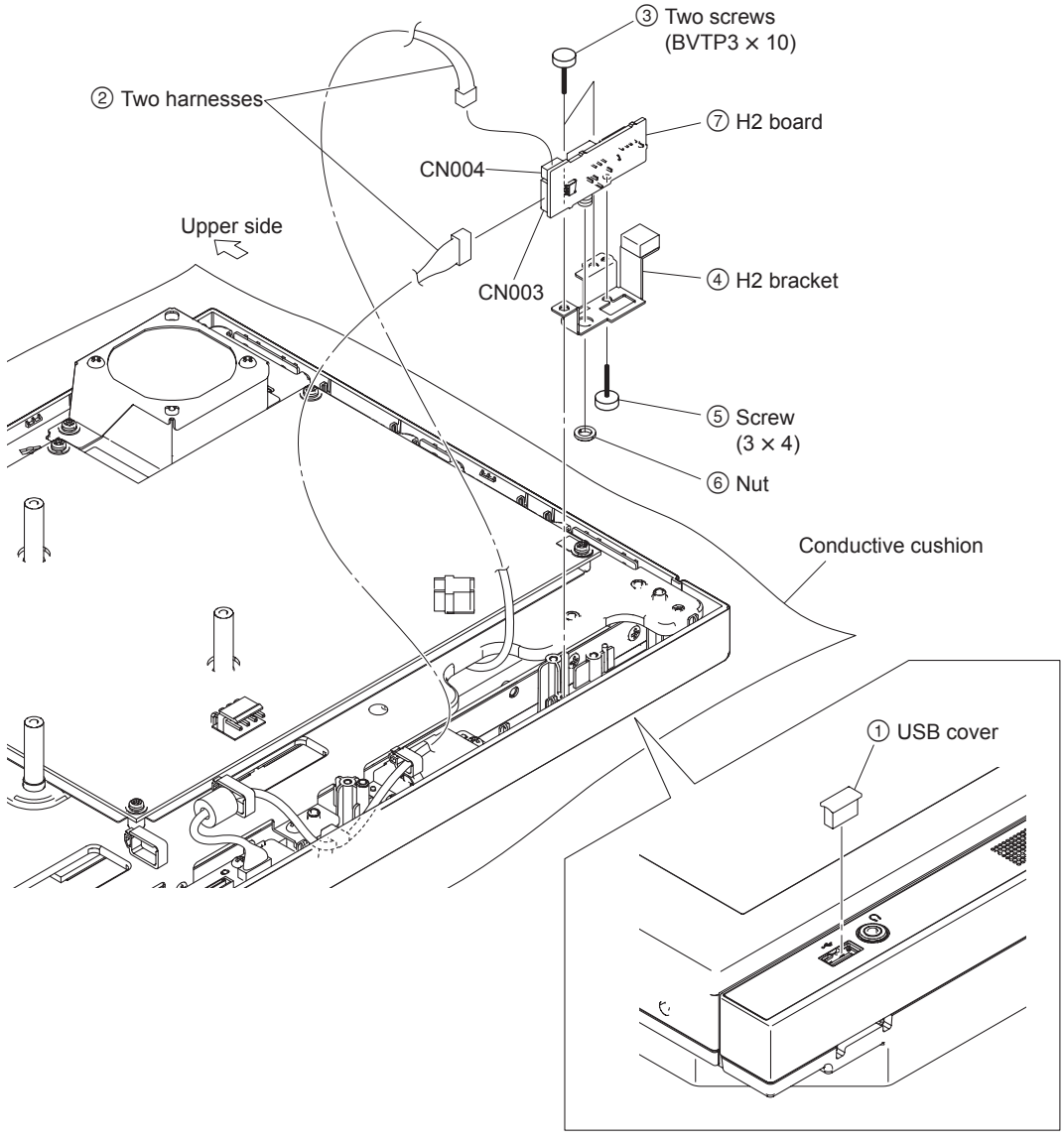
1-4-7. Speaker

- Remove the rear cover. (Refer to Section 1-4-1.)
- Remove the bracket ACDC assembly. (Refer to steps 3 to 8 in Section 1-4-5.)



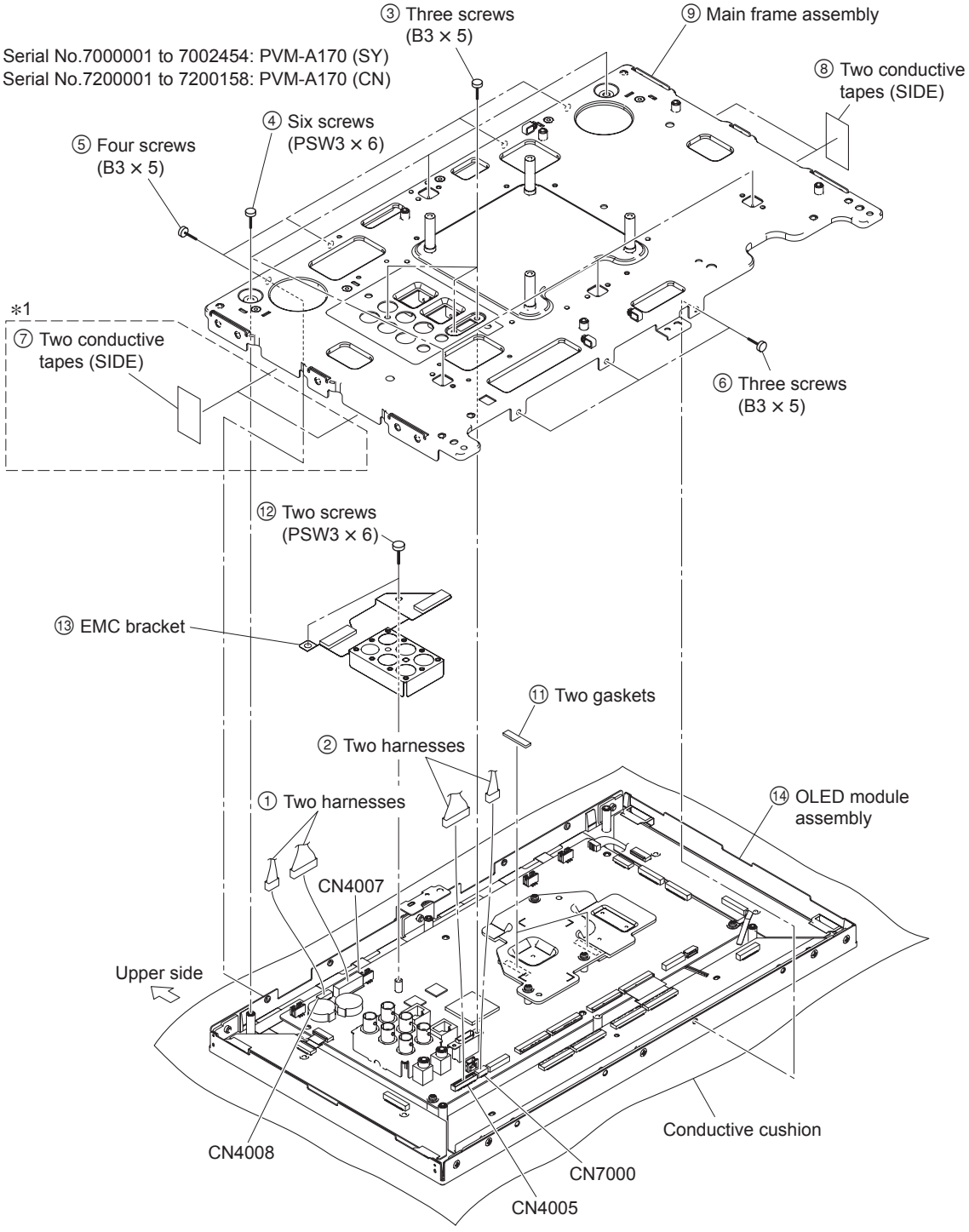
1-4-8. H2 Board

- Remove the rear cover. (Refer to Section 1-4-1.)
- Remove the bracket ACDC assembly. (Refer to steps 3 to 8 in Section 1-4-5.)



1-4-9. OLED Module Assembly

- Remove the rear cover. (Refer to Section 1-4-1.)
- Remove the PWM fan (left). (Refer to Section 1-4-2.)
- Remove the G1 board. (Refer to Section 1-4-3.)
- Remove the PWM fan (right). (Refer to Section 1-4-4.)
- Remove the bezel assembly. (Refer to Section 1-4-5.)



1-5. Periodic Replacement Parts and Cleaning

1-5-1. Periodic Replacement Parts

Note

This table does not describe the guarantee period of each part.
The replacement period of each part is changed according to the environment and conditions of use.
(The following is the value when the environmental temperature of this unit is set to 25 °C.)

Part name	Part No.	Number of pieces	Replacement period (h) (Operating time: 24 hours/day)	(Operating time: 16 hours/day)
OLED module assembly	A-1998-082-A	1	15000	25000
G1 board	A-1989-810-A	1	25000	50000
PWM fan	⚠ 1-855-014-11	2	20000	40000

1-5-2. Cleaning

Clean periodically the dust on the OLED module assembly and fans.
It is recommended to perform the cleaning once a year in the case of the operating time of 24 hours/day and every two years in the case of the operating time of 16 hours/day.

1-6. Lead-free Solder

All boards mounted in this unit use lead-free solder. Be sure to use lead-free solder when repairing the boards of this unit. A lead free mark (LF) indicating that the solder contains no lead is printed on each board.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK

Note

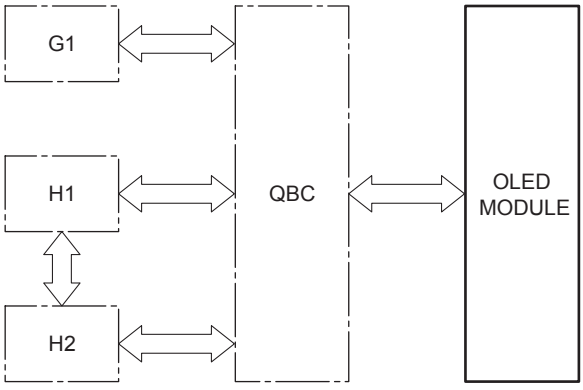
- The lead-free solder melts at a temperature about 40 °C higher than the ordinary solder, therefore, it is recommended to use the soldering iron having a temperature regulator.
- The ordinary soldering iron can be used but the iron tip has to be applied to the solder joint for a slightly longer time.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

Section 2
Circuit Description

2-1. Board Configuration

The whole block and board configuration of this unit are as follows:

- G1 board: Power board
- H1 board: User control interface board
- H2 board: Headphone/USB terminal-mounted board
- QBC board: Video/audio/communication input/output and OLED module control board



2-2. G1 Board

The G1 board is used for AC and inputs. It generates the power used in this unit.
During AC input, the G1 board generates 28 V through a power-factor improvement regulator using an insulating converter and outputs it to a QBC board. The G1 board also generates 12.5 V in two channels from 28 V using a step-down DC/DC converter and outputs it to the QBC board.
During DC input, the G1 board generates 28 V using a step-up DC/DC converter and outputs it to a QBC board.
The G1 board also generates 12.5 V in two channels from 28 V using a step-down DC/DC converter and outputs it to the QBC board.

2-3. H1 Board

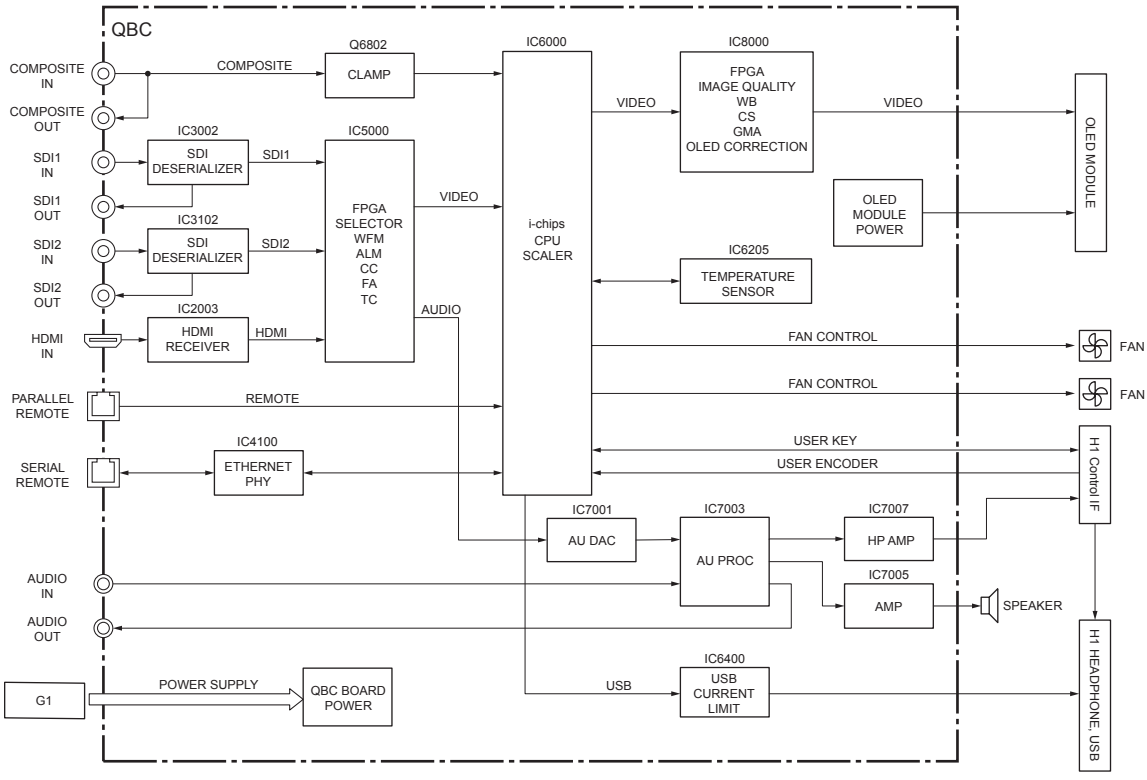
The H1 board mounts a power switch, input selector button, function button, and rotary encoder.

2-4. H2 Board

The H2 board mounts a headphone terminal and USB terminal (for function extension in future).

2-5. QBC Board

The QBC board performs video/audio signal processing, OLED control, and CPU and network processing. The details of each block are as shown below.



1. Video signal processing

For a video signal, an SDI signal (2 channel), HDMI signal (1 channel), and analog composite signal (1 channel) can be input.

After a serial signal is cable-compensated using equalizers (IC3000 and IC3100), the SDI signal is converted into a parallel signal using deserializers (IC3002 and IC3102) and sent to selector FPGA (IC5000). In the active throughout terminal of the SDI signal, the signal re-clocked in the deserializers is output through driver circuits (IC3001 and IC3101).

The HDMI signal is converted into a parallel signal using a receiver (IC2003) and sent to selector FPGA (IC5000). The selector FPGA extracts AVI Info superimposed on a signal and performs the processing based on AVI Info. EDID data is stored in EEPROM (IC2000). The EDID data is also used for the contents protected by HDCP. It is authenticated for decoding using a receiver.

The analog composite signal is clamped using Q6802 and then sent to the main signal processing circuit (IC6000) incorporated into a decoder. YC separation and color demodulation are all processed in IC6000.

IC5000 realizes two-channel SDI and HDMI signal selection, sub-screen functions (WFM: Wave-Form Monitor, ALM: Audio Level Meter, and VS: Vector Scope), the camera focus assist (FA: Focus Assist) superimposed on a video signal, time code display (TC: Time Code), and closed caption display (CC: Close Caption).

IC6000 performs the IP conversion of a video signal's interlacing signal, image scaling processing, and sub-screen superimposition.

IC8000 performs the user control processing of contrast, brightness, chroma, and phase, the switching processing of white balance, gamma, and color space, and the superimposition of an on-screen tally. The image-adjusted signal is converted into a format in which an OLED module is driven and then output.

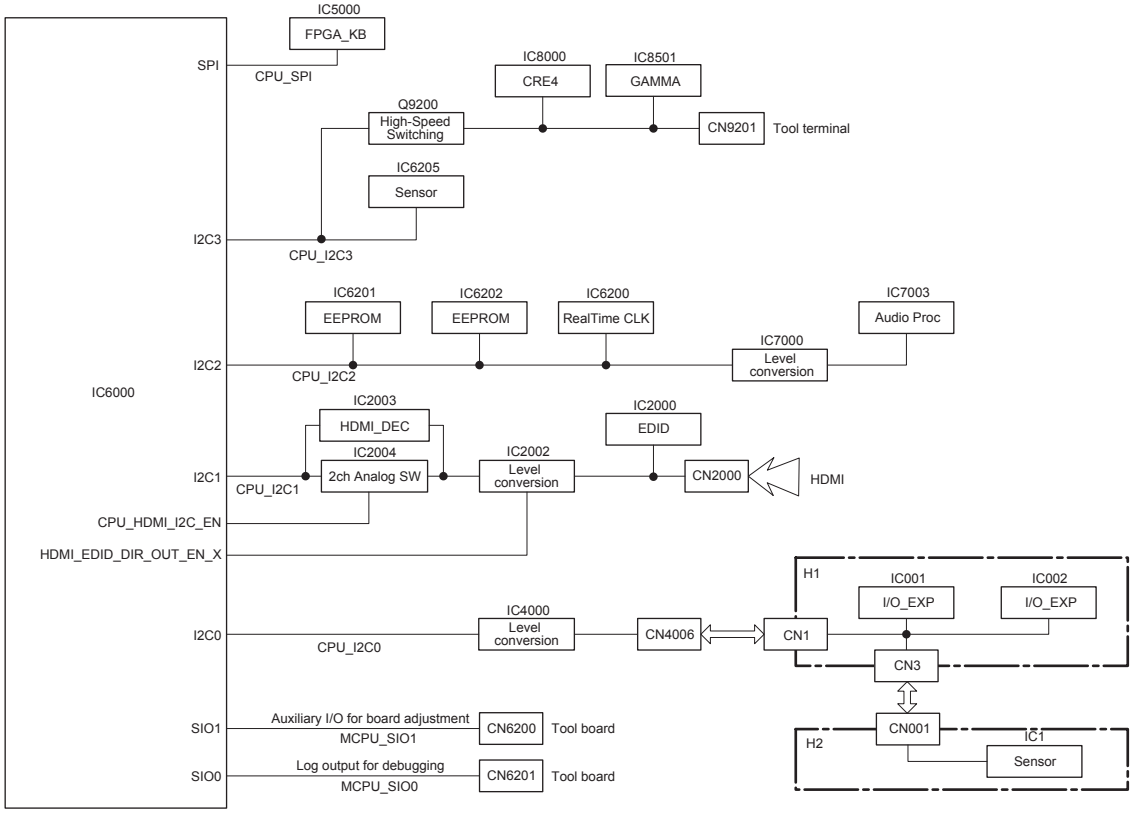
2. Audio signal processing

The audio signal embedded into an SDI signal is decoded using IC5000. The audio signal embedded into an HDMI signal is decoded using IC2003. One signal is selected out of these two kinds of digital signals and an analog audio signal from AUDIO IN terminal, and sent to an analog output terminal, speaker output terminal, and then headphone output terminal.

3. CPU

The CPU of this unit is mounted in IC6000. Each device is set and controlled by the user control and parallel remote control from an H1 board, the control from LAN, and the value that a panel temperature sensor detects.

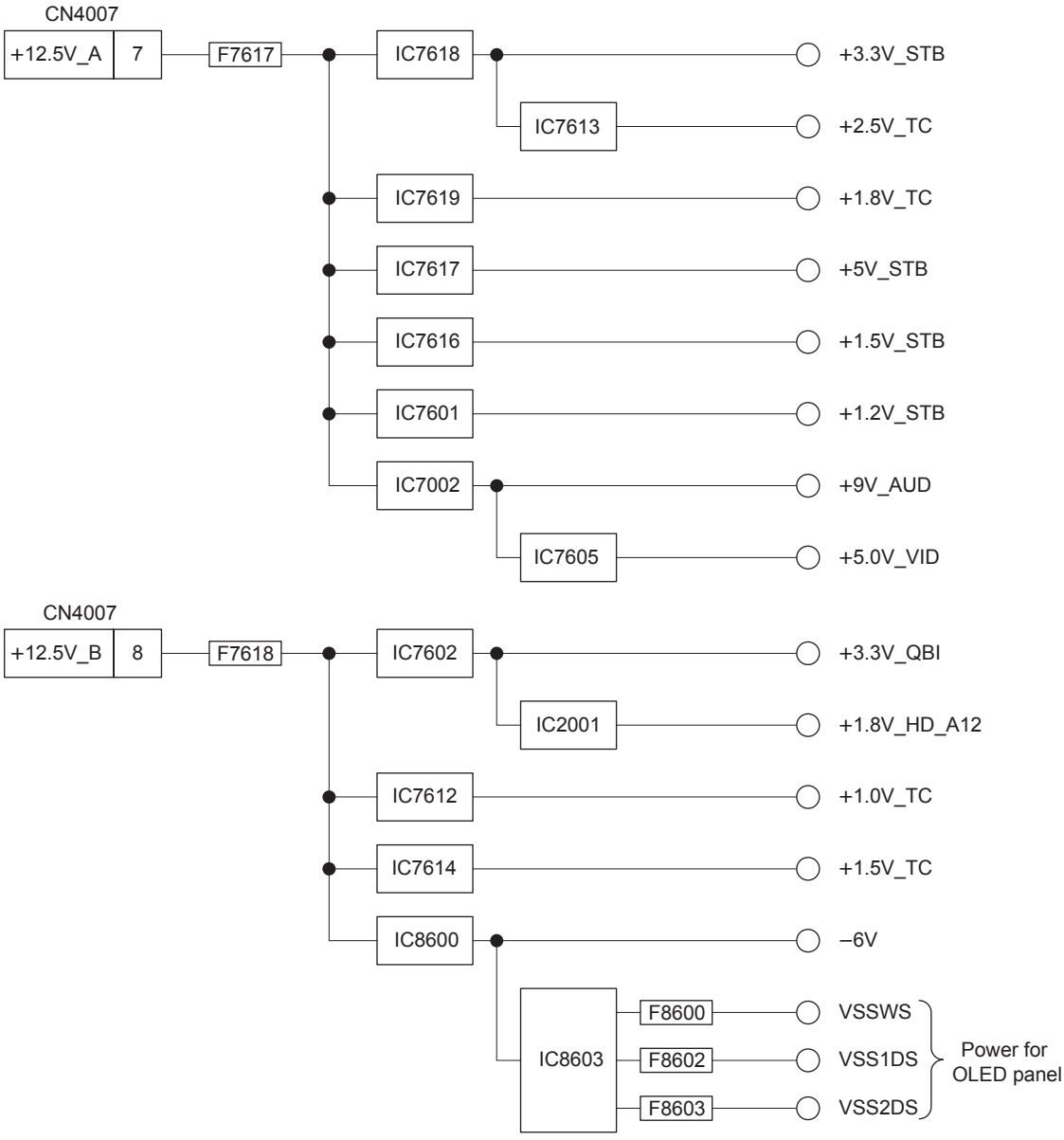
Connection buses are as shown below.

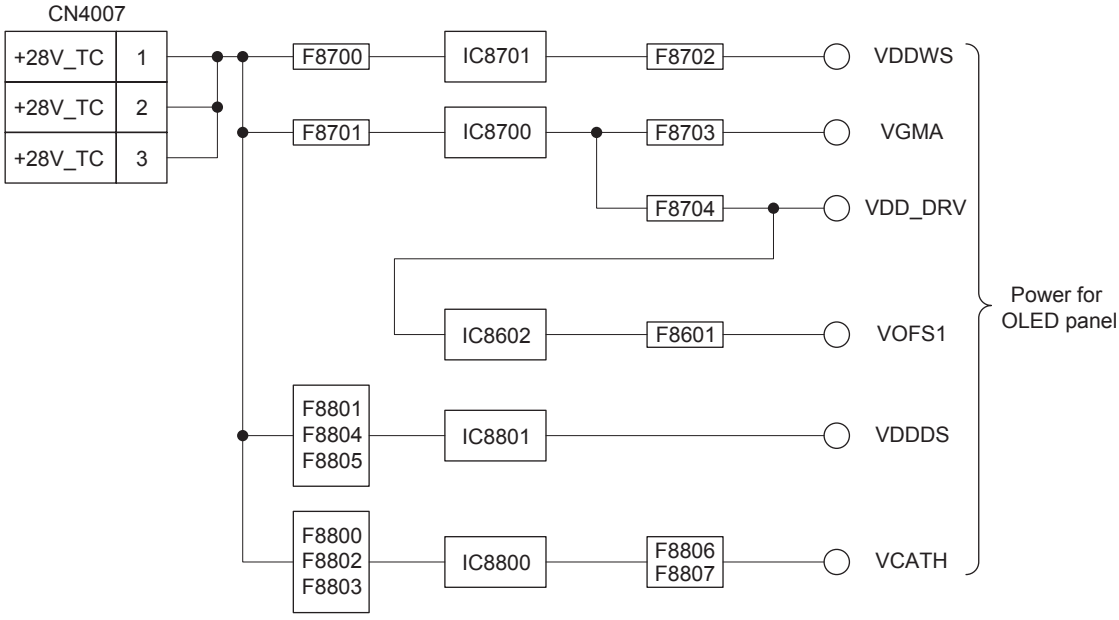


4. QBC power

28 V in one channel and 12.5 V in two channels are supplied to a G2 board. They are produced for the power used on a QBC board and the power for an OLED module using the DC/DC converter and regulator on a QBC board.

The power map is as shown below




CN4007
+28V_TC
1
+28V_TC
2
+28V_TC
3
F8700
IC8701
F8702
VDDWS
F8701
IC8700
F8703
VGMA
F8704
VDD_DRV
IC8602
F8601
VOFS1
F8801
F8804
F8805
IC8801
VDDDS
F8800
F8802
F8803
IC8800
F8806
F8807
VCATH
Power for
OLED panel

Section 3
Troubleshooting

3-1. LED (Power Switch) on the Front Panel Blinks in Red

Connect this unit and terminal PC to confirm the device and register in this unit and perform the processing corresponding to the value.

3-1-1. Preparation

Equipment required

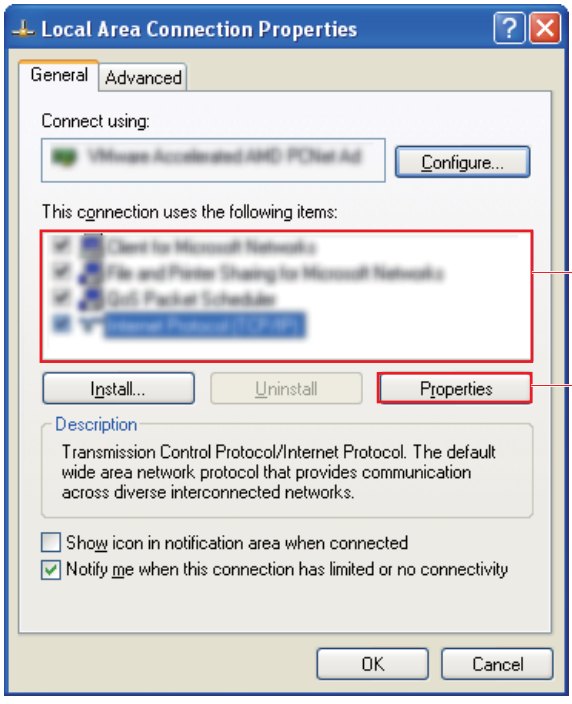
- Personal computer (PC)
  OS: Windows XP, Windows Vista, and Windows 7
- LAN cable (Cross cable)
- Terminal software: Tera term, etc.

3-1-2. Setting of PC

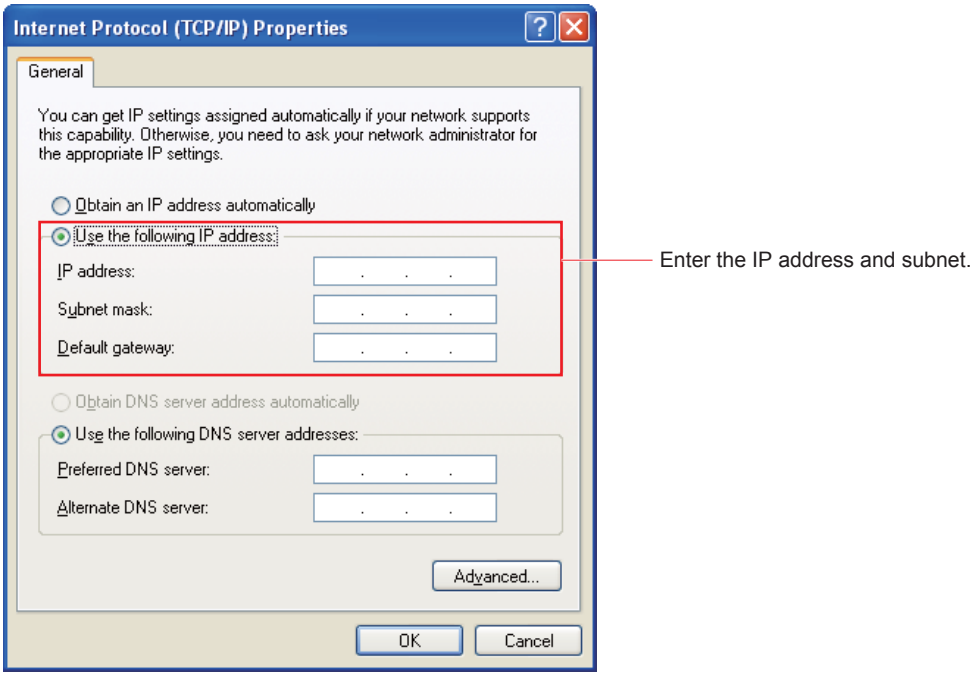
Tip

The procedure in this section is described using Windows XP. The procedure and term may vary depending on the environment of OS used.

1. Start PC.
2. Click Start → Setting → Control panel → Network connection.
3. Right-click the Local Area Connection.
   A Local Area Connection Properties screen appears.



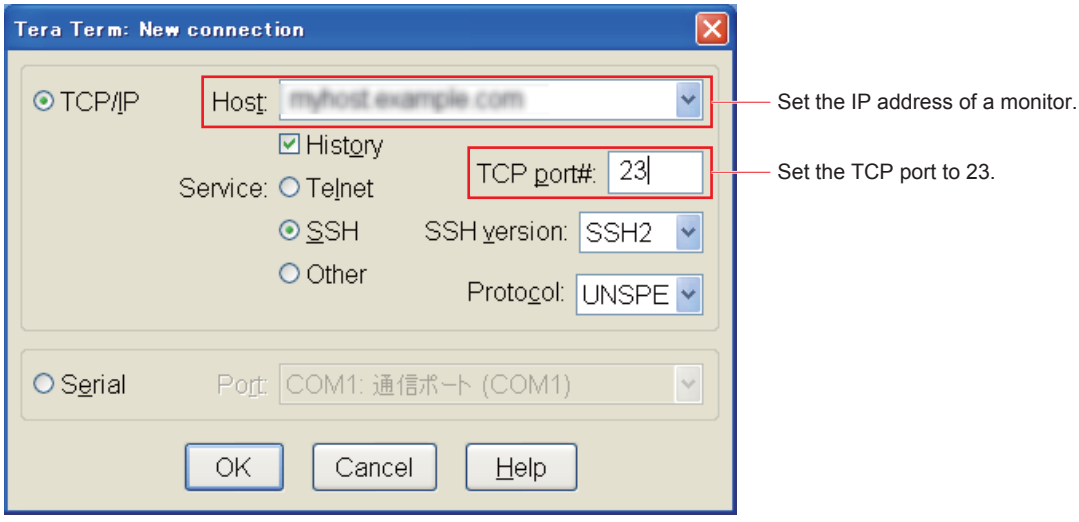
4. Select internet protocol version 4 (TCP/IPv4) and click the Properties button.



5. Enter 192.168.0.10 in the IP address field, enter 255.255.255.0 in the subnet mask field, and click the OK button.
6. Close the Local area connection property screen.

3-1-3. Connection with Monitor

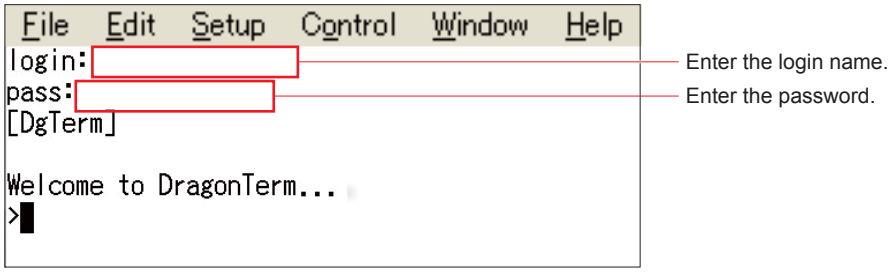
1. Start terminal software.
2. Set the connection destination to the IP address f a monitor and set the TCP port to 23.



3. Enter the login name and password.
   "Welcome to Dragon Term…" is displayed. (Connection is completed.)

Tip

- When you enter the password, no characters are displayed on the screen.
- For the login name and password, contact your local Sony Sales Office/Service Center.



3-1-4. Reading the Register

1. Move to the directory of a device, you want to access, in terminal software.
   (Example) When moving to device lm75_qbc;
   Enter "d lm75_qbc" and press the Enter key.
   ">lm75_qbc>" is displayed.
   <Display example>
   Welcome to DragonTerm…
   >cd lm75_qbc
   >lm75qbc>
2. Enter <read command/><read address><read count> and press the Enter key.
   (Example) When reading 10 addresses from address 0
   Enter "ra 0 10" and press the Enter key.
   <Display example>

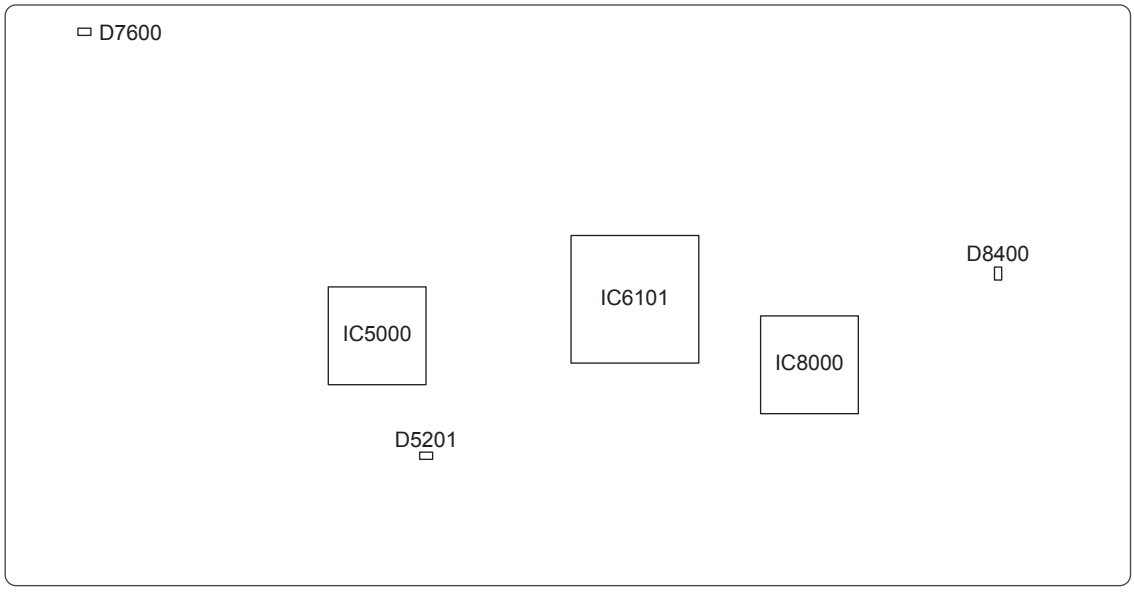
```
Welcom to DragonTerm..
>cd lm75_qbc
>lm75_qbc>
>lm75_qbc>ra 0 10
0 2680 // read OK
1 0 // read OK
2 4B00 // read OK
3 5000 // read OK
4 FFFF // read OK
5 FFFF // read OK
6 FFFF // read OK
7 A1A1 // read OK
8 2680 // read OK
0 0 // read OK
```

<Read register values>
<Read addresses>

3-1-5. Check Method and Remedy

Check item	Reference device	Address	Read data in a normal state	Check method	Remedy
Panel temperature	lm75_qbc	0h Bit15-8	Value lower than 41h	Read data is higher than 41h. Any communication is impossible.	When any communication is impossible ⇨ Replace the OLED module assembly. (Refer to Section 1-4-9.) Does a fan operate when LED blinks in orange? ⇨ Yes: Replace the OLED module assembly. (Refer to Section 1-4-9.) No: Replace the corresponding fan. (Refer to Section 1-4-2 or 1-4-4.) **Note** This failure does not appear as symptoms when a fixed time does not pass. In this case, the LED display below appears. Power ON → LED blinking in orange (every other second) → LED blinking in red
Panel power	fpga_cre4	3C47h	0: Normal panel power	1: Panel power error	Does each power output for the OLED panel on a QBC board exist? (Refer to Section 3-2.) ⇨ Yes: Refer to "Does the fuse for the OLED panel on a QBC board blow?" described below. No: Replace the corresponding IC. Does the fuse for the OLED panel on a QBC board blow? ⇨ Yes: Replace the corresponding fuse. Even if you replace the fuse, replace the OLED module assembly when symptoms are not improved. (Refer to Section 1-4-9.) No: Replace the OLED module assembly. (Refer to Section 1-4-9.)
Panel correction	fpga_cre4	002bh bit7, 6	bit7: 1 (FLC1L_DONE) bit6: 1 (FLC2L_DONE)	bit7: 0 bit6: 0	Turn off and on the power of this unit and confirm that this unit starts normally. ⇨ LED blinks in red. Flash ROM IC on a QBC board is defective. Replace the OLED module assembly. (Refer to Section 1-4-9.)
Out-of-DC IN range					• Confirm whether the supplied DC voltage is the prescribed voltage (12 V to 16 V). • Replace the G1 board. (Refer to Section 1-4-3.)

3-2. LED on a QBC Board Lights



QBC board (A side)

1. State in which D5201 was turned on

A failure occurs in FPGA on a QBC board. Replace the OLED module assembly.

2. State in which D7600 was turned on

A failure occurs in the power supply below. Replace the G1 board.

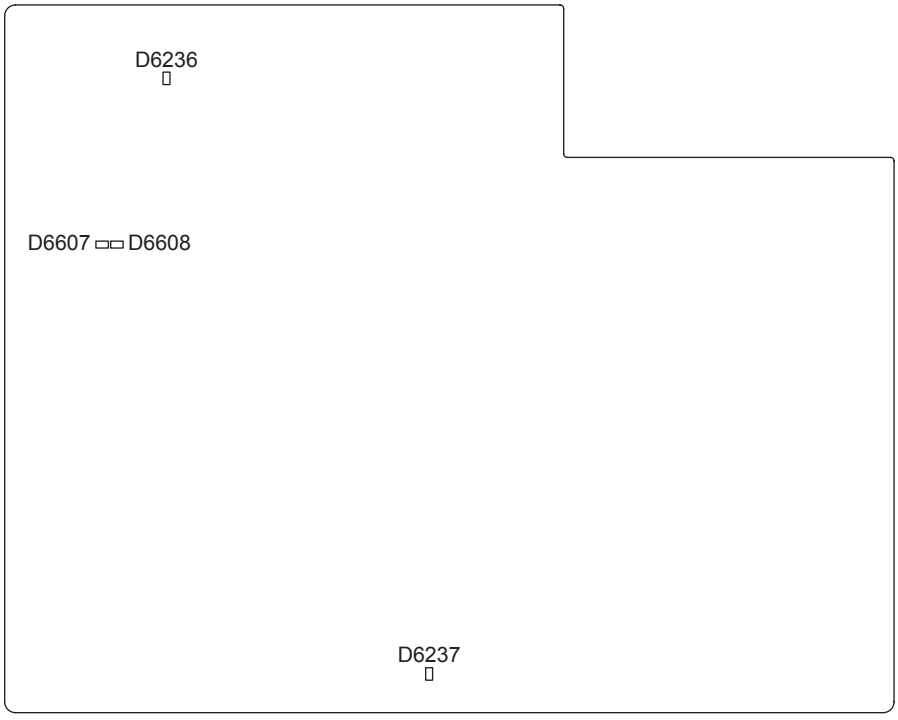
- +3.3V_STB
- +1.5V_STB
- +5V_STB
- +1.2V_STB

3. State in which D8400 was turned on

A failure occurs in the power supply below. Replace the G1 board.

- VDDWS
- VGMA
- VDD_DRV
- +1.0V_TC
- +1.5V_TC
- +1.8V_TC
- +3.3V_QBI

3-3. LED on a G1 Board Lights



G1 board (A side)

- D6236: 28 V output display (Green)
- D6608: 12.5 V_A (1 channel in 2-channel 12.5 V)
  Output display (Green)
- D6607: 12.5 V_B (1 channel in 2-channel 12.5 V)
  Output display (Green)
- D6237: AC_OFF_DET output display and AC input monitoring (Red)

How to deal with the status during AC input

D6236, D6607 and D6608 turn on. D6237 normally operates with the light turned off. 28 V, 12.5V_A and 12.5V_B become output state. Also, 12.5 V generates the power with the step-down converter from 28 V.

1. State in which D6236, D6607, D6608, and D6237 were turned off

28 V is not output. When 28 V is not output, 12.5 V is not also output and all LEDs are turned off.
A primary power circuit (AC input to 28 V insulating converter) is judged to be abnormal.
Confirm the following item using a tester.

- Is PFC properly output?
  (In a normal state, the voltages across C6032 are approximately 395 V.)
  ⇨ Yes
  Abnormality may exist in a main converter. Confirm the parts below and replace them as required.
  - Q6205 and Q6206: Is no problem found in the resistance value between terminals? (Are Q6205 and Q6206 not short-circuited?)
  - R6201: Is no problem found in a resistance value? (Is R6201 not put into an open state?)
  - IC6201

  ⇨ No
  Abnormality may exist in a power-factor improvement regulator. Confirm the parts below and replace them as required.
  - Q6004: Is no problem found in the resistance value between terminals? (Is Q6004 not short-circuited?)
  - F6000
  - IC6000

  Abnormality may exist in a sub-power regulator. Confirm the parts below and replace them as required.
  - R6208: Is no problem found in a resistance value? (Is R6208 not put into an open state?)
  - IC6200

  Abnormality may exist in a rectifier circuit. Confirm the parts below and replace them as required.
  - F6000: Is F6000 not put into an open state?
  - D6000: Is D6000 not put into an open state or not short-circuited?

2. State in which D6236 was turned on and in which D6607, D6608, and D6237 were turned off

12.5 V is not output.
A secondary DC/DC converter is judged to be abnormal. Confirm the parts below and replace them as required.

- F6600: Is F6400 not put into an open state?
- Q6604 to Q6607: Is no problem found in the resistance value between terminals? (Are Q6604 to Q6607 not short-circuited?)
- IC6601

3. State in which D6236, D6607, D6608, and D6237 were turned on

Abnormality is found in an AC voltage or AC detection circuit (AC OFF DET circuit). Confirm the item below using a tester.

• Confirm whether an AC input voltage is 70 V or more.

⇨ Yes (70 V or more)

Are symptoms improved by replacing a power board with finished products?

⇨ Yes: Abnormality is found in the pull-up voltage on a QBC board.
Confirm the QBC board.)

⇨ No: Abnormality is found in an AC detection circuit (AC OFF DET circuit).
Confirm the parts below using a test and replace them as required.

• D6002: Is D6002 not put into an open state or not short-circuited?

• Q6010: Is no problem found in the resistance value between terminals? (Is Q6010 not short-circuited?)

⇨ No

The input voltage decreases.

Set the AC voltage to a normal level (77 V or more) and confirm it again.

How to deal with the status during DC input

D6236, D6607 and D6608 light up. D6237 normally operates with the light turned off. 28 V, 12.5V_A and 12.5V_B become output state.

1. State in which D6236, D6607, D6608, and D6237 were turned off

28 V is not output. When 28 V is not output, 12.5 V is not also output and all LEDs are turned off.
At that time, check that 28 V is normally output in the state of AC input. If there is no problem, check the following.

DC input to 28 V step-up DCDC converter is judged to be abnormal.
Confirm the item below using a tester.

• Is the DC input voltage output to the latter part of Q5503? (Check point: C5535)

⇨ Yes

Abnormality is found in an 28 V step-up DCDC converter.

Confirm the parts below and replace them as required.

• Q5505 and Q5504: Is no problem found in the resistance value between terminals? (Are Q5505 and Q5504 not short-circuited?)

• IC5503

⇨ No:

Abnormality is found in an switch circuit.

Confirm the parts below and replace them as required.

• F5502 and F5501: Are F5502 and F5501 not put into an open state?

• D5509: Is D5509 not put into an open state or not short-circuited?

• Q5503: Is no problem found in the resistance value between terminals? (Is Q5503 not short-circuited?)

• IC5502

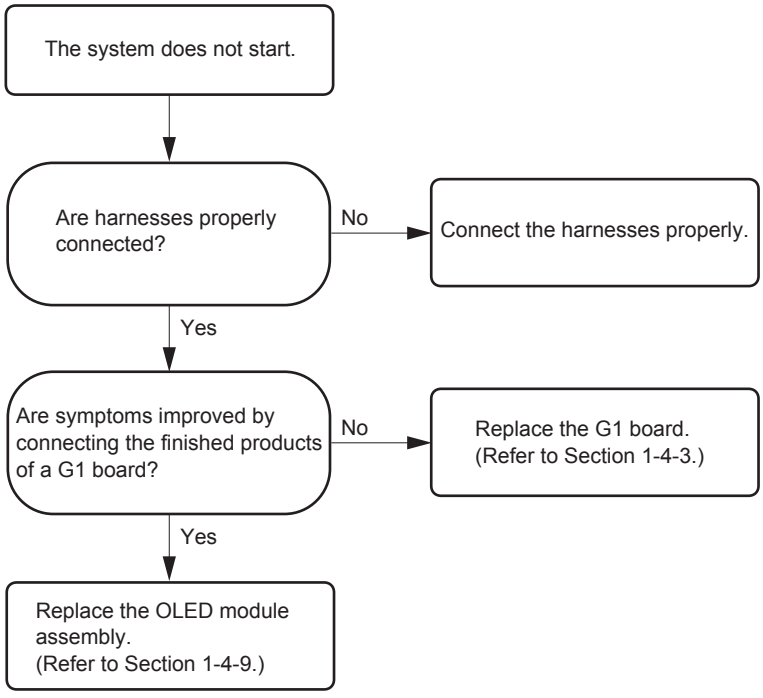
2. State in which D6236 was turned on and in which D6607, D6608, and D6237 were turned off

12.5 V is not output.
At that time, check that 12.5 V is normally output in the state of AC input. If there is no problem, check the following.

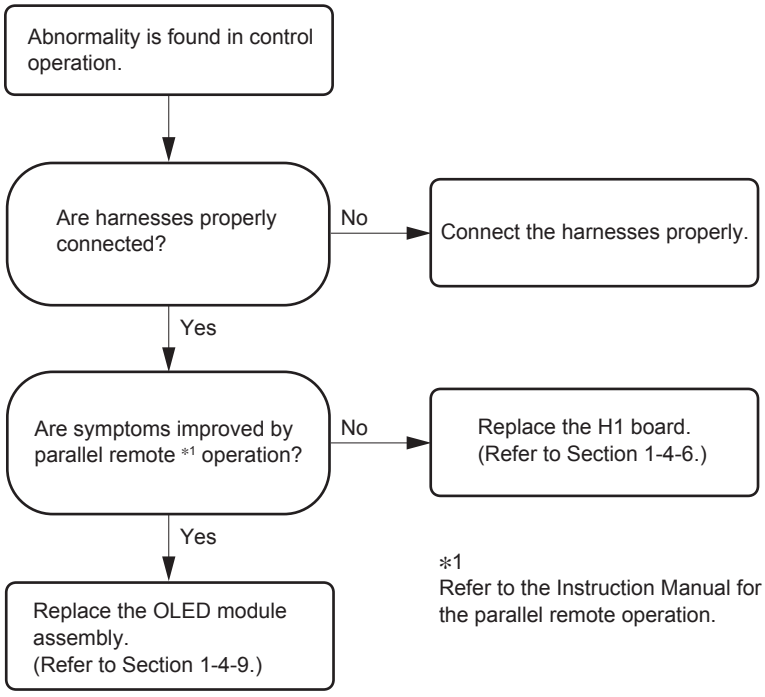
A secondary DC/DC converter is judged to be abnormal. Confirm the parts below and replace them as required.

- F6600: Is F6600 not put into an open state?
- Q6604 to Q6607: Is no problem found in the resistance value between terminals? (Are Q6604 to Q6607 not short-circuited?)
- IC6601

3-4. System Does Not Start



3-5. Abnormality Is Found in Control Operation



∗1
Refer to the Instruction Manual for the parallel remote operation.

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.

4-1. 補修部品注意事項

1. 安全重要部品

⚠警告

⚠印のついた部品は安全性を維持するために重要な部品です。したがって，交換する時は必ず指定の部品を使ってください。

2. 部品の共通化

ソニーから供給する補修用部品は，セットに使われているものと異なることがあります。
これは部品の共通化，改良等によるものです。

3. 部品の在庫

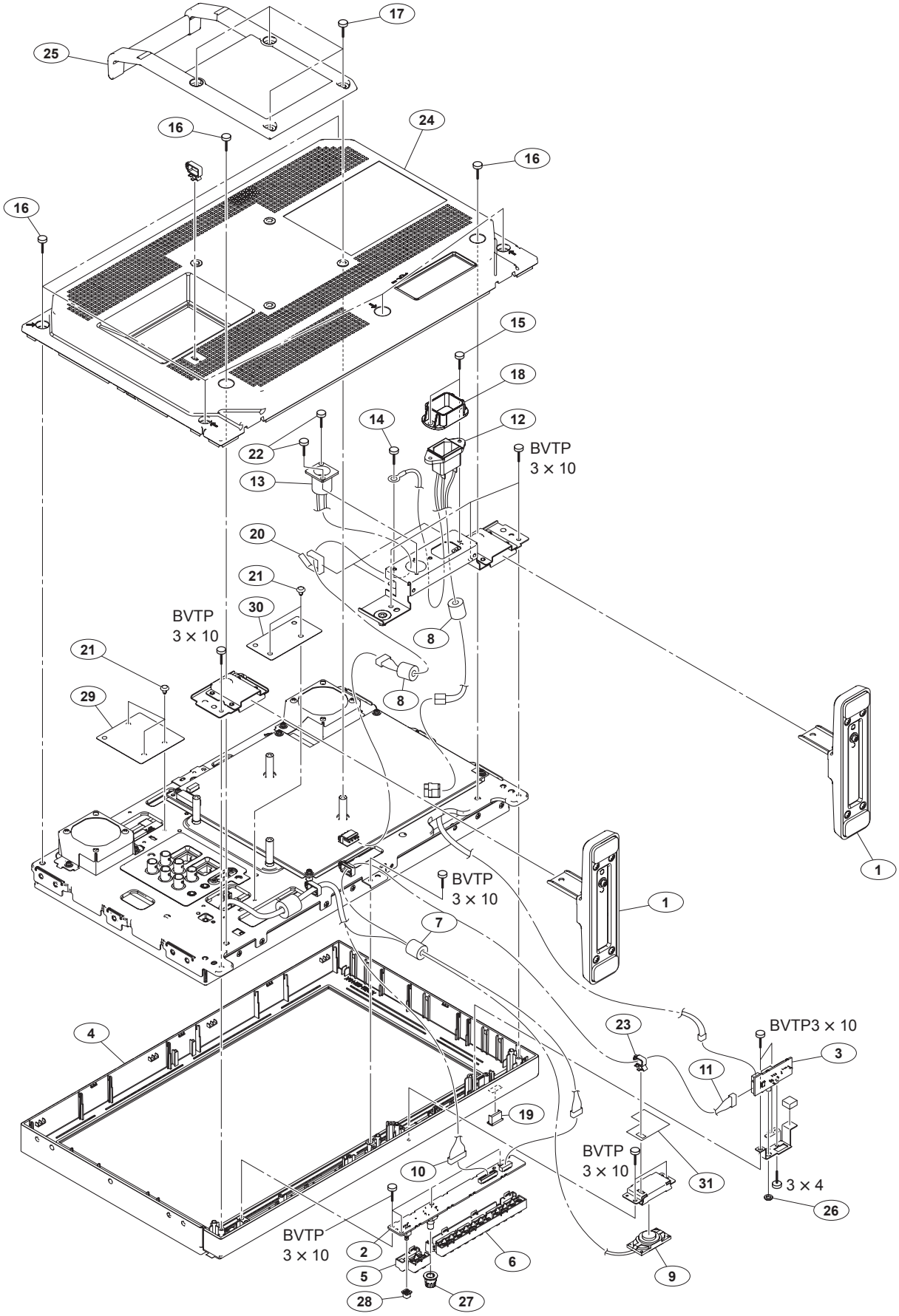
部品表の SP（Supply code）欄に “o” で示される部品は在庫していないことがあり，納期が長くなることがあります。

4. ハーネス

部品番号の記載されていないハーネスは，サービス部品として登録されていません。

4-2. Exploded Views

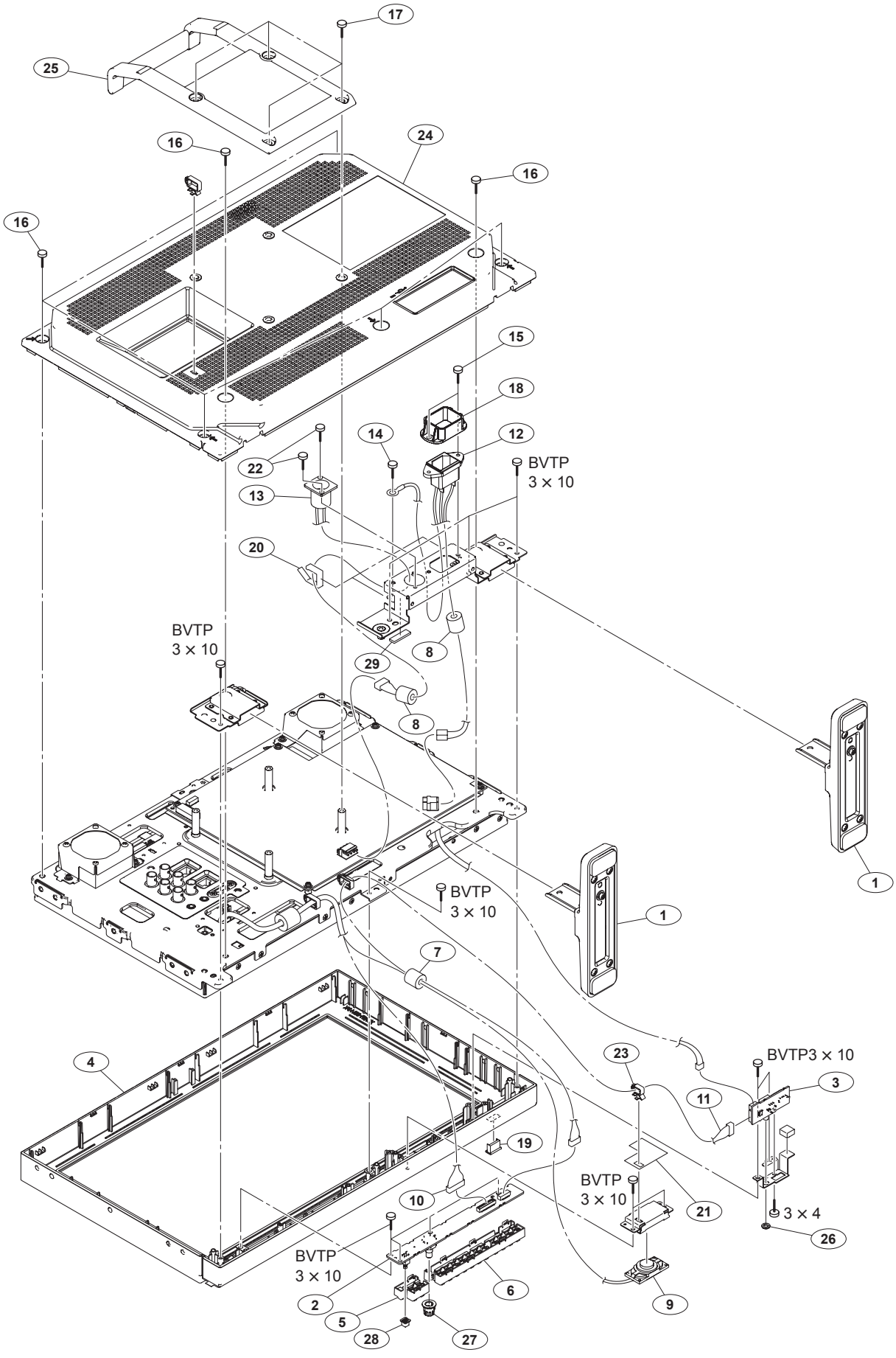
Serial No. 7000001 to 7002454: PVM-A170 (SY)
Serial No. 7200001 to 7200158: PVM-A170 (CN)



No.	Part No.	SP	Description
1	A-1989-929-A	s	STAND BLOCK
2	A-1992-351-A	s	MOUNTED CIRCUIT BOARD, H1
3	A-1992-352-A	s	MOUNTED CIRCUIT BOARD, H2
4	X-2588-571-1	s	BEZEL ASSY
5	X-2588-938-1	s	KEYPAD ASSY, CONTROL
6	X-2588-939-1	s	KEYPAD ASSY, INPUT
7	1-482-025-11	s	BEADS, FERRITE (CASE)
8	1-482-042-11	s	FERRITE CORE
9	1-859-036-11	s	MINIATURE SPEAKER (WITH HARNES
10	1-970-096-11	s	CONNECTOR ASSY H1-QBC 15P
11	1-970-097-11	s	CONNECTOR ASSY H1-H2 8P
12	⚠ 1-970-102-11	s	CONNECTOR ASSY AC INLET 3P
13	⚠ 1-970-103-11	s	CONNECTOR ASSY DC INLET 4P
14	2-434-609-11	s	SCREW (M4X8 CR)
15	2-580-595-01	s	SCREW, +PSW M3X12
16	2-580-600-01	s	SCREW, +PSW M4X8
17	2-580-602-01	s	SCREW, +PSW M4X12
18	2-990-241-02	s	HOLDER (A), PLUG
19	3-275-891-01	s	COVER, USB
20	3-281-853-02	s	SADDLE, LOCKING EDGE
21	3-531-576-51	o	RIVET
22	4-035-802-01	s	SCREW (M2.6X.6)
23	4-098-147-41	s	CLAMP
24	⚠ 4-480-453-01	s	COVER, REAR
25	4-484-602-01	s	HANDLE
26	4-487-558-01	s	NUT (M6X0.5)
27	4-488-286-01	s	KNOB, ROTARY ENCODER
28	4-488-287-01	s	BUTTON, STANDBY
29	4-532-417-01	s	CONDUCTIVE TAPE (TOP)
30	4-532-418-01	s	CONDUCTIVE TAPE (BTM)
31	4-533-877-01	s	CONDUCTIVE TAPE (SPEAKER)
	7-685-647-71	s	SCREW +BVTP 3X10 TYPE2 IT-3

Cover Block

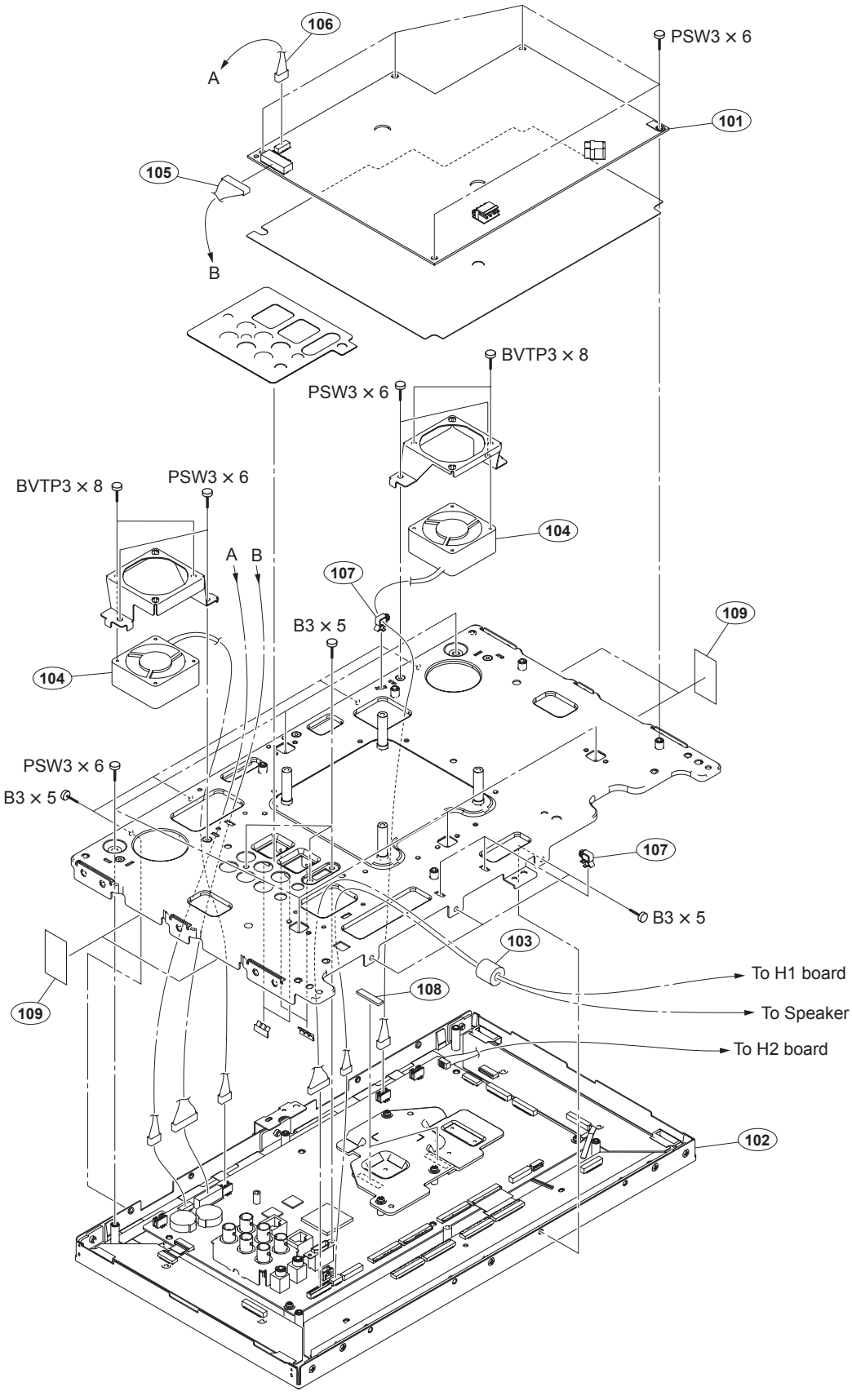
Serial No. 7002455 and higher: PVM-A170 (SY)
Serial No. 7200159 and higher: PVM-A170 (CN)



No.		Part No.	SP	Description
1		A-1989-929-A	s	STAND BLOCK
2		A-1992-351-B	s	MOUNTED CIRCUIT BOARD, H1
3		A-1992-352-A	s	MOUNTED CIRCUIT BOARD, H2
4		X-2588-571-2	s	BEZEL ASSY
5		X-2588-938-1	s	KEYPAD ASSY, CONTROL
6		X-2588-939-1	s	KEYPAD ASSY, INPUT
7		1-482-025-11	s	BEADS, FERRITE (CASE)
8		1-482-042-11	s	FERRITE CORE
9		1-859-036-11	s	MINIATURE SPEAKER (WITH HARNES
10		1-970-096-11	s	CONNECTOR ASSY H1-QBC 15P
11		1-970-097-11	s	CONNECTOR ASSY H1-H2 8P
12	⚠	1-970-102-11	s	CONNECTOR ASSY AC INLET 3P
13	⚠	1-970-103-11	s	CONNECTOR ASSY DC INLET 4P
14		2-434-609-02	s	SCREW (M4X8 CR)
15		2-580-595-01	s	SCREW, +PSW M3X12
16		2-580-600-01	s	SCREW, +PSW M4X8
17		2-580-602-01	s	SCREW, +PSW M4X12
18		2-990-241-02	s	HOLDER (A), PLUG
19		3-275-891-01	s	COVER, USB
20		3-281-853-02	s	SADDLE, LOCKING EDGE
21		4-533-877-01	s	CONDUCTIVE TAPE (SPEAKER)
22		4-035-802-01	s	SCREW (M2.6X.6)
23		4-098-147-41	s	CLAMP
24	⚠	4-480-453-02	s	COVER, REAR
25		4-484-602-01	s	HANDLE
26		4-487-558-01	s	NUT (M6X0.5)
27		4-488-286-01	s	KNOB, ROTARY ENCODER
28		4-488-287-01	s	BUTTON, STANDBY
29		4-283-140-01	s	FORM(1.0X1X20), SHIELD
		7-685-647-71	s	SCREW +BVTP 3X10 TYPE2 IT-3

Main Frame Block

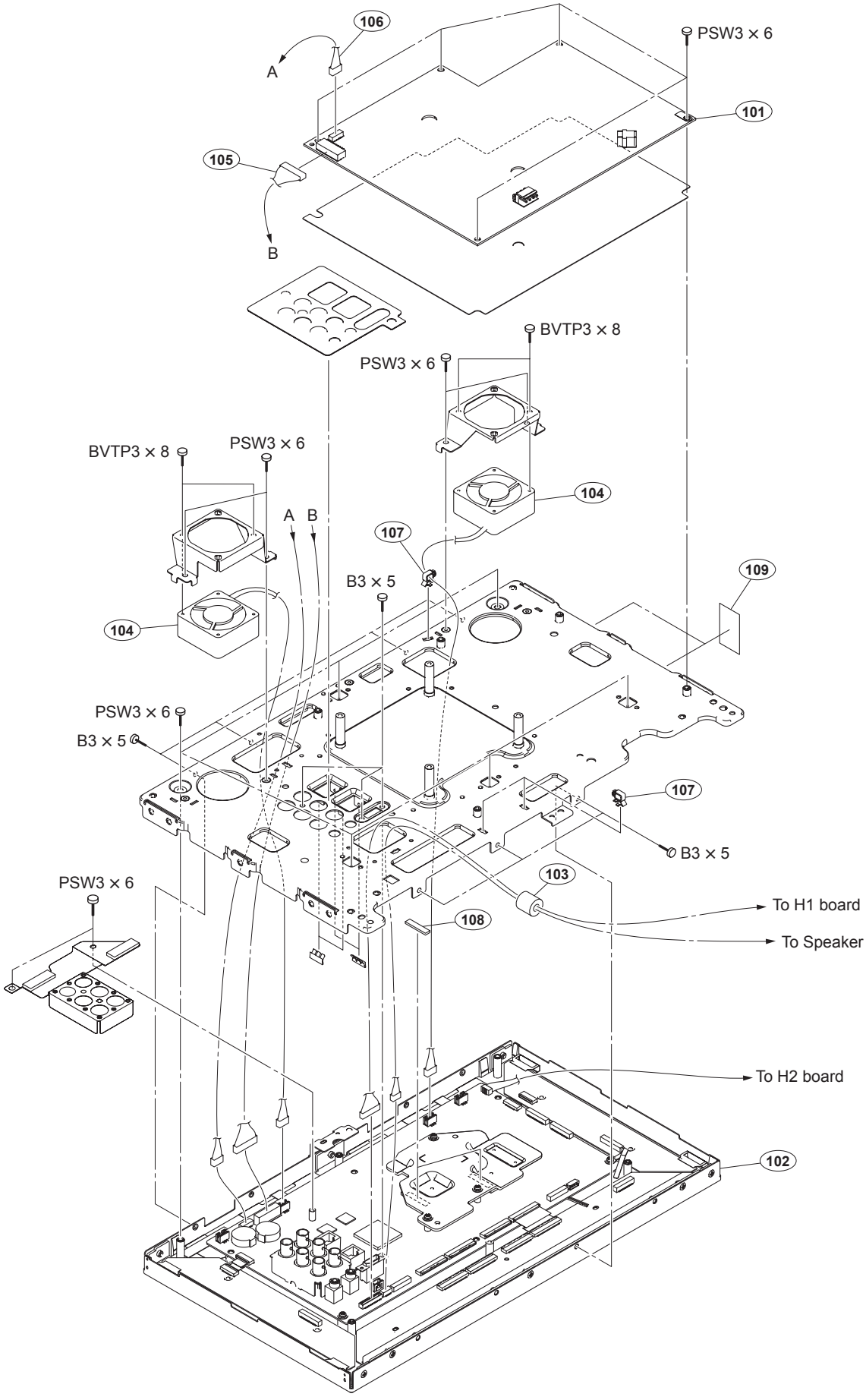
Serial No. 7000001 to 7002454: PVM-A170 (SY)
Serial No. 7200001 to 7200158: PVM-A170 (CN)



No.	Part No.	SP	Description
101	A-1989-810-A	s	MOUNTED CIRCUIT BOARD, G1
102	A-1998-082-A	s	MODULE ASSY (SVC), OLED
103	1-482-017-11	s	CLAMP, FERRITE
104 ⚠	1-855-014-11	s	FAN, PWM
105	1-970-012-11	s	CONNECTOR ASSY QBC-G1 10P
106	1-970-017-11	s	CONNECTOR ASSY QBC-G1 7P
107	4-098-147-41	s	CLAMP
108	4-532-322-01	s	GASKET
109	4-532-419-01	s	CONDUCTIVE TAPE (SIDE)
	7-682-546-09	s	SCREW +B 3X5
	7-682-947-01	s	SCREW +PSW 3X6
	7-685-646-79	s	SCREW +BVTP 3X8 TYPE2 IT-3

Main Frame Block

Serial No. 7002455 and higher: PVM-A170 (SY)
Serial No. 7200159 and higher: PVM-A170 (CN)



No.	Part No.	SP	Description
101	A-1989-810-A	s	MOUNTED CIRCUIT BOARD, G1
102	A-1998-082-A	s	MODULE ASSY (SVC), OLED
103	1-482-017-11	s	CLAMP, FERRITE
104 ⚠	1-855-014-11	s	FAN, PWM
105	1-970-012-11	s	CONNECTOR ASSY QBC-G1 10P
106	1-970-017-11	s	CONNECTOR ASSY QBC-G1 7P
107	4-098-147-41	s	CLAMP
108	4-532-322-01	s	GASKET
109	4-532-419-01	s	CONDUCTIVE TAPE (SIDE)
	7-682-546-09	s	SCREW +B 3X5
	7-682-947-01	s	SCREW +PSW 3X6
	7-685-646-79	s	SCREW +BVTP 3X8 TYPE2 IT-3

4-3. Packing Materials & Supplied Accessories

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PACKING MATERIALS & SUPPLIED ACCESSORIES
---------------------------------------
 Ref. No.
 or Q'ty  Part No.    SP Description

 1pc    ⚠ 1-791-041-33 s CORD SET, POWER (For J)
 1pc    ⚠ 1-793-461-12 s PLUG, CONVERSION (3P-2P) (For J)
 1pc    ⚠ 1-830-860-12 s AC POWER-SUPPLY CORD (For CN)
 1pc      2-990-242-01 s HOLDER (B), PLUG
 1pc      4-488-666-03 s CD-ROM
                         OPERATING INSTRUCTIONS (PDF)
                         (JAPANESE, ENGLISH, FRENCH, GERMAN,
                          ITALIAN, SPANISH, SIMPLIFIED CHINESE,
                          TRADITIONAL CHINESE, KOREAN)
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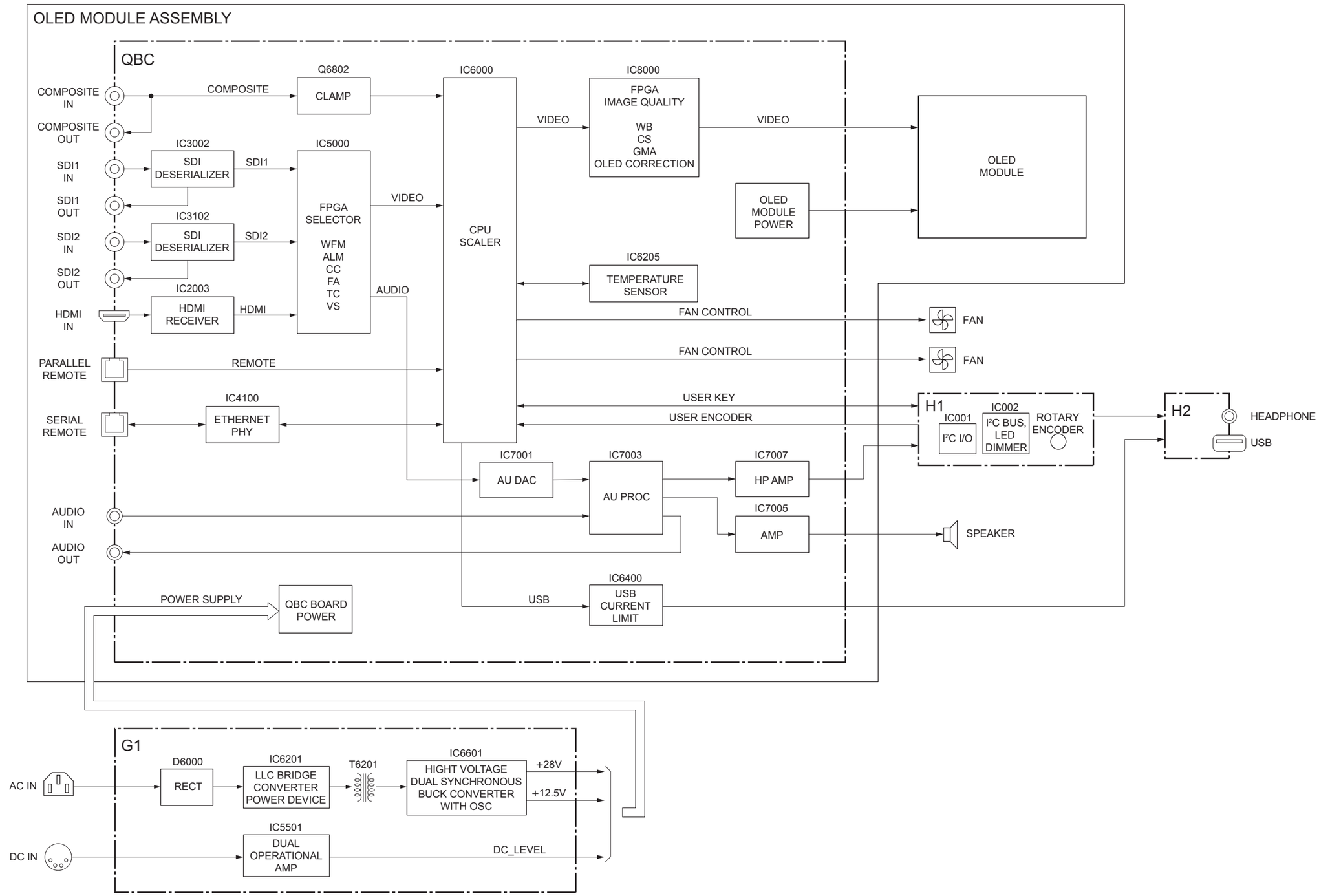
Section 5
Block Diagrams



PVM-A170 (CN)
PVM-A170 (SY) J, E
9-878-530-02

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