SONY

2M/E MULTI FORMAT SWITCHER PROCESSOR

MVS-6520
MVS-3000

3M/E MULTI FORMAT SWITCHER PROCESSOR

MVS-6530

FORMAT CONVERTER BOARD
MKS-6550

DIGITAL MULTI EFFECT BOARD
MKS-6570

INSTALLATION MANUAL
1st Edition

4446372010

⚠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.

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。
: MVS コネクター
: UTIL (SW) コネクター
: UTIL (SCU) コネクター
: UTIL (FM) 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.
: MVS connector
: UTIL (SW) connector
: UTIL (SCU) connector
: UTIL (FM) connector
Follow the instructions for the above ports.

For kundene i Norge

Dette utstyret kan kobles til et IT-strømfordelingssystem.

設置時には，通気やサービス性を考慮して設置スペースを確保してください。
- **ファンの排気部や通気孔（左側面および右側面）をふさがない。**
- **通気のために，セット周辺に空間をあける。**
- **作業エリアを確保するため，セット後方は，20 cm 以上の空間をあける。**

机上などの平面に設置する場合は，前面および左右側面は 10 cm 以上の空間をそれぞれ確保してください。ただし，セット上部はサービス性を考慮し 4 cm 以上の空間を確保することを推奨します。

When installing the installation space must be secured in consideration of the ventilation and service operation.
- Do not block the ventilation slots at the left side and right side panels, and vents of the fans.
- Leave a space around the unit for ventilation.
- Leave more than 20 cm of space in the rear of the unit to secure the operation area.

When the unit is installed on the desk or the like, leave at least 10 cm of space in the front, left and right sides. Leaving 4 cm or more of space above the unit is recommended for service operation.

Table of Contents

Manual Structure

1. Installation

2. Service Overview

Manual Structure

Purpose of this manual

This manual is the Installation Manual of following models.
• 2M/E Multi Format Switcher Processor MVS-6520/3000
• 3M/E Multi Format Switcher Processor MVS-6530

This manual is intended for use by trained system and service engineers, and provides the information that is required to install (operating environment, installation space, connection information, etc.).

Related manuals

Besides this Installation Manual, the following manuals are prepared for this unit.

- **Operation Manual (Supplied with this unit.)**
  This manual describes the outline and specification of this unit.

- **User's Guide (supplied with this unit)**
  This manual describes the information required for the actual application and operation of this unit.

- **Startup Guide (supplied with this unit)**
  This manual describes the information intended for the user who performs application and operation of this unit for the first time.

- **Maintenance Manual (Available on request)**
  This manual describes the maintenance and service information (service overview, detailed parts list, block diagrams, board layouts, schematic diagrams, etc.) for this unit.

Trademarks

Trademark and registered trademark used in this manual is follows.

• Ethernet is a registered trademark of Xerox Corporation.

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

Section 1
Installation

1-1. Operating Environment

Operating guaranteed temperature: +5 °C to +40 °C
Performance guaranteed temperature: +10 °C to +35 °C
Operating humidity (relative humidity): 10 % to 90 %
Storage temperature: −20 °C to +60 °C
Mass (when options are installed) :
MVS-6520: Approx. 20 kg
MVS-6530: Approx. 21 kg
MVS-3000: Approx. 19 kg

Prohibited locations for installation

- Areas where the unit will be exposed do direct sunlight or any other strong lights.
- Dusty areas
- Areas subject to vibration.
- Areas with strong electric or magnetic fields.
- Areas near heat sources.
- Areas subject to electrical noise.
- Areas subject where is subjected to static electricity.

Ventilation

In this unit, the air cooling is performed by using the fan motor 120 square (for plug-in board) and fan motor (for power unit).
(Refer to the air flow illustration of "Fan" in Section 2-2-2.)
The power supply can be damaged if the exhaust vent (both sides) and air intake (front panel) are blocked or the fan is stopped.
Therefore, leave a blank space of more than 10 cm in the front and both sides of the MVS-6520/6530/3000.

1-2. Power Supply

1-2-1. Power Specifications

A switching regulator is used for the power supply of this unit. The voltage within the range of 100 V to 240 V can be used without changing the supply voltage.

Power requirements: AC 100 to 240 V ±10 %
Power frequency: 50/60 Hz
Current consumption (when all options are installed) :
MVS-6520/6530/3000: 4.0 to 1.7 A

Notes

- As the inrush current at turn-on is a maximum 100 A (at 100 V)/175 A (at 230 V), the capacity of the AC power source must be commensurate with this load.
  If the capacity of the AC power is not adequately large, the AC power source breaker will operate or the unit will abnormally operate.
- The MVS-6520/6530/3000 contains two power supply units as the standard configuration. When starting up the MVS-6520/6530/3000, be sure to turn on the power of two power supply units.

1-2-2. Power Cord

WARNING

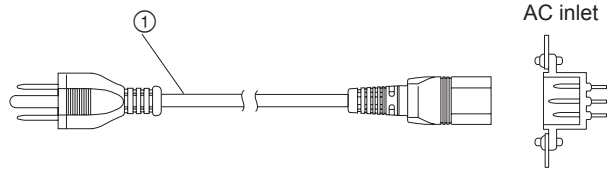
- Use the approved Power Cord (3-core mains lead)/Appliance Connector/Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
- Use the Power Cord (3-core mains lead)/Appliance Connector/Plug conforming to the proper ratings (Voltage, Ampere).

If you have questions on the use of the above Power Cord/Appliance Connector/Plug, please contact your local Sony Sales Office/Service Center.

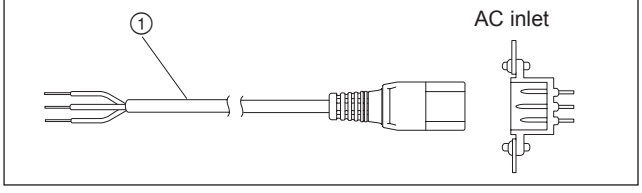
CAUTION

- Never use an injured power cord.
- Plugging the power cord in the AC inlet, push as far as it will go.

For customers in the U.S.A. and Canada
① Power cord, 125 V 10 A (2.4 m) : ⚠ 1-551-812-31

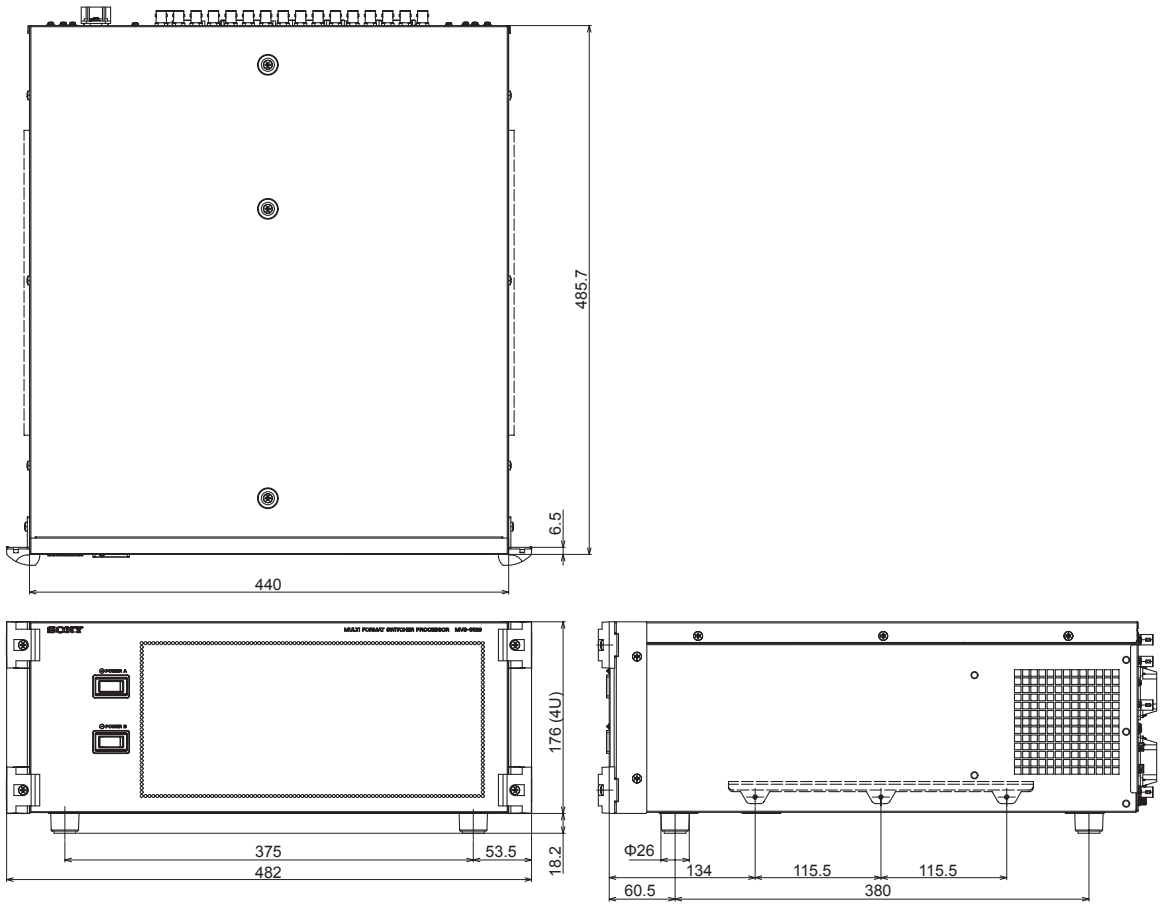


For customers in the all European countries
① Power cord, 250 V 10 A (2.5 m) : ⚠ 1-782-929-12



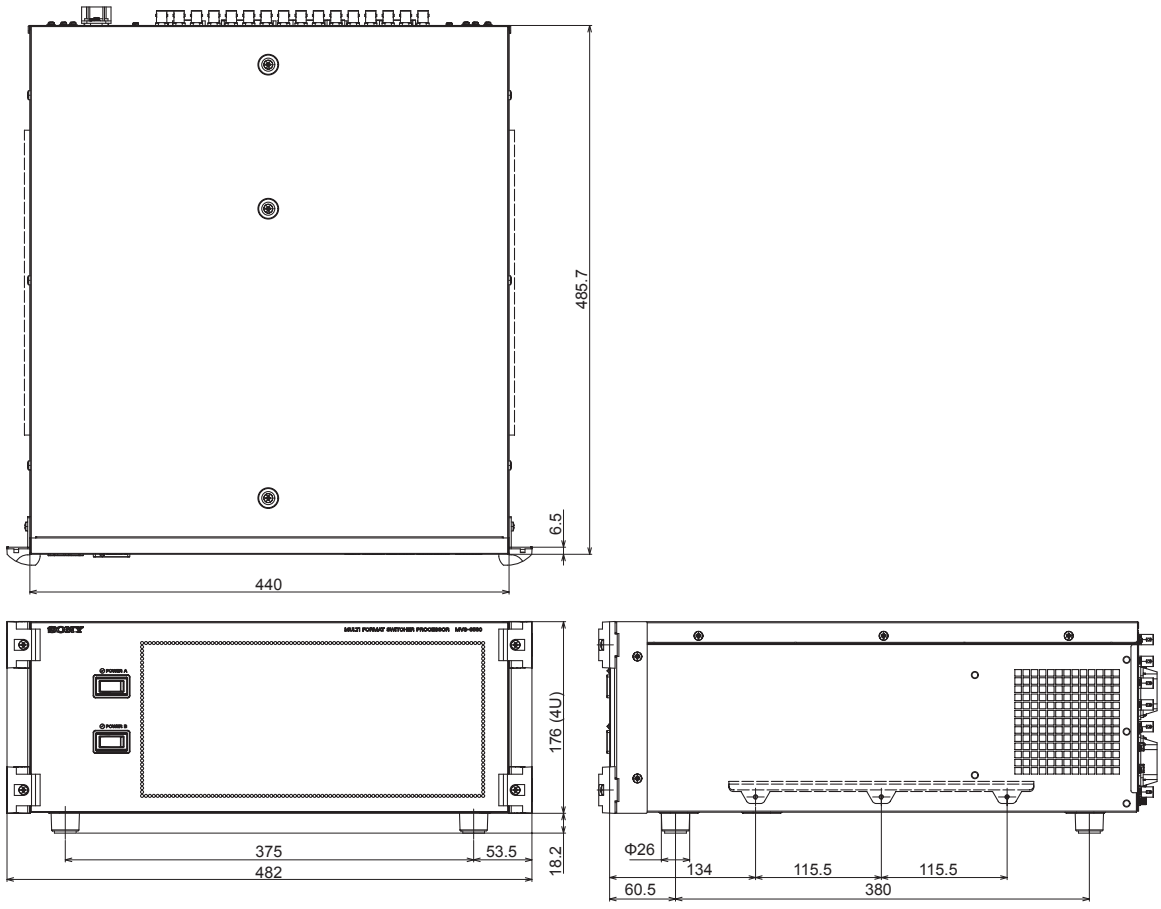
1-3. Installation Space (External Dimensions)

MVS-6520



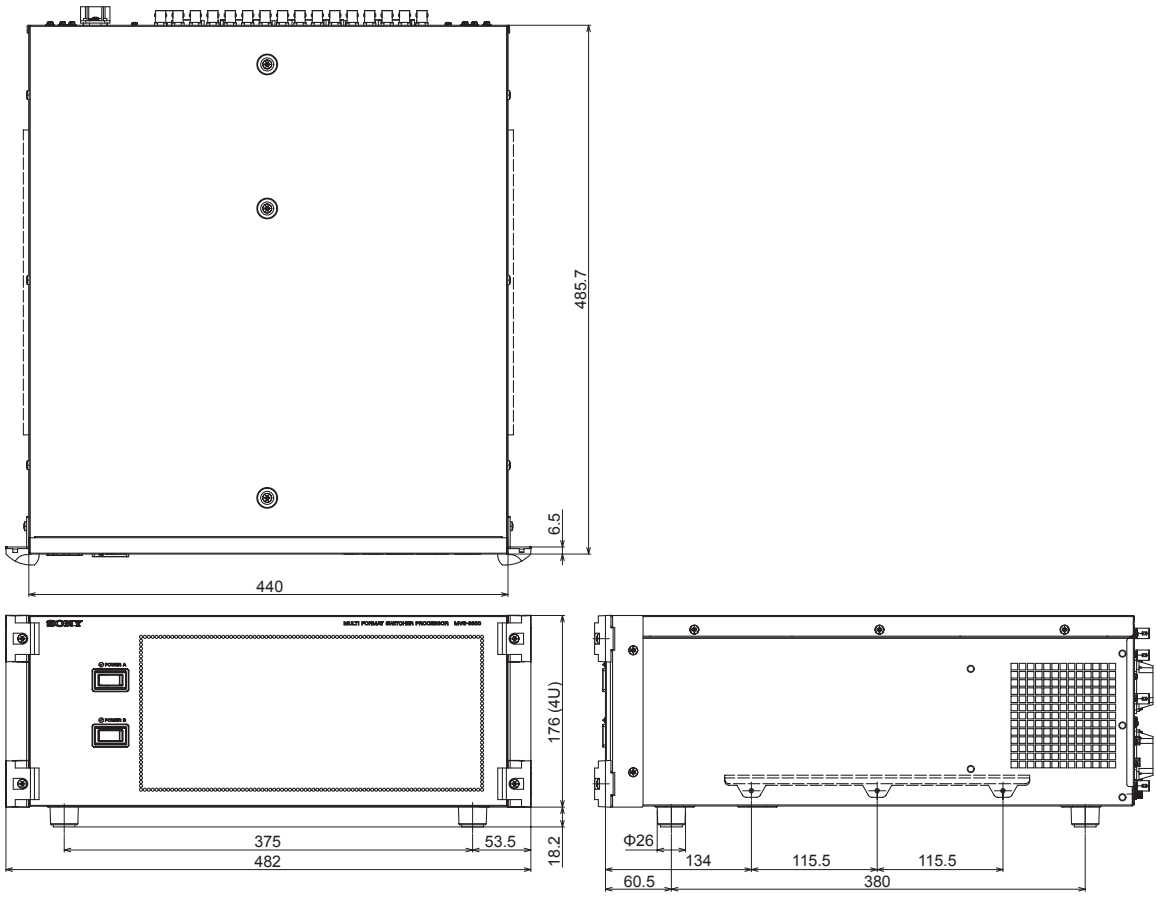
Unit: mm

MVS-6530



Unit: mm

MVS-3000



Unit: mm

1-4. Installing the Optional Board

The following options are available for the MVS-6520/6530/3000.

MVS-6520/6530 optional board list

Model name	Board configuration
	Plug-in board (Front)
MKS-6550 Format Converter Board	FC-114 board
MKS-6570 Digital Multi Effect Board	DVP-55 board

MVS-3000 optional board list

Model name	Board configuration
	Plug-in board (Front)
MKS-6550 Format Converter Board	FC-114 board

1-4-1. Installing the Plug-in Boards

CAUTION

Be sure to turn off the POWER switch before starting installation work.
If installation work is started with the POWER switch left on, it may cause electrical shock or damage to printed circuit boards.

In MVS-6520/6530/3000, the slot for installing each plug-in board is specified. Install each board in the specified slot correctly according to the indications as described in ① and ② below.

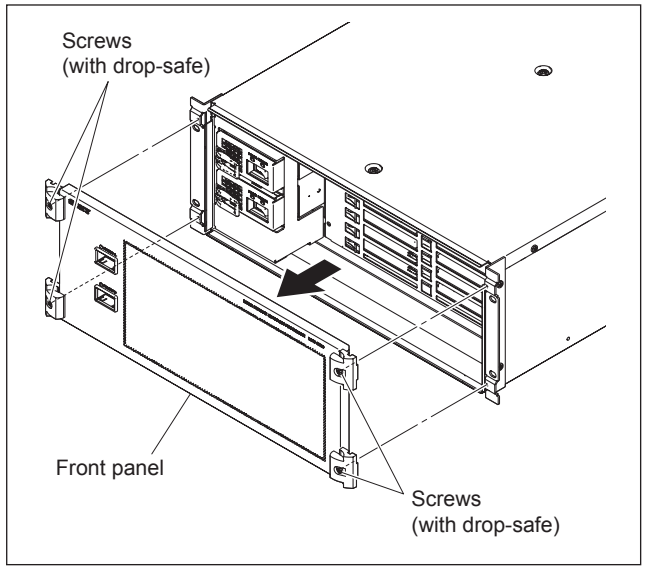
① The board name is indicated close to the left-of-center of each plug-in board.
② The board name is indicated on the right surface of the inside of front panel of MVS-6520/6530/3000.

Notes

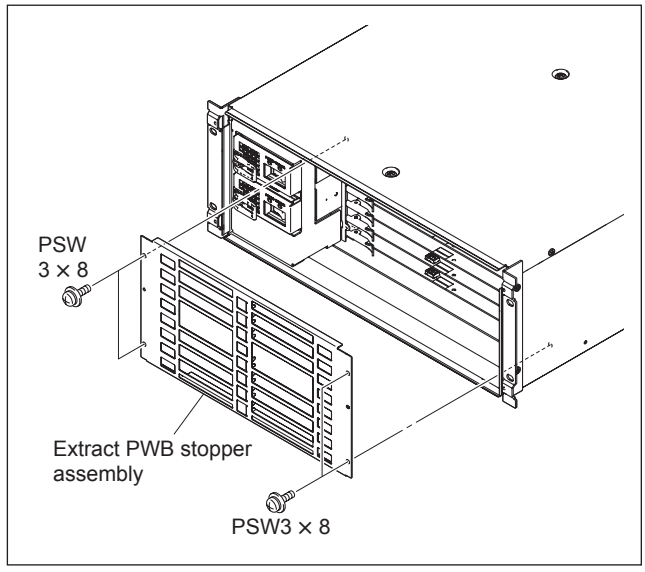
- Check to see that connectors of the plug-in boards are securely inserted into the mother board (MB-1196/1196A board) without loose contact.
  If any plug-in board is inserted into the incorrect slot, it causes a system error and the system will not work correctly.
- After installing the plug-in board, the software must be installed. Install the software of V8.00 or later version. For installing the software, refer to the User's Guide of the MVS-6520/6530/3000 system.

Installation Procedure

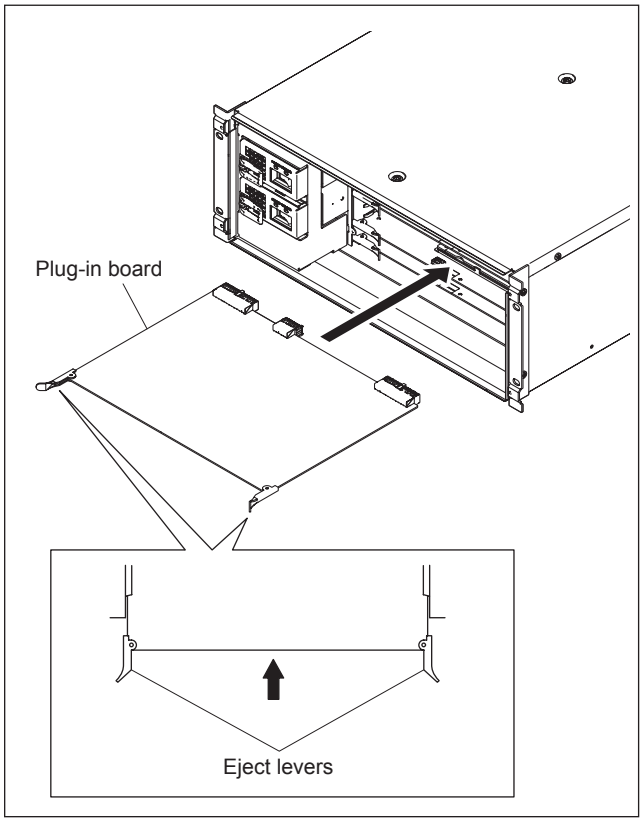
1. Turn off the main power of this unit and disconnect the AC power cord from the wall outlet.
2. Loosen the four screws (with drop-safe) and remove the front panel in the direction of the arrow.



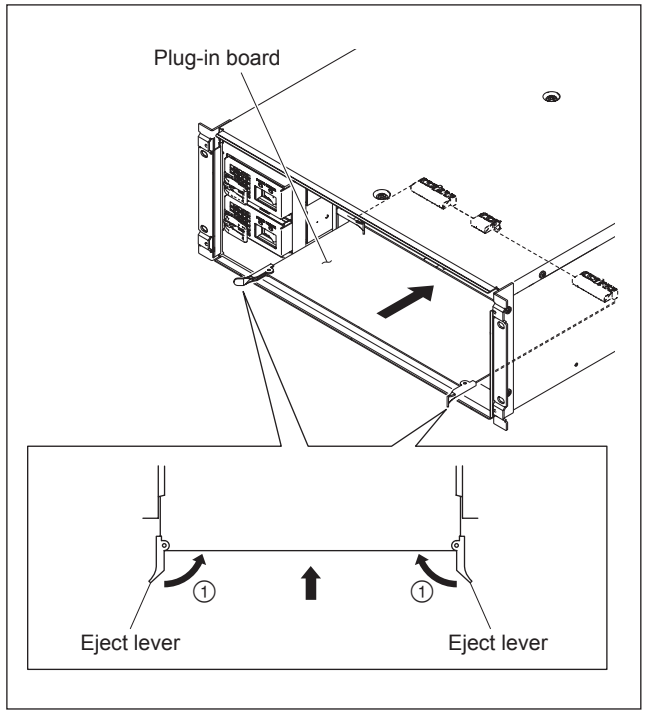
3. Remove the four fixing screws (B3 × 8) and remove the Extract PWB stopper assembly.



4. While the eject levers are opened as shown in the illustration, insert the plug-in board into the board guide rail.



5. While closing the eject levers in the direction of arrow ①, push in the plug-in board.
6. Attach the extract PWB stopper assembly and the front panel by reversing the installation steps of 2 and 3.



MVS-6520/6530 option

Name of option	Plug-in board	Board name of the front side
MKS-6570	DVP-55 board	DVP
MKS-6550	FC-114 board	FC

MVS-3000 option

Name of option	Plug-in board	Board name of the front side
MKS-6550	FC-114 board	FC

1-5. Rack Mounting

The MVS-6520/6530/3000 is mounted in the 19-inch standard rack. To mount the MVS-6520/6530/3000 in the rack, use the specified rack mount kit and follow the procedure described below.

• Specified rack mount kit : RMM-10

Note

If other than the specified rack mount kit is used, the unit may not be mounted in the 19-inch standard rack.

Parts of the RMM-10

- Rack bracket 2 pcs
- Right rack mount adapter 1 pc
- Left rack mount adapter 1 pc
- Rack bracket attaching screw (B4 × 6: 7-682-560-09) 6 pcs
- Adapter attaching screw (B4 × 10: 7-682-562-09) 6 pcs

Other required parts

To mount in the rack, the rack mount kit RMM-10 and the following part are required.

- Screw for rack mounting (B5 × 12 : 7-682-576-04) 4 pcs

1. Precautions for rack mounting

WARNING

- To prevent the rack from falling or moving, fix the rack on a flat and steady floor and the like using bolts or others. If the rack falls due to the weight of the equipment, it may cause death or serious injury.
- Be sure to use the specified rack mount kit. If not, injury may result and the equipment may fall due to insufficient strength.
- After rack mounting, be sure to tighten the screws on the rack angle and fix the unit in the rack. If the screws on the rack angle are not tightened, the unit may slip from the rack and fall, causing injury.

CAUTION

When mounting the unit in the rack, note the following:

- Be sure to mount in the rack with two persons or more.
- Be careful not to catch your fingers or hands in the rack mount rail or others.
- Mount in the rack in a stable position.

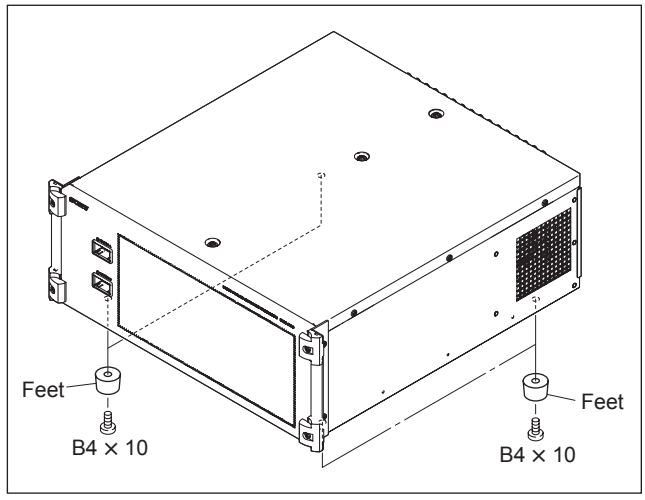
Note

If several units are mounted in a rack, it is recommended to install a ventilation fan to prevent temperature rise inside the rack.

2. Rack mounting procedure

This section describes the rack mounting procedure using the RMM-10 rack mount kit.

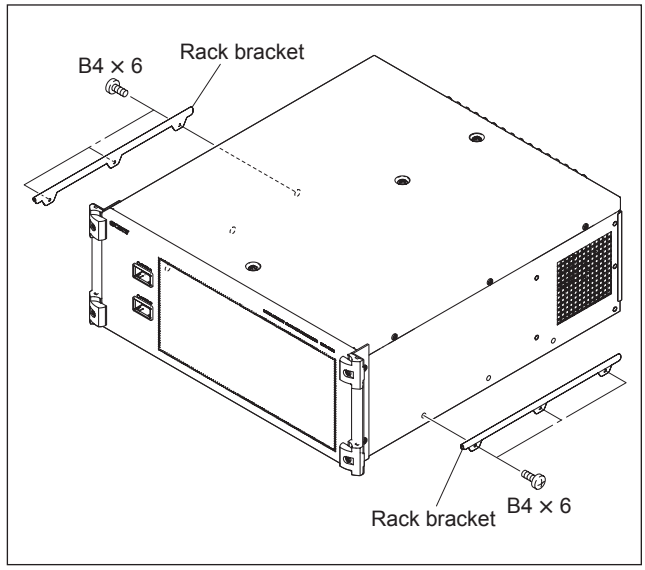
1. Loosen the four screws (B4 × 10) and remove the four feet.



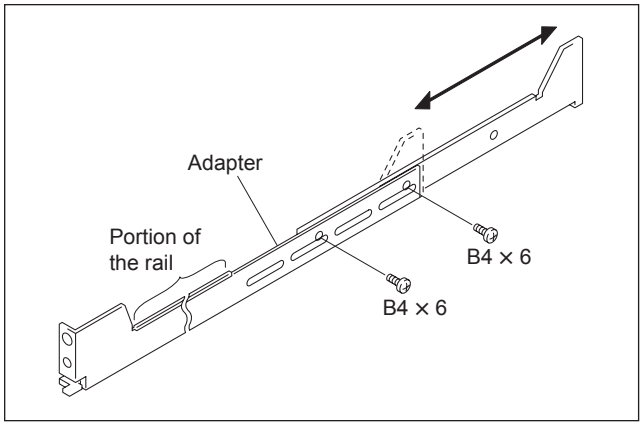
2. Attach the rack bracket to the side of the equipment using the specified six screws.

   Note

   Use B4 × 6 screws.
   Tighten the screws to the following torque.
   Tightening torque: 120×10^{-2} N•m {12.2 kgf•cm}



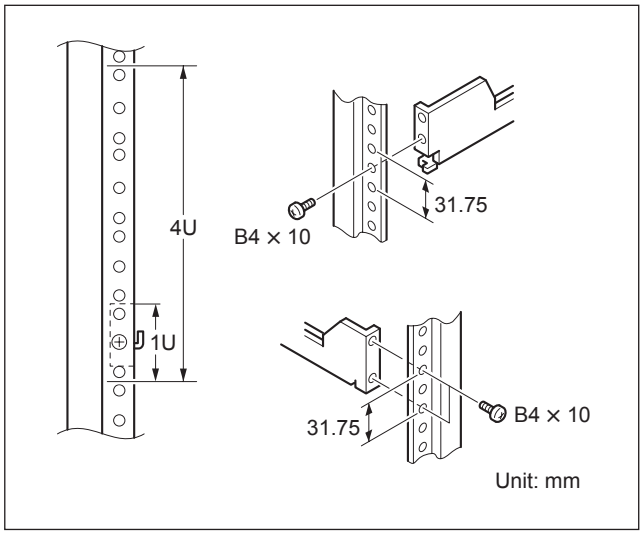
3. Loosen the screws on the rear of the right and left adapters and adjust the length of the adapter according to the depth of the rack.
   (The illustration below shows the left adapter.)



Note

Maximum depth of adapter: 750 mm
Minimum depth of adapter: 595 mm

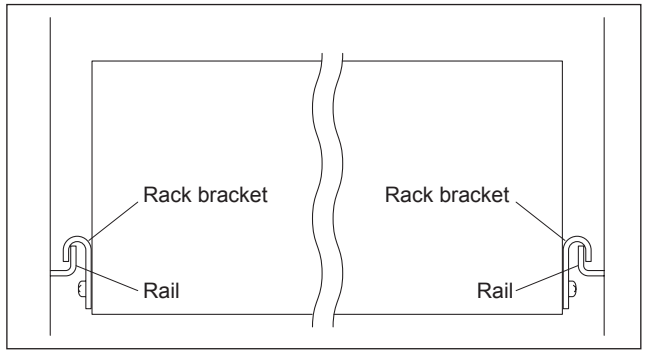
4. Attach the right and left adapters to the rack completely using the specified six screws.
   (The illustration below shows the left adapter.)



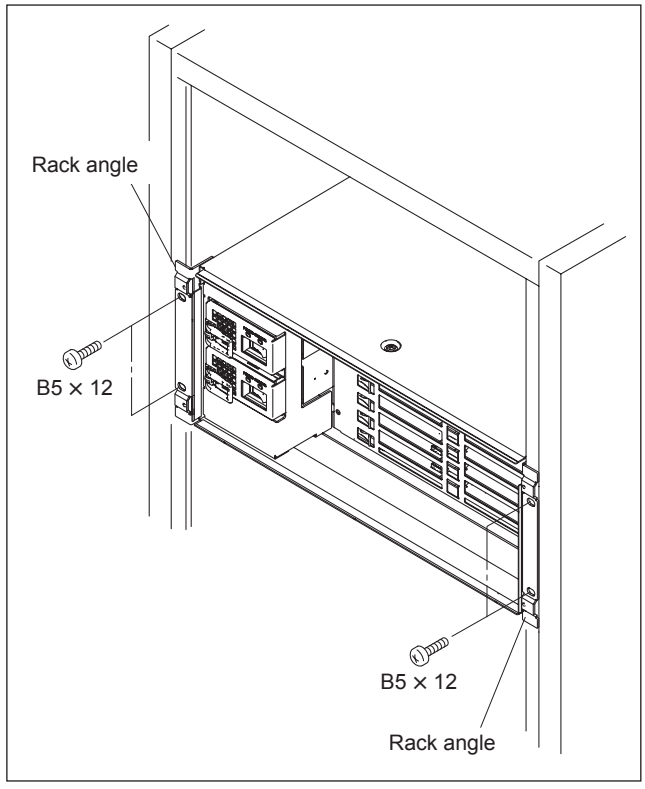
5. Tighten the screws (B4 × 6 : two screws each on the right and left) for adjusting the length of the adapter completely (the screws that were loosened in step 3).
6. Remove the front panel of the equipment.
   (Refer to Section 1-4-1.)
7. Align the groove of the rack bracket at the side of the equipment with the rail, and slide the equipment to the rear.

Note

The rack brackets are hooked on the rails as shown below.



8. Fix the rack angle in the rack using the specified screws.



9. Attach the front panel to this unit.
   (Refer to Section 1-4-1.)

1-6. Matching Connectors and Cables

Use the following connectors, cables or equivalents when connecting cables to the unit.

Model name	Panel indication	Connector name	Matching connector and cable	
			Name	Sony parts No.
MVS-6520 /6530 /3000	OUT 1-16 (MVS-6520/3000) OUT 1-16, 17-32 (MVS-6530) IN 1-16, 17-32 (MVS-6520/3000) IN 1-16, 17-32, 33-48 (MVS-6530) S-BUS REF IN	BNC, 75 Ω	Belden 1694 coaxial cable	–
	REMOTE 1-4 REMOTE S1, S2 SERIAL TALLY	D-sub 9-pin, Female	D-sub 9-pin, male Connector 9-pin, male Junction shell 9-pin	 1-560-651-00[*1] 1-561-749-00
	TARRY/GPI IN 13-18 OUT 33-48 TARRY/GPI IN 7-12 OUT 17-32 TARRY/GPI IN 1-8 OUT 1-16	D-sub 25-pin, Female	D-sub 25-pin, male Connector 25-pin, male Junction shell 25-pin	 1-560-904-11[*1] 1-563-377-11
	MVS UTIL (SW)[*3] UTIL (SCU)[*3] UTIL (FM)[*3]	RJ-45 modular jack[*2]	–	–
	FM DEVICE	USB 2.0 Type A receptacle 4-pin	–	–

∗1: The following crimp contact is required for the plug.
AWG#18 to #22: 1-566-493-21
AWG#22 to #24: 1-564-774-11
AWG#24 to #30: 1-564-775-11

∗2: Conforms to the IEEE 802.3 Ethernet 100BASE-TX standards.

∗3: **Note**
UTIL (SW), UTIL (SCU) and UTIL (FM) are currently not supported.
Fix the BNC cable connected to the BNC connector on the rear panel to the rack and the like in order to avoid placing a load on the BNC connector. If the BNC connector is continuously used with a load placed, the BNC connector and BNC cable may be damaged.

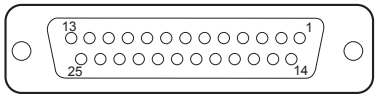
1-7. Input/Output Signals of Connectors

Input and output signals of the connectors on the rear panel are as follows.

Note

<DEVICE> indicates a controlled device.

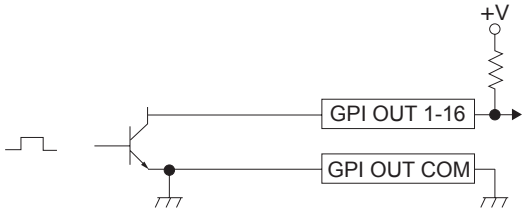
GPI: (D-sub 25-pin, female)
INPUT × 6, TTL
(resistive load)
OUTPUT × 4, open collector, 30 V rated voltage



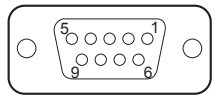
(External View)

Pin No.	Signal Name	Function
1	GND	Ground
2	GPI IN 2	General-purpose input
3	GPI IN 4	
4	GPI IN 6	
5	GPI OUT 2	General-purpose open collector output (∗1)
6	GPI OUT 4	
7	GPI OUT 6	
8	GPI OUT 8	
9	GPI OUT 10	
10	GPI OUT 12	
11	GPI OUT 14	
12	GPI OUT 16	
13	GPI OUT COM	Ground for open collector output
14	GPI IN 1	General-purpose input
15	GPI IN 3	
16	GPI IN 5	
17	GPI OUT 1	General-purpose open collector output (∗1)
18	GPI OUT 3	
19	GPI OUT 5	
20	GPI OUT 7	
21	GPI OUT 9	
22	GPI OUT 11	
23	GPI OUT 13	
24	GPI OUT 15	
25	GPI OUT COM	Ground for open collector output

(∗1): <Open collector output>



REMOTE S1, S2: RS-422A (D-sub 9-pin, female)
<DEVICE> (∗2) from External Devices

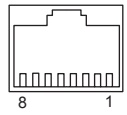


(External View)

Pin No.	Signal Name	Function
1	FG	Frame ground
2	TX–	Transmitted data (–)
3	RX+	Received data (+)
4	GND	Common ground
5	–	No Connection
6	GND	Common ground
7	TX+	Transmitted data (+)
8	RX–	Received data (–)
9	–	No Connection

(∗2): <DEVICE>: The controlling device.

MVS/UTIL (SW)[*3]**/UTIL (SCU)**[*3]**/UTIL (FM)**[*3]:
1000BASE-T, RJ-45 (8-pin)

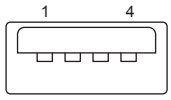


(External View)

Pin No.	Signal Name	Function
1	TRX1+	Transmitted/Received data (+)
2	TRX1–	Transmitted/Received data (–)
3	TRX2+	Transmitted/Received data (+)
4	TRX3+	Transmitted/Received data (+)
5	TRX3–	Transmitted/Received data (–)
6	TRX2–	Transmitted/Received data (–)
7	TRX4+	Transmitted/Received data (+)
8	TRX4–	Transmitted/Received data (–)

(∗3): These connectors are currently not supported.

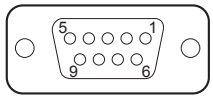
FM DEVICE: USB Type A (4-pin)



(External View)

Pin No.	Signal Name	Function
1	VBUS	USB Vcc
2	D–	USB–
3	D–	USB+
4	GND	Ground

SERIAL TALLY: RS-422A (D-sub 9-pin, female)
<CONTROLLER> to Tally Interface Unit (∗4)

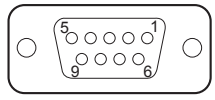


(External View)

Pin No.	Signal Name	Function
1	FG	Frame ground
2	RX–	Received data (–)
3	TX–	Transmitted data (–)
4	GND	Common ground
5	–	No Connection
6	GND	Common ground
7	RX–	Received data (–)
8	TX–	Transmitted data (–)
9	–	No Connection

(∗4): TALLY INTERFACE UNIT BKDS-6080 and others.

REMOTE1 to 4: RS-422A (D-sub 9-pin, female)
<CONTROLLER> to External Device



(External View)

Pin No.	Signal Name	Function
1	FG	Frame ground
2	RX–	Received data (–)
3	TX+	Transmitted data (+)
4	GND	Common ground
5	–	No Connection
6	GND	Common ground
7	RX+	Received data (+)
8	TX–	Transmitted data (–)
9	FG	Frame ground

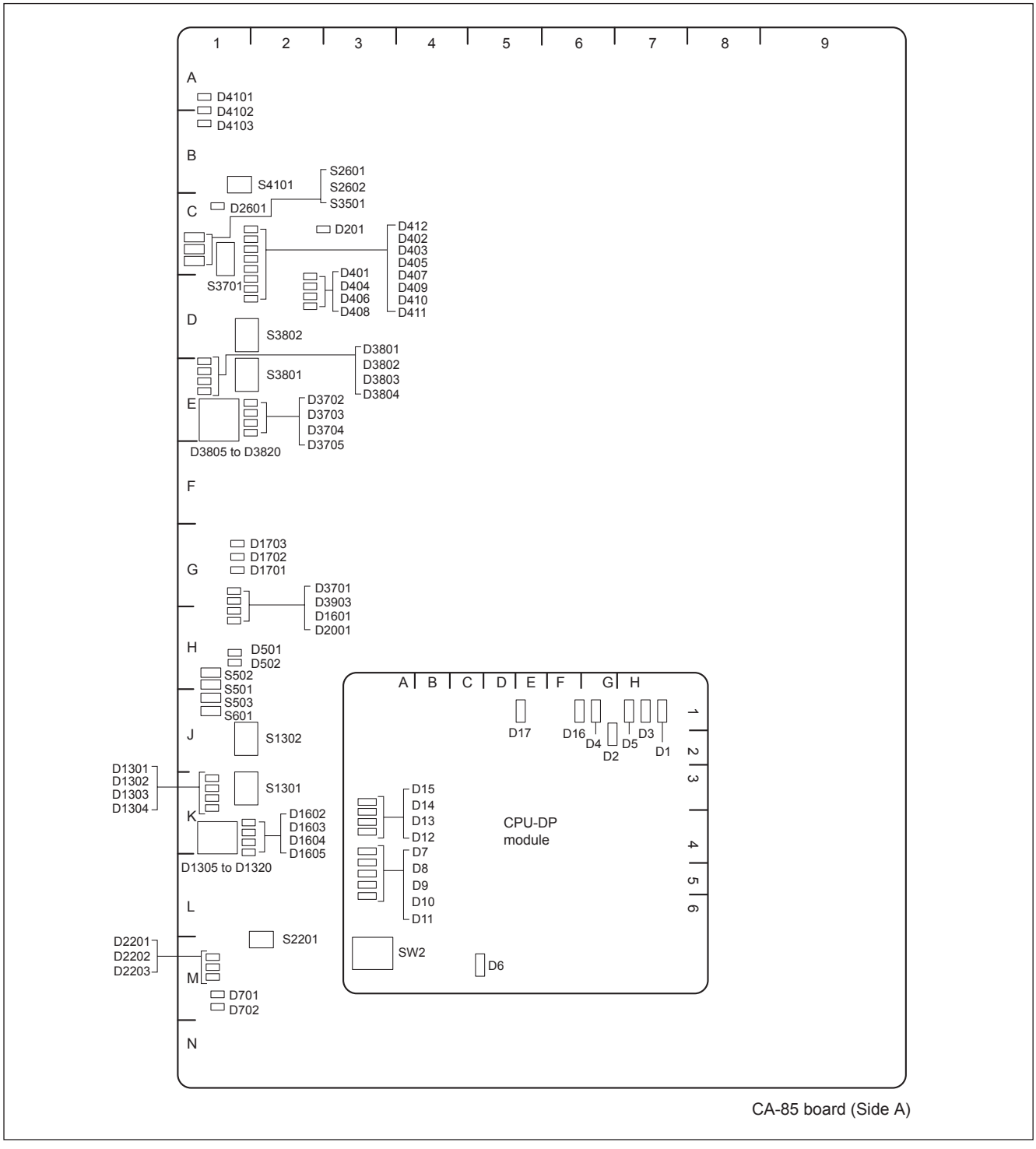
1-8. Description of On-board Switches, LEDs and Connectors

1-8-1. MVS-6520/6530/3000

Note

The number shown in the parentheses ( ) indicated the address on the circuit board.

CA-85 board



CA-85 board (Side A)

LED

D201 (C-2): +12V
+12V power status indication.
Lit when +12V is supplied.
If this LED is not lit, the fuse may be blown.

D401 (D-2): +1.2V-1
+1.2V-1 power status indication.
Lit when +1.2V is supplied.

D404 (D-2): +1.8V-1
+1.8V-1 power status indication.
Lit when +1.8V is supplied.

D406 (D-2): +2.5V-1
+2.5V-1 power status indication.
Lit when +2.5V is supplied.

D408 (D-2): +3.3V-1
+3.3V-1 power status indication.
Lit when +3.3V is supplied.

D402, D403 (C-1): +1.0V-SCU1, 2
+1.0V-SCU1, 2 power status indication.
Lit when +1.0V is supplied.

D405 (C-1): +1.2V-SCU
+1.2V-SCU power status indication.
Lit when +1.2V is supplied.

D407 (C-1): +1.5V-SCU
+1.5V-SCU power status indication.
Lit when +1.5V is supplied.

D409 (D-1): +2.5V-SCU
+2.5V-SCU power status indication.
Lit when +2.5V is supplied.

D410 (D-1): +3.3V-SCU
+3.3V-SCU power status indication.
Lit when +3.3V is supplied.

D411 (D-1): +5.0V-SCU
+5.0V-SCU power status indication.
Lit when +5.0V is supplied.

D412 (C-1): VTT-SCU
VTT-SCU power status indication.
Lit when VTT-SCU is supplied.

D501 (H-1): SWER_RST
System reset status indication.
Lit in the following cases.
- When S502 is pressed.
- When Reset is requested from software.
- When IC1 does not start normally.

D502 (H-1): CA_RESET_A
CA-85 board reset status indication.
Lit in the following cases.
- When S501 or S502 is pressed.
- When Reset is requested from software.
- When IC1 does not start normally.

D701 (M-1): INT GbE LINK
Communication status indication for in-flight communication Ethernet.
Lit during the Link state.

D702 (M-1): INT GbE ACT
Communication status indication for in-flight communication Ethernet.
Blinks when the data is being transmitted and received.

D1301 to D1304 (K-1): SWR_DBG LED 1 to 4
Not used.

D1305 to D1320 (K-1): SWR STATUS
SWR CPU status indication.

D1601 (H-1): SWR CADEC DONE status LED
Goes out when the configuration of SWR CADEC FPGA is completed.

D1602 to D1605 (K-1): SWR_CADEC LED0, 1 to 3
Not used.

D2201 to D2203 (M-1): SWR NIOS LED 1 to 3
SWR NIOS CPU status indication.

D2601 (C-1): SCU RESET
SCU CPU reset status indication.
- When S2601 is pressed.
- When Reset is requested from software.
- When IC4 does not start normally.

D1701 (G-1): NO LOCK status LED
REF IN status indication.
Lit when the format of signal that is input to the REF IN terminal is different from the setting of switcher format.

D1702 (G-1): NO ALIGN status LED
Alignment status indication of internal REF signal generated from REF IN.
Lit when the alignment is not aligned.

D1703 (G-1) NO REF status LED
REF IN status indication.
Goes out when the REF signal is input to the REF IN terminal. Lit when the REF signal is not recognized.

D2001 (H-1): SWR NIOS DONE status LED
Goes out when the configuration of SWR NIOS FPGA is completed.

D3701 (G-1): SCU CADEC DONE status LED
Goes out when the configuration of SCU CADEC FPGA is completed.

D3702 to D3705 (E-1): SCU_CADEC LED0, 1 to 3
Not used.

D3801 to D3804 (E-1): SCU_DBG LED1 to 4
Not used.

D3805 to D3820 (E-1): SCU STATUS
SCU CPU status indication.

D3903 (G-1): SCU NIOS DONE status LED
Goes out when the configuration of SCU CADEC FPGA is completed.

D4101 (A-1), D4102 (A-1), D4103 (B-1): SCU NIOS LED 1 to 3
SCU NIOS CPU status indication.

Switch

S501 (H-1): CA_RESET switch
Performs a reset of the CA-85 board alone.

S502 (H-1): RESET switch
Performs a reset of whole MVS processor and restarts it.

S503 (J-1): NIOSSIO_RESET
Performs a reset of SWR NIOS (IC2).

S601 (J-1): SWR MON
When pressing S501 and S502 while pressing this switch, or when turning on the power, the CPU-DP module starts in the monitor mode.

S2601 (C-1): SCU_RESET
Performs a reset of SCU CPU (IC3).

S2602 (C-1): NIOSBOX_RESET
Performs a reset of SCU NIOS (IC5).

S3501(C-1): SCU MON
When pressing S501 and S502 while pressing this switch, or when turning on the power, the SCU CPU module starts in the monitor mode.

S1301 (K-1): GROUP ID, UNIT ID switch
Switch to set GROUP ID and UNIT ID of the LAN connection.
Bit 1 to 4 are for GROUP ID and bit 5 to 8 are for UNIT ID setting.
Factory setting: Bit 1 and 5 are ON, others are OFF.

S1302 (J-1): SWR DGB SW switch
Not used.

S2201 (M-2): SW switch
For the operation mode setting of SWR NIOS (IC2).
Factory setting: Bit 1 is ON, others are OFF.

S3701 (C-1): SCU CADEC SW switch
Not used.

S3801 (E-1): STATION ID switch
Switch to set STATION ID of the SBUS connection.
Used when connecting the external routing switcher to the SBUS terminal.
Factory setting: Bit 2 is ON, others are OFF.

S3802 (D-1): SCU DBG SW switch
Not used.

S4101 (B-1): SW switch
For the operation mode setting of SCU NIOS (IC5).
Factory setting: OFF (all)

LED on CPU-DP module

D1 (H-1): 3.3V
Power status indication.
Lit when +3.3V is supplied to the regulator on the CPU-DP module normally.

D2 (G-2): 2.5V
Power status indication.
Lit when +2.5V is supplied normally.

D3 (H-1): 1.8V_DDR
Power status indication
Lit when +1.8V is supplied to DDR2 on the CPU-DP module normally.

D4 (G-1): 1.2V
Power status indication
Lit when +1.2 V is supplied normally.

D5 (H-1): 1.1V
Power status indication
Lit when +1.1 V is supplied normally.

D6 (C-6): CD
Lit when the connector on the CPU-DP module is connected to the base board correctly.

D7 (A-4): RUN
Lit when the boot process of the CPU-DP module is performed normally.

D8 (A-4), D9 (H-5), D10 (H-5), D11 (H-6): STATUS LED 1 to 4
Internal status indication of the CPU-DP module.
Controlled by software.

D12 (A-4): GbE1
Lit when Ethernet 1 on the CPU-DP module is linked.
Compatible with the connection of in-flight communication on the CA-85 board.

D13 (A-4): GbE2
Lit when Ethernet 2 on the CPU-DP module is linked.
Not used in the CA-85 board.

D14 (A-4): SGMII1
Lit when SGMII 1 on the CPU-DP module is linked.
Compatible with the Ethernet connection of UTIL (SW) LAN on the CA-85 board.

D15 (A-4): SGMII2
Lit when SGMII 2 on the CPU-DP module is linked.
Compatible with the connection with SCU on the CA-85 board.

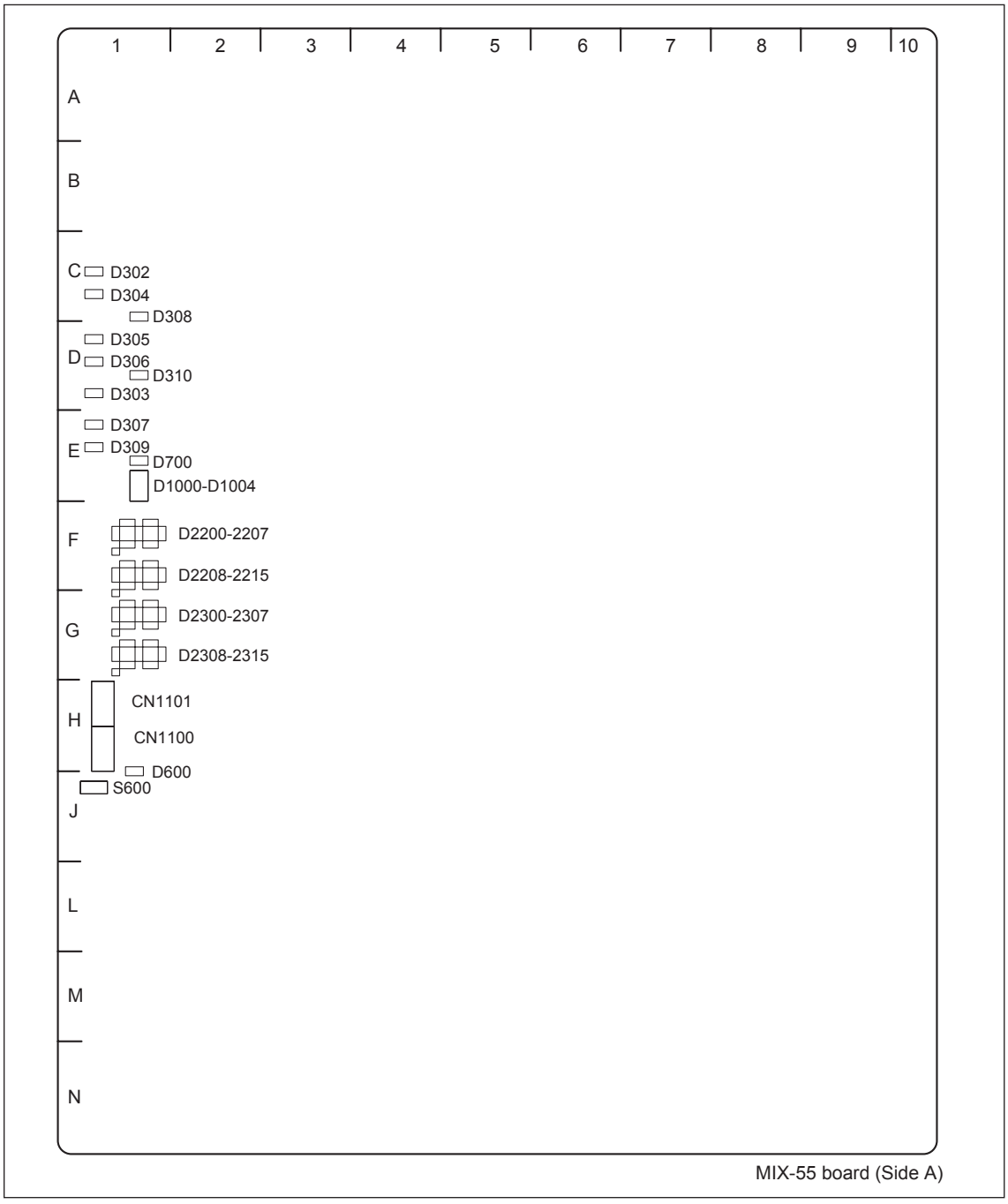
D16 (F-1): 3.3V_LV
Power status indication.
Lit when +3.3V is supplied normally.

D17 (E-1): 1.8V_PHY
Power status indication.
Lit when +1.8V is supplied to PHY on the CPU-DP module normally.

Switch on CPU-DP module

SW2 (A-6): CPU-DP MODE
Sets the startup mode of the CPU-DP module.
Factory setting: OFF (all)

MIX-55 board



MIX-55 board (Side A)

LED

D302 (C-1): +12V
+12V power status indication.
Lit when +12V is supplied.

D304 (C-1): +3.3V
+3.3V power status indication.
Lit when +3.3V is supplied.

D305 (D-1): +2.5V
+2.5V power status indication.
Lit when +2.5V is supplied.

D306 (D-1): +1.8V
+1.8V power status indication.
Lit when +1.8V is supplied.

D303 (D-1): +1.2V
+1.2V power status indication.
Lit when +1.2V is supplied.

D307 (E-1): +1.0V
+1.0V power status indication.
Lit when +1.0V is supplied.

D309 (E-1): +0.9V
+0.9V power status indication.
Lit when +0.9V is supplied.

D308 (C-1): REG (+1.5V-A, +1.1V-A)
+1.5V-A and +1.1V-A power status indication.
Lit when +1.5V-A and +1.1V-A are supplied.

D310 (D-1): +1.2V-A
+1.2V_A power status indication.
Lit when +1.2V-A is supplied.

D700 (E-1): CADEC Config Status LED
If the LED stays lit, CADEC (IC006) may not operate normally.

D1000 to D1004 (E-1): FPGA Config Status LED
Lit during each configuration of FPGA (IMPIF 4 to 1, MIXER) and goes out when it is completed.
If the LED stays lit, FPGA being configured may not operate normally.

D2200 to D2207 (F-1): IMP1 (PP_K12) status LED
IMP1 status indication.

D2208 to D2215 (F-1): IMP2 (PP_K34) status LED
IMP2 status indication.

D2300 to D2307 (G-1): IMP3 (ME1_K12) status LED
IMP3 status indication.

D2308 to D2315 (G-1): IMP4 (ME1_K34) status LED
IMP4 status indication.

D600 (J-1): RESET status LED
Not used.

Switch

S600 (J-1): RESET switch
Not used.

Connector

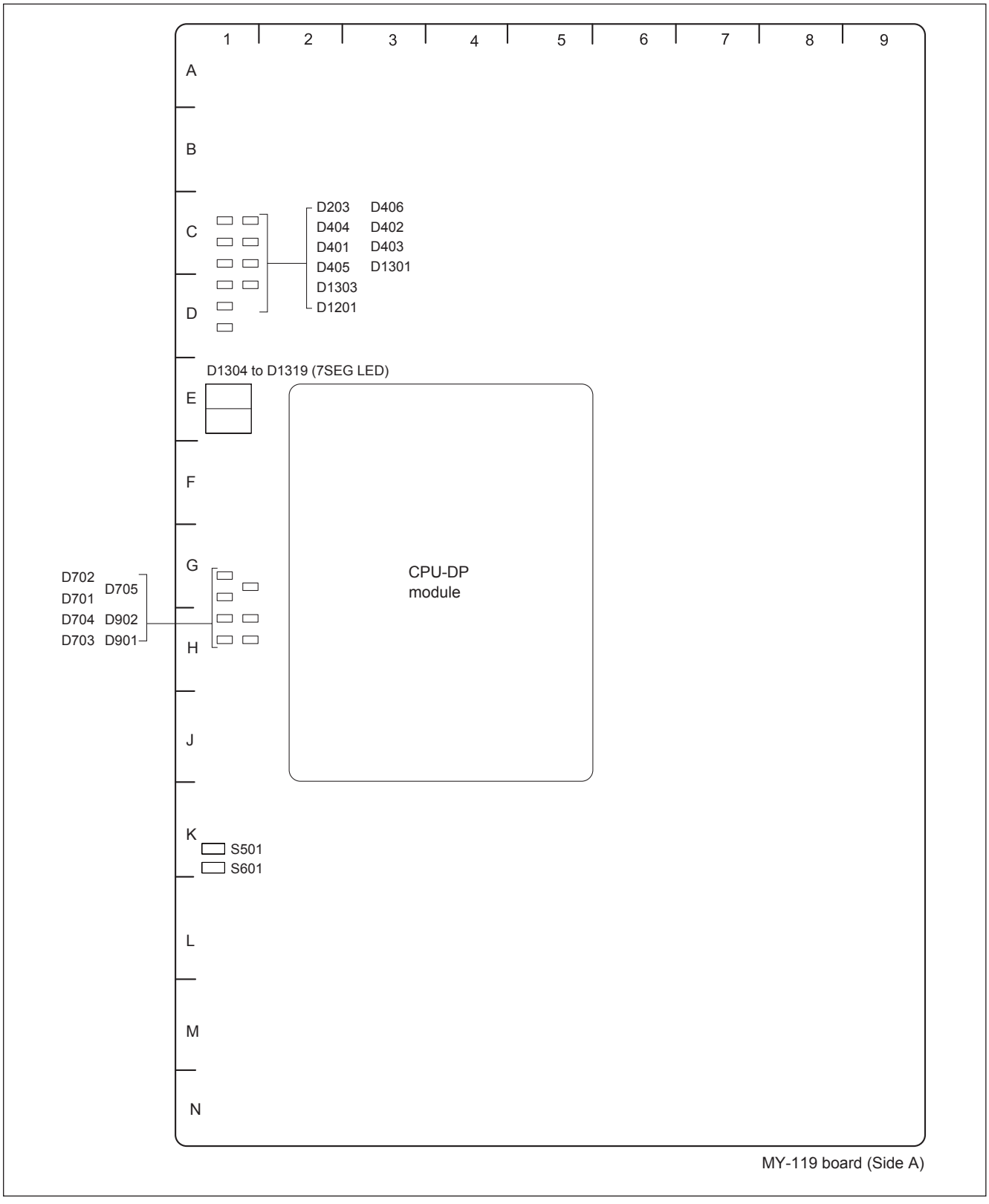
CN1101 (H-1): DEBUG connector
Not used.

CN1100 (H-1): EPR2 connector
For production.

CN2400 to CN2403: TERM1-4 connector
Not used.

CN1102 to CN1105: JTAG ICE (IMP1-4) connector
Not used.

MY-119 board


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
J
K
L
M
N
D203
D406
D404
D402
D401
D403
D405
D1301
D1303
D1201
D1304 to D1319 (7SEG LED)
CPU-DP
module
D702
D705
D701
D704
D902
D703
D901
S501
S601
MY-119 board (Side A)

LED

D203 (C-1): +12V
+12V power status indication.
Lit in green when +12V is supplied.

D404 (C-1): +5V (SSD)
+5V power (for SSD) status indication.
Lit in green when +5V is supplied.

D401 (C-1): +3.3V
+3.3V power status indication.
Lit in green when +3.3V is supplied.

D405 (D-1): +2.5V
+2.5V power status indication.
Lit in green when +2.5V is supplied.

D406 (C-1): +1.5V
+1.5V power status indication.
Lit in green when +1.5V is supplied.

D402 (C-1): +1.2V (CAD)
+1.2V power (IC1: CADEC FPGA) status indication.
Lit in green when +1.2V is supplied.

D403 (C-1): +0.9V (FMS)
+0.9V power (IC2: FMS FPGA) status indication.
Lit in green when +0.9V is supplied.

D1301 (D-1): OTHER PWR (0.75V, 1,0V, 1,2V, 1.8V)
Other Regulator power status indication.
Lit in green when other Regulator power is supplied.

D1303 (D-1): CONF ERR (IC1: CADEC FPGA)
Configuration error indication of CADEC FPGA in IC1.
When this LED is lit in red, CADEC FPGA in IC1 may not operate normally.

D1201 (D-1): CONF ERR (IC2: FMS FPGA)
Configuration error indication of FMS FPGA in IC2.
When this LED is lit in red, FMS FPGA in IC2 may not operate normally.

D1304 to 1319 (E-1):
CPU status (forming 7SEG LED of two-digit display)
Status indication of CPU (CPU-DP module) on the board.

D702 (G-1): INET ACT
Blinks in green during data transmission/reception when Ethernet1 on CPU (CPU-DP module) is linked with the CA-85 board.

D701 (G-1): INET LINK
Lit in green when Ethernet1 on CPU (CPU-DP module) is linked with the CA-85 board.

D704 (H-1): FM ACT
Blinks in green during data transmission/reception when Ethernet2 on CPU (CPU-DP module) is linked with the external panel

D703 (H-1): FM LINK
Lit in green when Ethernet2 on CPU (CPU-DP module) is linked with the external panel.

D705 (G-1): UTIL A/L
Lit in green when Ethernet3 on CPU (CPU-DP module) is linked with the external device, and blinks in green during data transmission/reception.

D902 (H-1): PCIE ACT
Blinks in green during transmission/reception when PCI Express signal on CPU (CPU-DP module) is linked with IC902 (SATA CONTROLLER).

D901 (H-1): PCIE CON
Lit in green when PCI Express signal on CPU (CPU-DP module) is connected to IC902 (SATA CONTROLLER).

Switch

S501 (K-1): RST switch
Reset switch of the MY-119 board.
When this switch is pressed, CPU on the MY-119 board is initialized.

S601 (K-1): MON switch
Monitor switch used when the maintenance with terminal is performed.

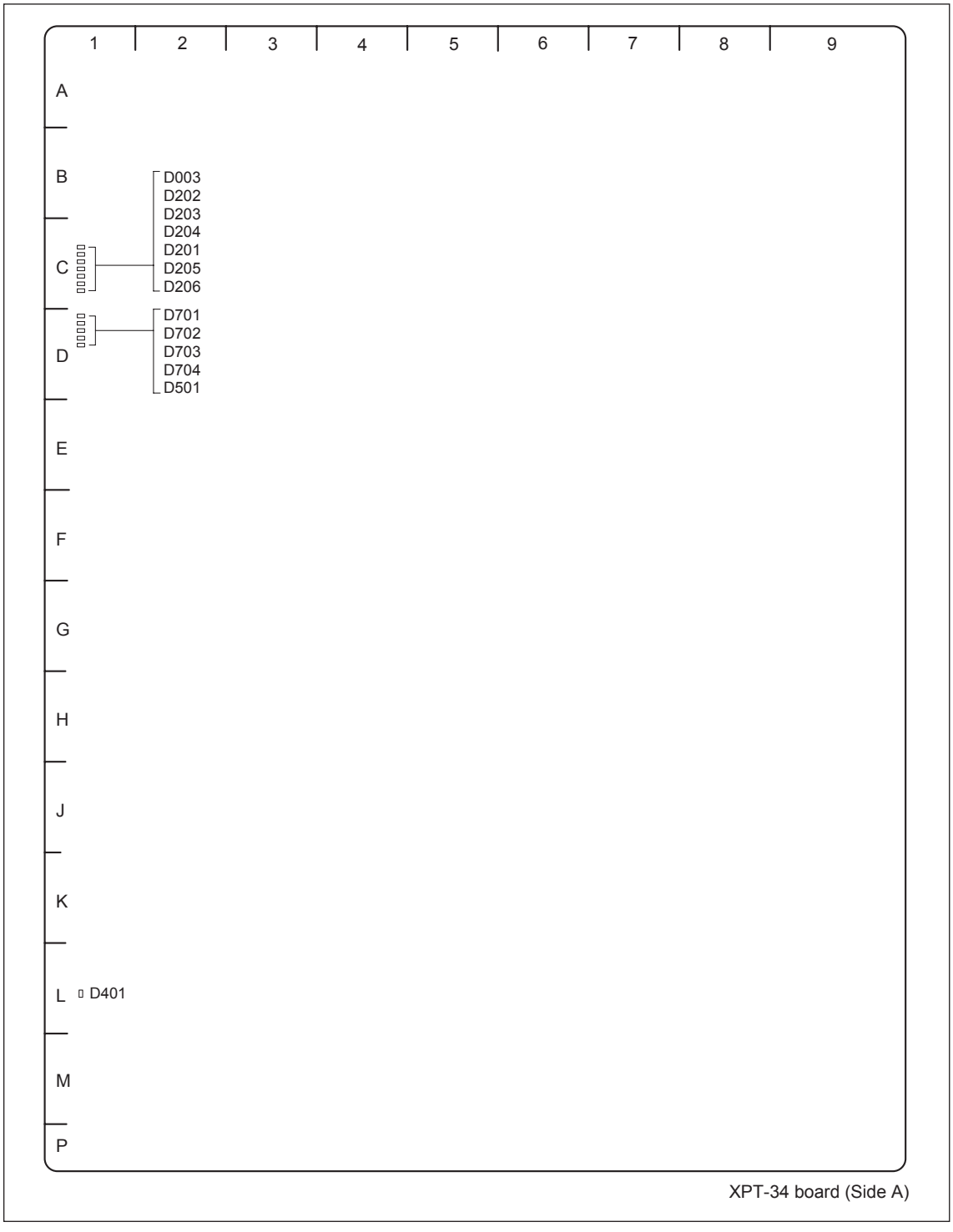
LED on CPU-DP module

Refer to “LED on CPU-DP module” in “1. CA-85 board”.

Switch on CPU-DP module

Refer to “Switch on CPU-DP module” in “1. CA-85 board”.

XPT-34 board



XPT-34 board (Side A)

LED

D003 (C-1): +12V
+12V power status indication.
Lit when +12V is supplied.

D202 (C-1): +3.3V
+3.3V power status indication.
Lit when +3.3V is supplied.

D203 (C-1): +2.5V
+2.5V power status indication.
Lit when +2.5V is supplied.

D204 (C-1): +1.8V
+1.8V power status indication.
Lit when +1.8V is supplied.

D201 (C-1): +1.2V
+1.2V power status indication.
Lit when +1.2V is supplied.

D205 (C-1): +0.9V
+0.9V power status indication.
Lit when +0.9V is supplied.

D206 (C-1): REG
+1.2V-CADEC, +1.5V-A1 to 4, +1.1V-A1 to 4 power status indication.
Lit when +1.2V-CADEC, +1.5V-A1 to 4 and +1.1V-A1 to 4 are supplied.

D701 (D-1): MV1
Status indication of IC005 FPGA configuration operation.
Goes out when the configuration of IC005 is completed.
If it does not go out, there may be a defect in IC005.

D702 (D-1): MV2
Status indication of IC006 FPGA configuration operation.
Goes out when the configuration of IC006 is completed.
If it does not go out, there may be a defect in IC006.

D703 (D-1): OUT1
Status indication of IC003 FPGA configuration operation.
Goes out when the configuration of IC003 is completed.
If it does not go out, there may be a defect in IC003.

D704 (D-1): OUT2
Status indication of IC004 FPGA configuration operation.
Goes out when the configuration of IC004 is completed.
If it does not go out, there may be a defect in IC004.

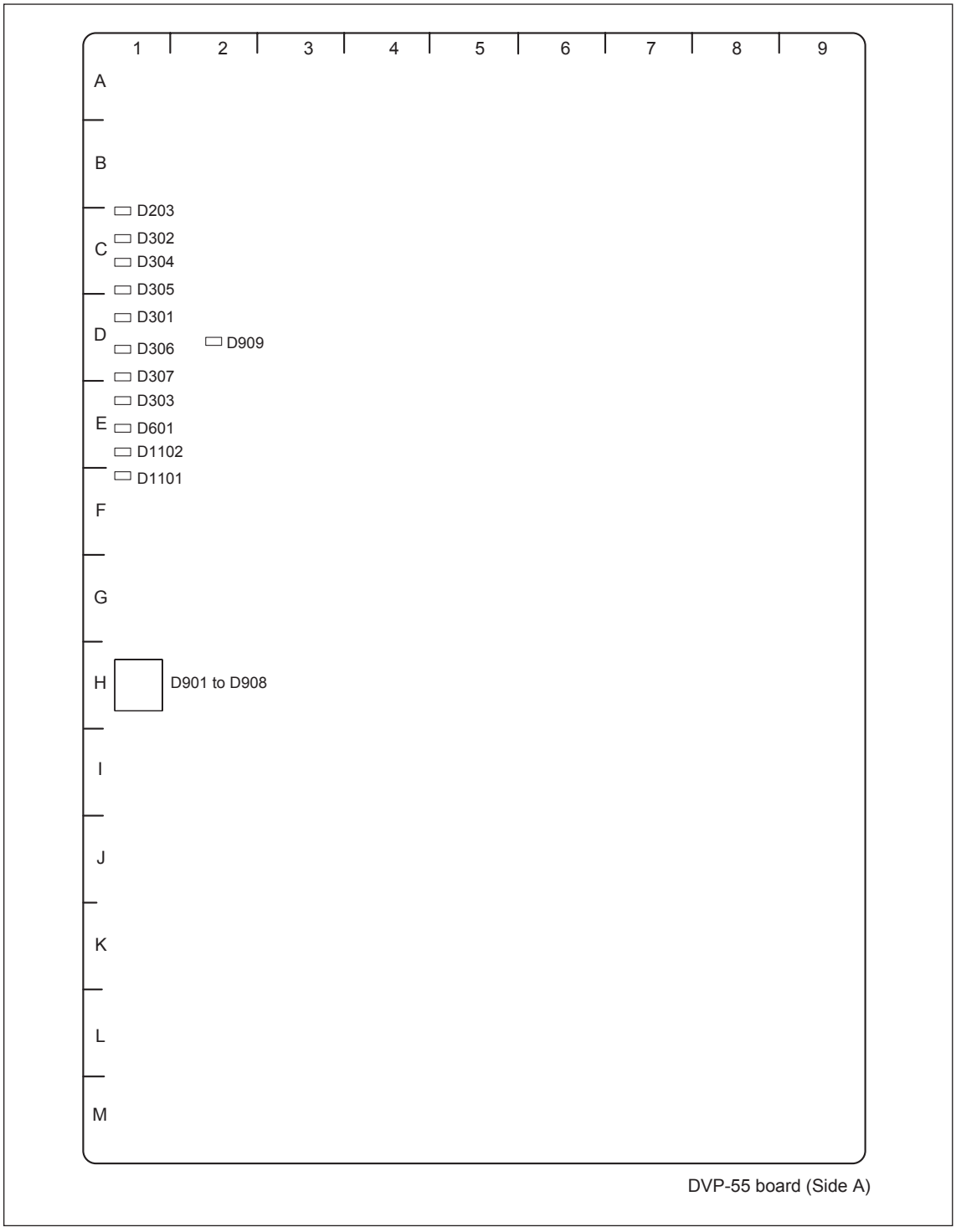
D501 (D-1): CADEC
Status indication of IC001 FPGA configuration operation.
Goes out when the configuration of IC001 is completed.
If it does not go out, there may be a defect in IC001.

D401 (L-1): RESET
Status indication of RESET operation.
Goes out when RESET on the XPT-34 board is completed.

1-8-2. DVP-55 Board (MKS-6570)

Note

The number shown in the parentheses ( ) indicated the address on the circuit board.



DVP-55 board (Side A)

LED

D203 (C-1): +12V
+12V power status indication.
Lit when +12V is supplied.

D302 (C-1): +3.3V
+3.3V power status indication.
Lit when +3.3V is supplied.

D304 (C-1): +2.5V
+2.5V power status indication.
Lit when +2.5V is supplied.

D305 (D-1): +1.8V
+1.8V power status indication.
Lit when +1.8V is supplied.

D301 (D-1): +1.2V
+1.2V power status indication.
Lit when +1.2V is supplied.

D306 (D-1): +1.0V
+1.0V power status indication.
Lit when +1.0V is supplied.

D307 (D-1): +0.9V
+0.9V power status indication.
Lit when +0.9V is supplied.

D303 (E-1): REG
Status indication of +1.1V and +1.5V regulator.
Lit when the power is supplied from +1.1V and +1.5V regulator.

D601 (E-1): CAD
CPLD configuration error indication.
When this LED is lit, CPLD (IC1) may not operate normally.

D1102 (E-1): AINTP
FPGA configuration error indication.
When this LED is lit, FPGA (IC3) may not operate normally.

D1101 (E-1): PVFLT
FPGA configuration error indication.
When this LED is lit, FPGA (IC2) may not operate normally.

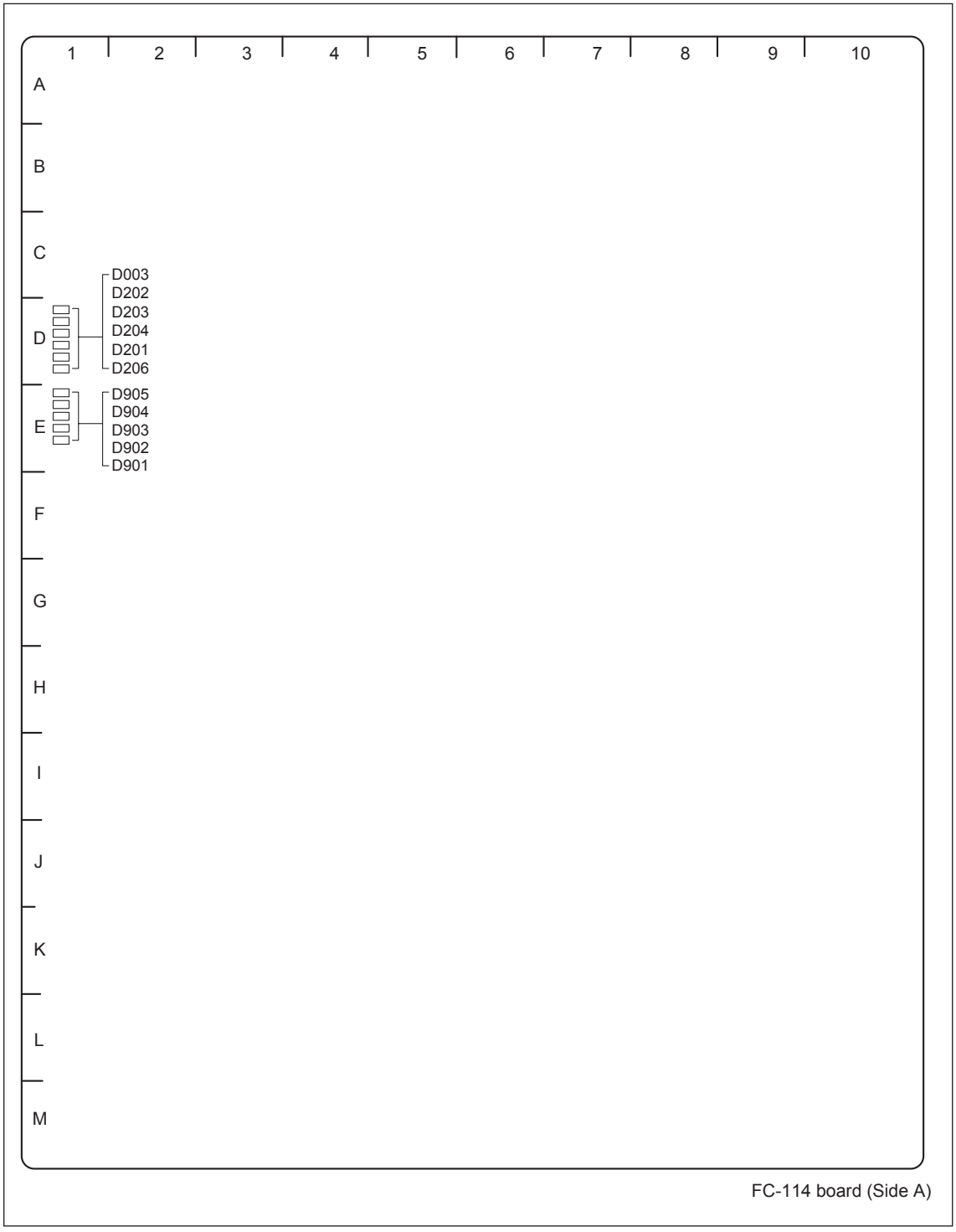
D909 (D-2): PPC_RST
Power PC reset indication.
Lit when Power PC is in reset state.

D901 to D908 (H-1): STATUS
Power PC status indication.

1-8-3. FC-114 Board (MKS-6550)

Note

The number shown in the parentheses ( ) indicated the address on the circuit board.



FC-114 board (Side A)

LED

D003 (D-1): +12V
+12V power status indication.
Lit when +12V is supplied.

D202 (D-1): +3.3V
+3.3V power status indication.
Lit when +3.3V is supplied.

D203 (D-1): +2.5V
+2.5V power status indication.
Lit when +2.5V is supplied.

D204 (D-1): +1.8V
+1.8V power status indication.
Lit when +1.8V is supplied.

D201 (D-1): +1.2V
+1.2V power status indication.
Lit when +1.2V is supplied.

D206 (D-1): REG
DC regulator (+2.5V, +1.2V) status indication.
Lit when the power is supplied to all DC regulators.

D905 (E-1): CADEC
FPGA configuration error indication.
When this LED is lit, CPLD (IC001) may not operate normally.

D904 (E-1): FC12
FPGA configuration error indication.
When this LED is lit, FPGA (IC002) may not operate normally.

D903 (E-1): FC34
FPGA configuration error indication.
When this LED is lit, FPGA (IC003) may not operate normally.

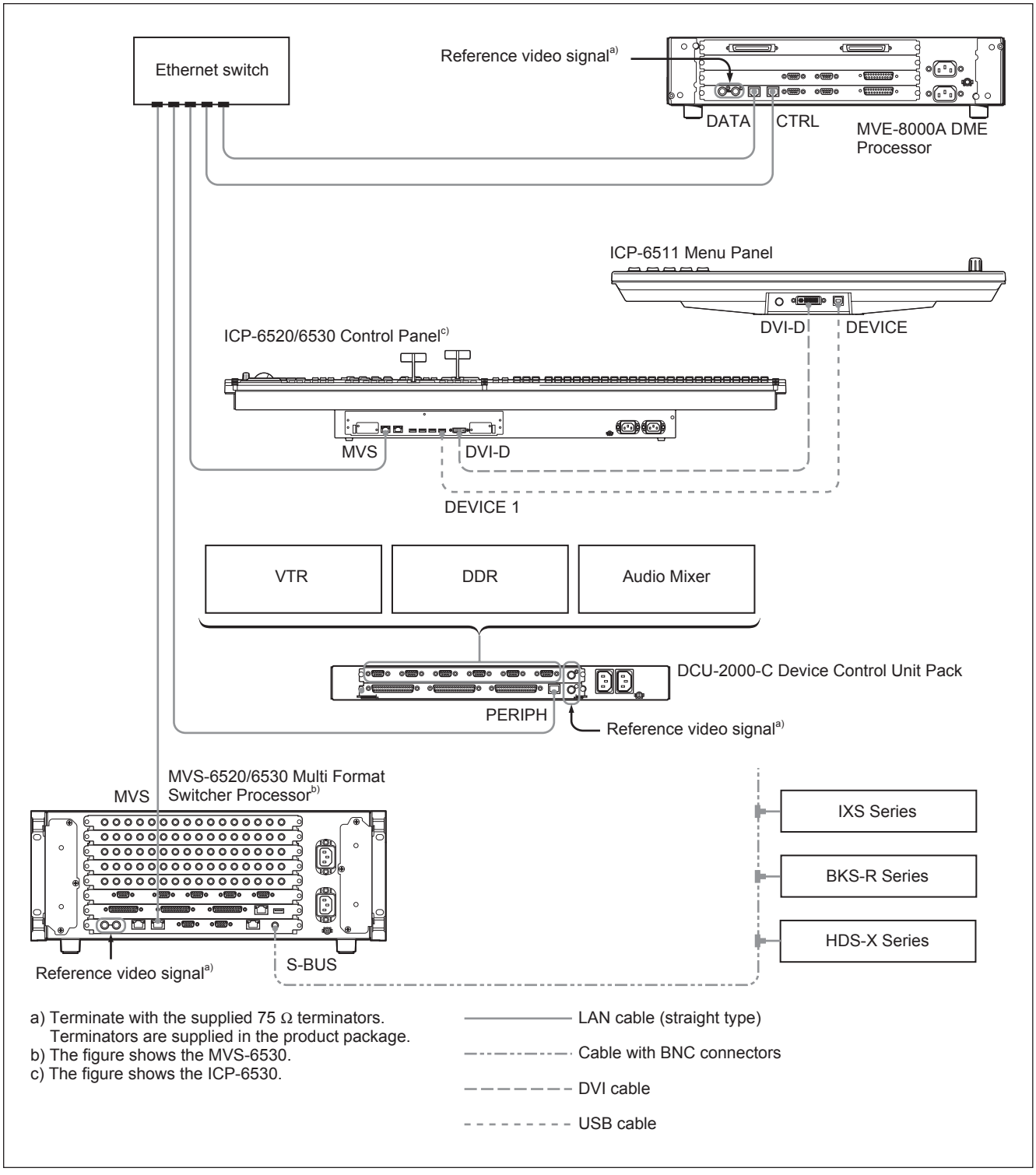
D902 (E-1): FC56
FPGA configuration error indication.
When this LED is lit, FPGA (IC004) may not operate normally.

D901 (E-1): FC78
FPGA configuration error indication.
When this LED is lit, FPGA (IC005) may not operate normally.

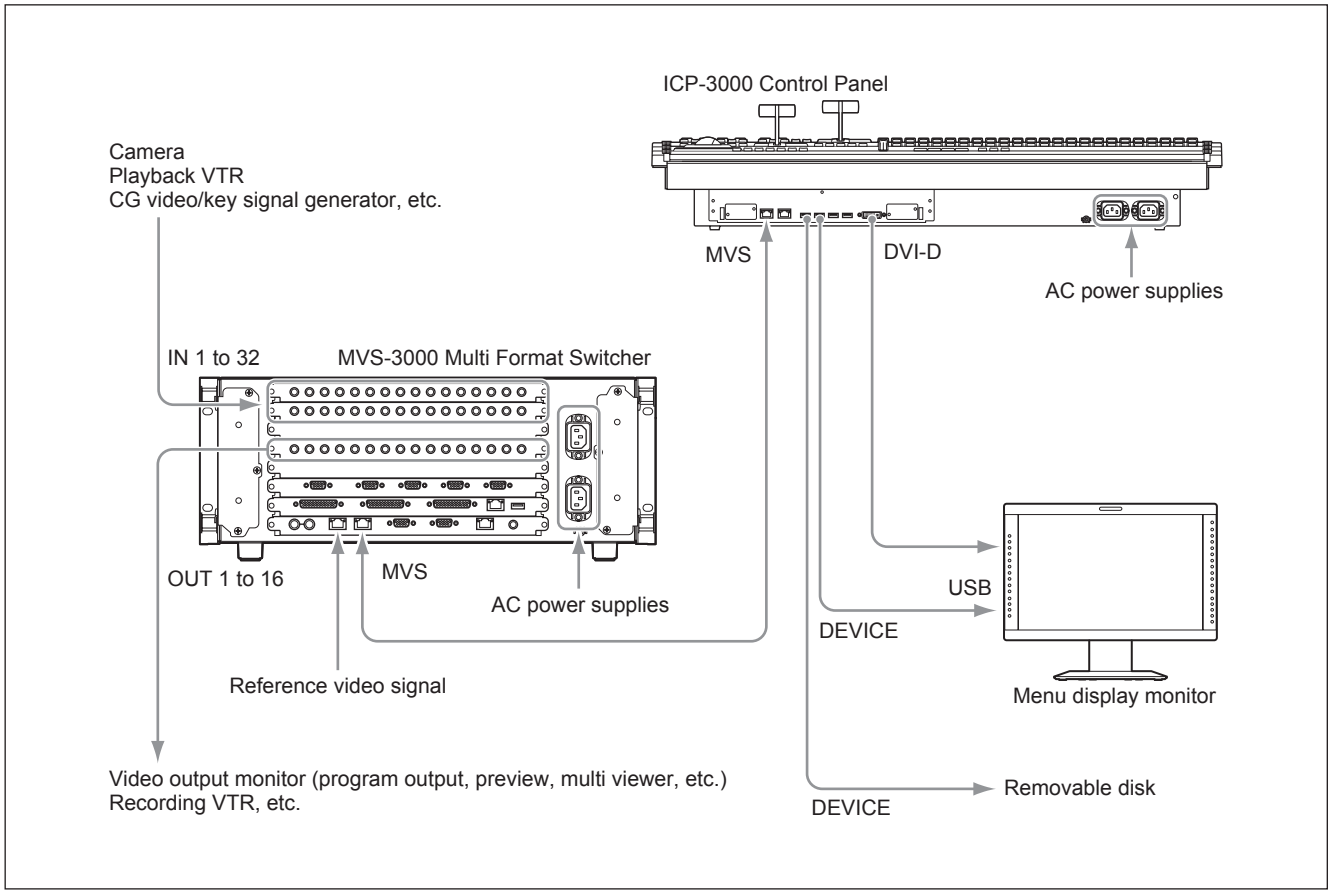
1-9. System Connection

Configure the MVS-6520/6530/3000 system connections referring to the connection example as shown below.

1-9-1. Connection Example of the MVS-6520/6530 System



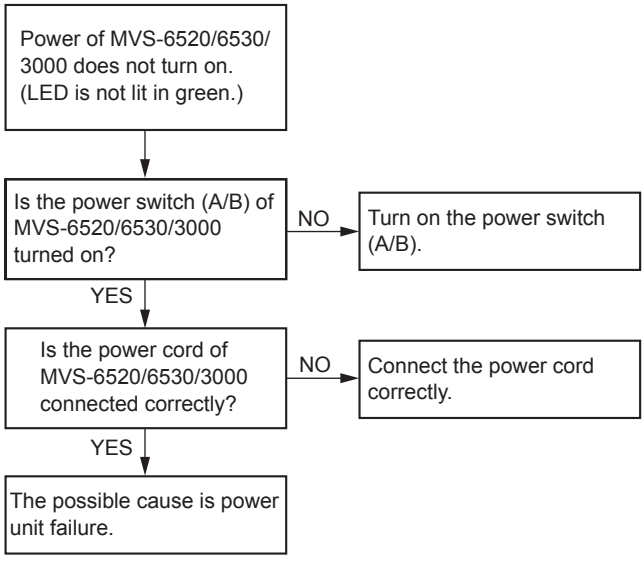
1-9-2. Connection Example of the MVS-3000 System



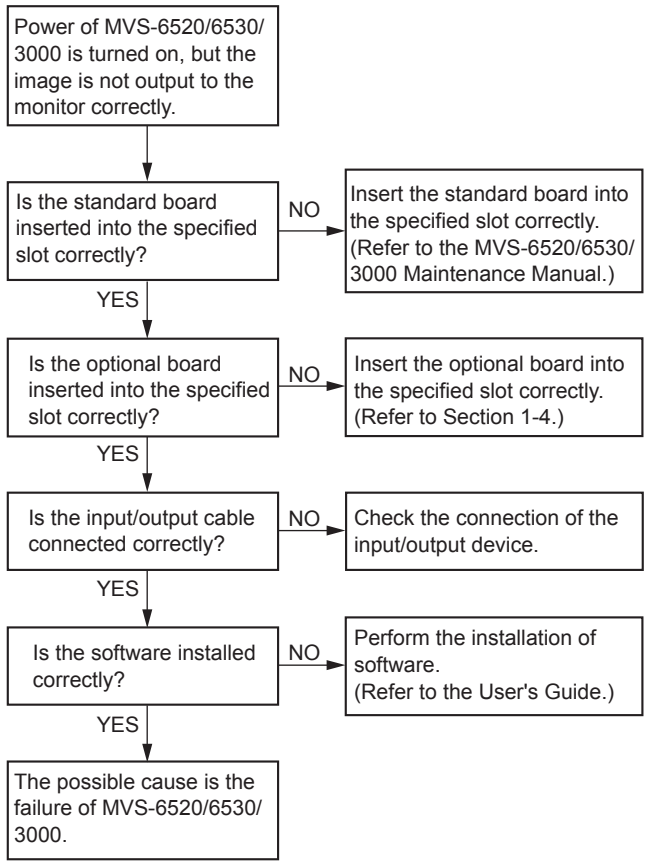
Section 2
Service Overview

2-1. Troubleshooting

Power of MVS-6520/6530/3000 does not turn on (LED is not lit in green.)



Monitor image is not output correctly



2-2. Periodic Inspection and Maintenance

2-2-1. Periodic Inspection

The following parts require periodic maintenance.
Refer to the period indicated in the following list for maintenance.

Common in MVS-6520/6530/3000

Part	Where used	Maintenance	Suggested period
Fan	Side on the rear of the MVS-6520/6530/3000	Cleaning Replacement	Once in a month Once in about four years
Filter	Front panel	Cleaning	Once in two months
Power supply unit		Replacement	Once in about four and a half years

2-2-2. Cleaning

1. Front panel

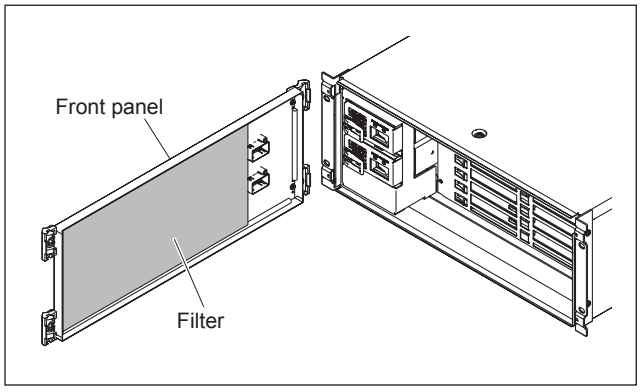
The filter on the rear of the front panel can easily accumulate the dust. Be sure to remove dust by cleaning as follows.

(1) Remove the front panel. (Refer to Section 1-4-1.)

(2) Remove the dust accumulated on the filter with a vacuum cleaner.

Note

Cleaning the filter by washing in water is recommended when there is a heavy accumulation of dust. Be sure to dry the filter completely after it has been washed.



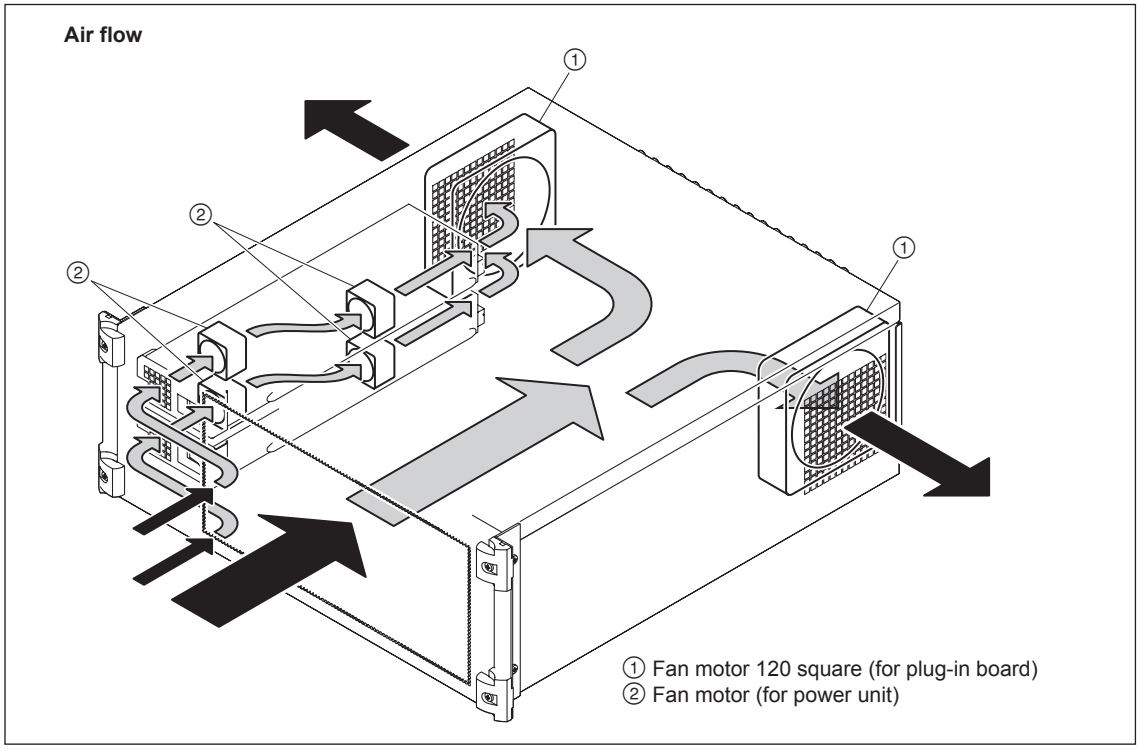
2. Fan

MVS-6520/6530/3000 is air-cooled by the fans (on both sides).

If dust has accumulated in the intake of the fan, air is prevented from flowing smoothly and this may result in a temperature rise inside the machine. This may have an adverse effect on performance and the life of the machine.

Cleaning of the fan every month is recommended.

Contact your local Sony Sales Office/Service Center for information on cleaning the fan.



2-3. About the Data Backup Capacitor

A large capacitor is installed on the CA-85 board in order to retain the data such as the resume data, snapshots, and effects in the MVS-6520/6530/3000 machine.
Leave the main power of the MVS-6520/6530/3000 turned on for two hours or longer in order to charge this capacitor. The data is retained for about three days when the capacitor is fully charged under normal operating temperature and humidity. However, this period may vary depending on the storage environment. Be sure to save necessary data in an external media.

MVS-6520 (SY)
MVS-6530 (SY)
MVS-3000 (SY) J, E
4-446-372-01

Sony Corporation

Printed in Japan
2012. 9 08
©2012