SONY

SWITCHER PROCESSOR PACK

MVS-8000X-C
MVS-7000X-C

MULTI FORMAT SWITCHER PROCESSOR

MVS-8000X
MVS-7000X

HK-PSU05

MKS-7171X	**MKS-7210X**	**MKS-7470X**
MKS-7471X	**MKS-8110X**	**MKS-8160X**
MKS-8170X	**MKS-8180X**	**MKS-8210X**
MKS-8440X	**MKS-8450X**	
BZS-7200X	**BZS-7420X**	**BZS-7500X**
BZS-7510X	**BZS-7520X**	**BZS-7530X**
BZS-7540X	**BZS-7541X**	**BZS-7560X**
BZS-7561X	**BZS-8200X**	**BZS-8420X**
BZS-8560X		

INSTALLATION MANUAL

1st Edition (Revised 2)

4189509030

⚠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.

MVS-8000X (SY)	Serial No. 10001 and Higher	BZS-7540X
MVS-7000X (SY)	Serial No. 10001 and Higher	BZS-7541X
HK-PSU05 (SY)	Serial No. 10001 and Higher	BZS-7560X
MKS-8110X (SY)	Serial No. 10001 and Higher	BZS-7561X
MKS-8160X (SY)	Serial No. 10001 and Higher	
MKS-8170X (SY)	Serial No. 10001 and Higher	
MKS-8180X (SY)	Serial No. 10001 and Higher	
MKS-8210X (SY)	Serial No. 10001 and Higher	
MKS-8440X (SY)	Serial No. 10001 and Higher	
MKS-8450X (SY)	Serial No. 10001 and Higher	
MKS-7171X (SY)	Serial No. 10001 and Higher	
MKS-7210X (SY)	Serial No. 10001 and Higher	
MKS-7470X (SY)	Serial No. 10001 and Higher	
MKS-7471X (SY)	Serial No. 10001 and Higher	
BZS-8200X		
BZS-8420X		
BZS-8560X		
BZS-7200X		
BZS-7420X		
BZS-7500X		
BZS-7510X		
BZS-7520X		
BZS-7530X		

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.**
   Front, Right and Left: 10 cm (4 inches) or more.

CAUTION

- For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to the following port(s).
  : NETWORK A (CTRL) connector
  : NETWORK B (DATA) connector
  : NETWORK C* connector (MVS-8000X only)
  : FM DATA connector
  Follow the instructions for the above port(s).
- When you connect the NETWORK A (CTRL), NETWORK B (DATA), NETWORK C (MVS-8000X only), and FM DATA connectors of the unit to peripheral device, use a shielded-type cable to prevent malfunction due to radiation noise.

* Not supported.

For kundene I Norge

Dette utstyret kan kobles til et IT-strømfordelingssystem.

FORSIKTIG
For å redusere risikoen for støt, plugg inn strømtilførselsledningene i hver sin kurs, med separat jording.

Table of Contents

Manual Structure

1. Installation

2. Service Overview

Manual Structure

Purpose of this manual

This manual is the installation manual of Switcher Processor Pack MVS-8000X-C/MVS-7000X-C and their optional boards and units.
This manual is intended for use by trained system and service engineers, and describes the information on installing the MVS-8000X-C/MVS-7000X-C system.

Related manuals

The following manuals are prepared for MVS-8000X-C/MVS-7000X-C and their optional boards and units.

- **Operation Manual (Supplied with MVS-8000X-C/MVS-7000X-C)**
  This manual describes the application and operation of MVS-8000X-C/MVS-7000X-C.

- **System Setup Manual (Available on request)**
  This manual describes the information that is required to connect the MVS-8000X/MVS-7000X/MVE-9000/MKS-8700/CCP-8000 to the MVS-8000 system, and to start up the system.
  If this manual is required, please contact your local Sony Sales Office/Service Center.

- **Maintenance Manual (Available on request)**
  This manual describes the detailed service information.
  If this manual is required, please contact your local Sony Sales Office/Service Center.

Contents

This manual is organized by following sections.

Section 1 Installation

This section describes the operating environment, power supply, installation space, installation of optional boards and units, rack mounting, connectors, input and output signals of connectors, checking upon completion of installation, and system configuration.

Section 2 Service Overview

This section describes the troubleshooting and periodic inspection and maintenance.

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 : 10 % to 90 %
(relative humidity)
Storage temperature : −20 ˚C to +60 ˚C
Mass (when all options are installed) :
MVS-8000X : Approx. 58 kg
MVS-7000X : Approx. 49 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

The inside of the MVS-8000X/MVS-7000X is cooled by a fan (right side).
The power supply can be damaged if the exhaust vent (right side) 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-8000X.

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-8000X : 15 to 6.5 A
MVS-7000X : 15 to 6.5 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 braker will operate or the unit will abnormally operate.
- The MVS-8000X contains the three power supply units as the standard configuration. A maximum of four power supply units may be installed. When starting up the MVS-8000X, be sure to turn on the power of three or more power supply units.
- The MVS-7000X contains the two power supply units as the standard configuration. A maximum of four power supply units may be installed. When starting up the MVS-7000X, be sure to turn on the power of two or more power supply units.

1-2-2. Recommended 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).

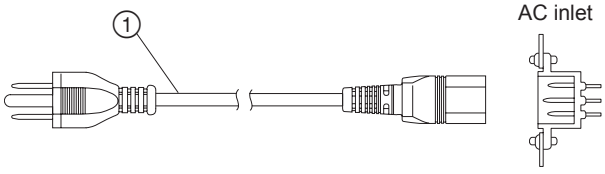
If you have questions on the use of the above Power Cord/Appliance Connector/Plug, please contact your local Sony Sales Office/Service Center.

CAUTION

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

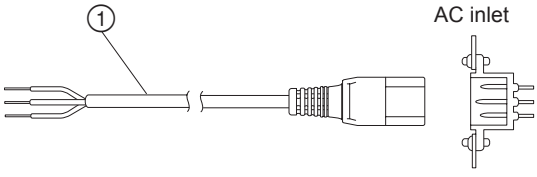
For customers in the U.S.A and Canada

① Power cord, 125 V 10 A (2.4 m) : ⚠ 1-551-812-31



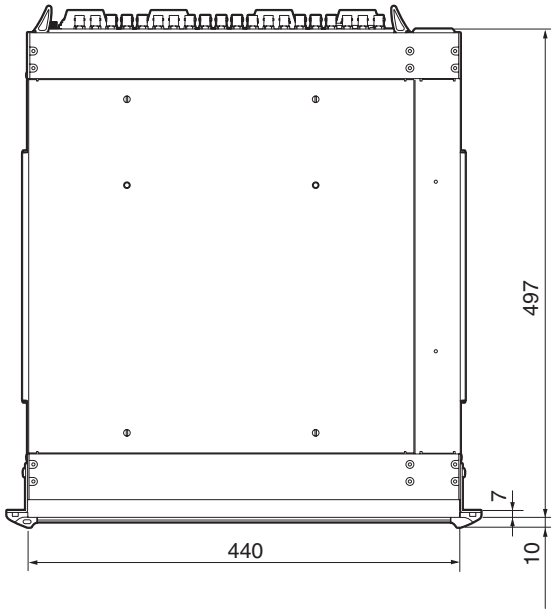
For customers in the all European countries

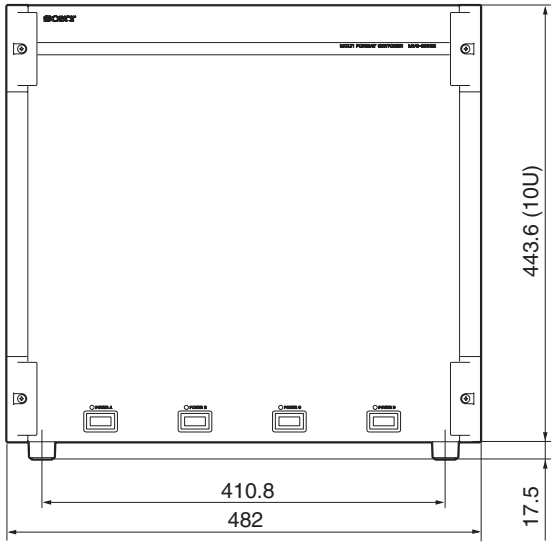
① Power cord, 250 V 10 A (2.4 m) : ⚠ 1-782-929-12

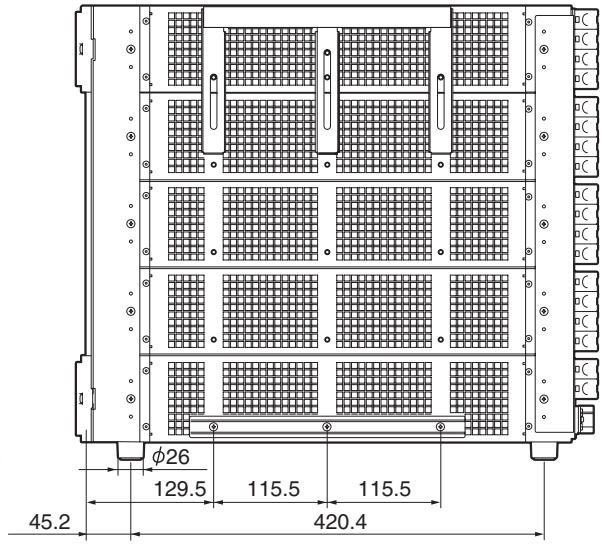


1-3. Installation Space (External dimensions)

1-3-1. MVS-8000X

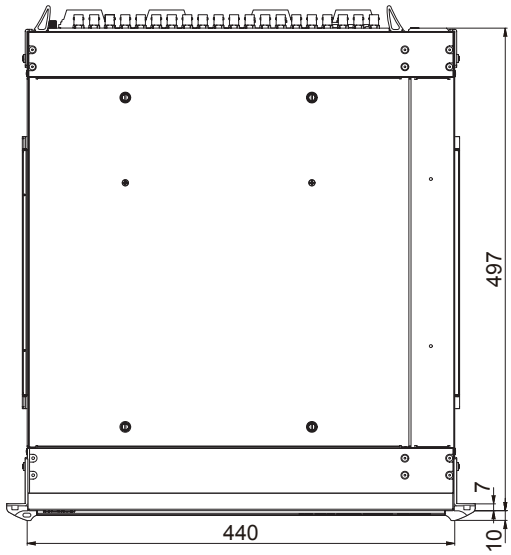


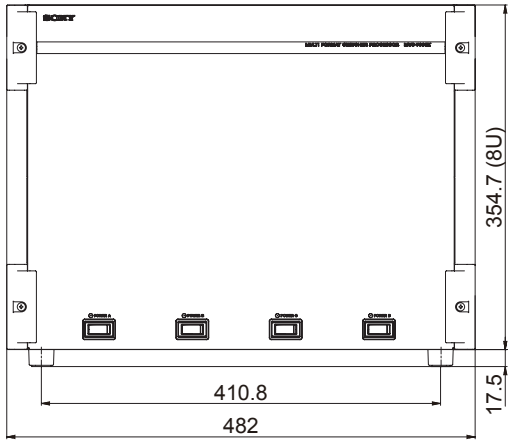


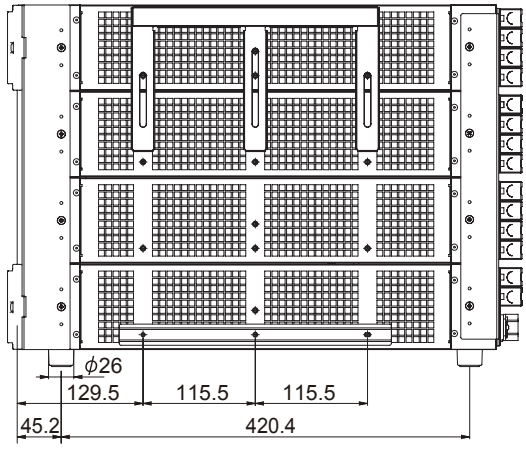


Unit : mm

1-3-2. MVS-7000X







Unit: mm

1-4. Installing the Options

The MVS-8000X-C/MVS-7000X-C is shipped from the factory with the necessary option boards (refer to the following table) already installed in accordance with the specified system configuration.
The following options are available for the MVS-8000X/MVS-7000X.

MVS-8000X Option List

Name of option	Board configuration	
	Plug-in board (Front)	Connector board (Rear)
MKS-8110X 20 Input Board	–	CNI-37 board
MKS-8160X Output Board Set	OUT-35A board	CNO-38 board
MKS-8170X DME Interface Board Set	XPT-32 board	CNI-37 board CNO-37 board
MKS-8180X Cross Point Board Set	XPT-31A board	CNI-37 board
MKS-8210X *1 Mix/Effect Board	MIX-53 board	–
MKS-8440X Frame Memory Board Set	MY-118 board	CN-3235 board
MKS-8450X Format Converter Board	FC-112 board	–
HK-PSU05 Power Supply Unit	–	–
BZS-8200X Multi Program 2 Software	–	–
BZS-8420X Color Correction Software	–	–
BZS-8560X Switcher Upgrade Software	–	–

∗1: Currently M/E4 is not supported.

MVS-7000X Option List

Name of option	Board configuration	
	Plug-in board (Front)	Connector board (Rear)
MKS-7171X DME Output Connector Board	–	CNO-37 board
MKS-7210X Mix/Effect Board	MIX-53 board	–
MKS-7470X DME Board Set	DVP-53 board XPT-32 board	–
MKS-7471X Additional DME Board	DVP-53 board	–
MKS-8110X 20 Input Board	–	CNI-37 board
MKS-8160X Output Board Set	OUT-35A board	CNO-38 board
MKS-8440X Frame Memory Board Set	MY-118 board	CN-3235 board
MKS-8450X Format Converter Board	FC-112 board	–
HK-PSU05 Power Supply Unit	–	–
BZS-7200X Multi Program 2 Software	–	–
BZS-7420X Color Correction Software	–	–
BZS-7500X Switcher Upgrade Software	–	–
BZS-7510X Switcher Upgrade Software	–	–
BZS-7520X Switcher Upgrade Software	–	–
BZS-7530X Switcher Upgrade Software	–	–
BZS-7540X DME Upgrade Software	–	–
BZS-7541X DME Upgrade Software	–	–
BZS-7560X Switcher Upgrade Software	–	–
BZS-7561X DME Upgrade Software	–	–

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

CAUTION

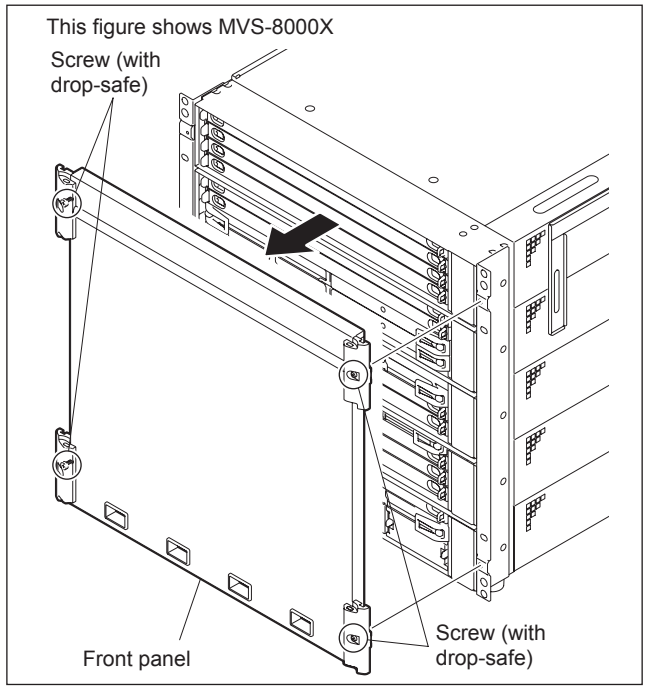
Be sure to turn off the POWER switch before starting installation work.
If installation work is started with the POWER switch left on, it may cause electrical shock or damage to printed circuit boards.
Each plug-in board of the Production Switcher Processor MVS-8000X/MVS-7000X is allocated to a specific slot into which they must be installed. Check to see that the respective plug-in boards are installed in their respective slots.
The name of the board is shown near the eject lever at the right-most end of each plug-in board.
Names of the plug-in boards and the slot numbers, to which the plug-in boards are allocated, are shown on the Extract PWB stopper assembly inside the front panel of the MVS-8000X Install the respective plug-in boards according to this instruction.

CAUTION

- Check to see that connectors of the plug-in boards are securely inserted into the mother board (MVS-8000X: MB-1150 board, MVS-7000X: MB-1151 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 same version as the MVS-8000X/MVS-7000X.
  For installing the software, refer to the user's guide of the MVS-8000X/MVS-7000X system.

Installation Procedure

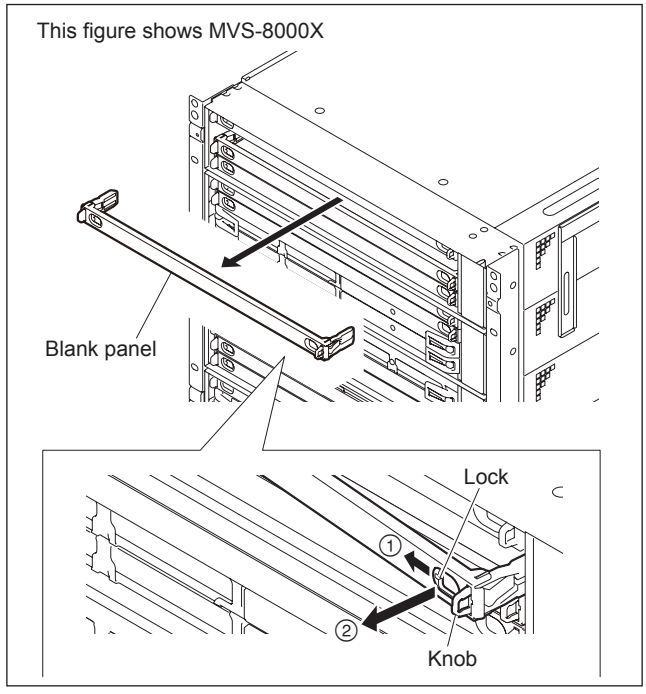
1. Turn off the main power of this unit (MVS-8000X) and disconnect the AC power cord from the wall outlet.
2. Loosen the four screws (with drop-safe) and remove the front panel to the arrow.



3. Push the black panel lock toward the (①) direction to unlock, pull the knob toward the (②) direction an remove the blank panel.

Note

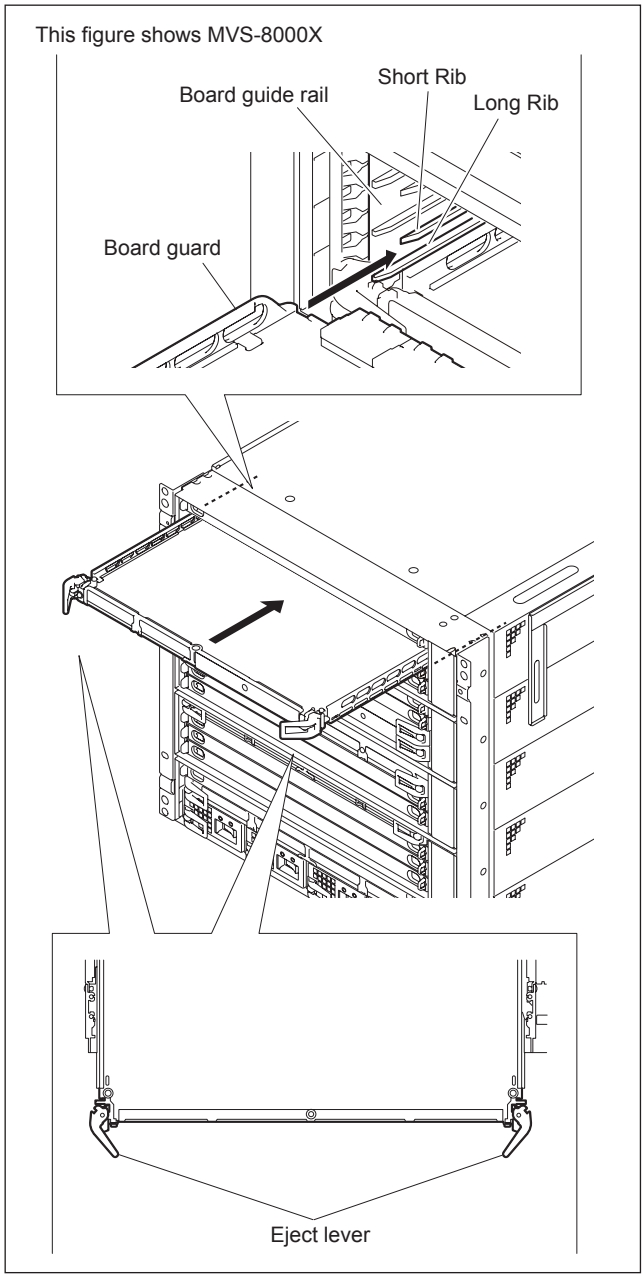
Store the removed blank panel in a safe place.



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

Note

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



MVS-8000X Option List

Name of option	Name of board	Slot on the front side
MKS-8160X	OUT-35A board	14
MKS-8170X	XPT-32 board	3
MKS-8180X	XPT-31A board	6
MKS-8210X *1	MIX-53 board	1, 2, 4
MKS-8440X	MY-118 board	16
MKS-8450X	FC-112 board	11, 12

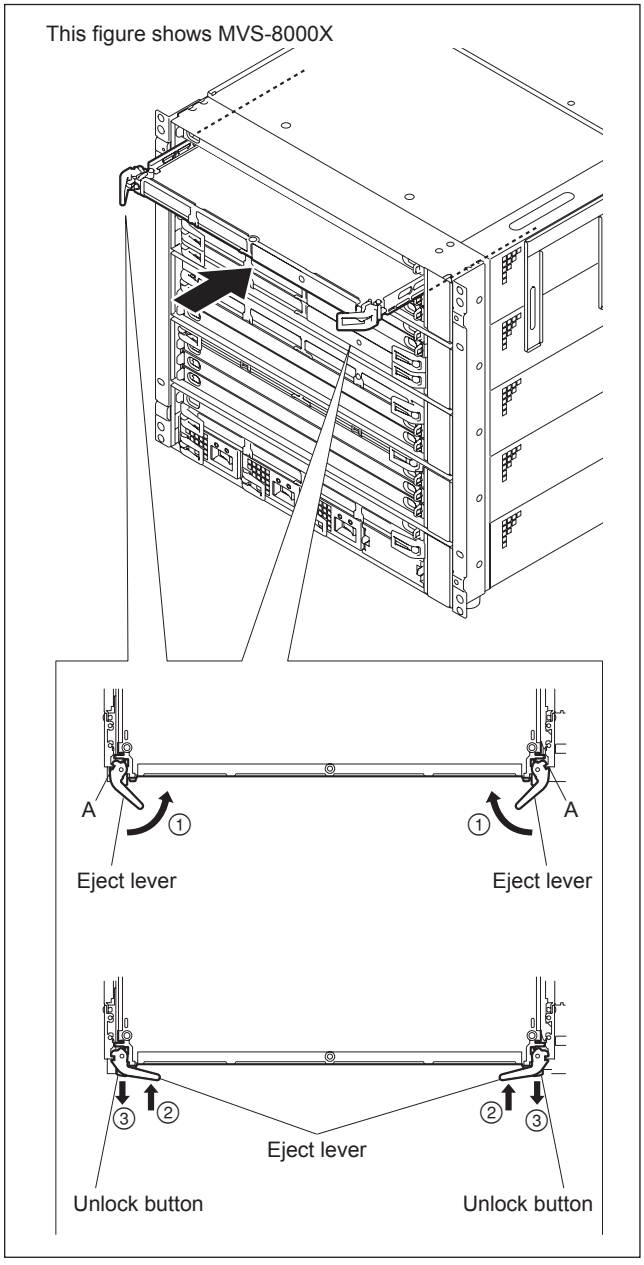
∗1: Installation order of MIX-53 board
First board: Slot no. 8 (standard)
Second board: Slot no. 7 (standard)
Third board: Slot no. 4 (option)
Fifth board: Slot no. 2 (option)
Sixth board: Slot no. 1 (option)

MVS-7000X Option List

Name of option	Name of board	Slot on the front side
MKS-7210X *1	MIX-53 board	5, 6, 9
MKS-7470X	DVP-53 board	3
	XPT-32 board	4
MKS-7471X	DVP-53 board	2
MKS-8160X	OUT-35A board	12
MKS-8440X	MY-118 board	13
MKS-8450X	FC-112 board	10

∗1: Installation order of MIX-53 board
First board: Slot no. 9 (option)
Second board: Slot no. 6 (option)
Third board: Slot no. 5 (option)

5. Close the both eject levers at a time, when the eject lever claws reach the A position (①).
   And push the eject levers (②) until the unlock buttons pop out.

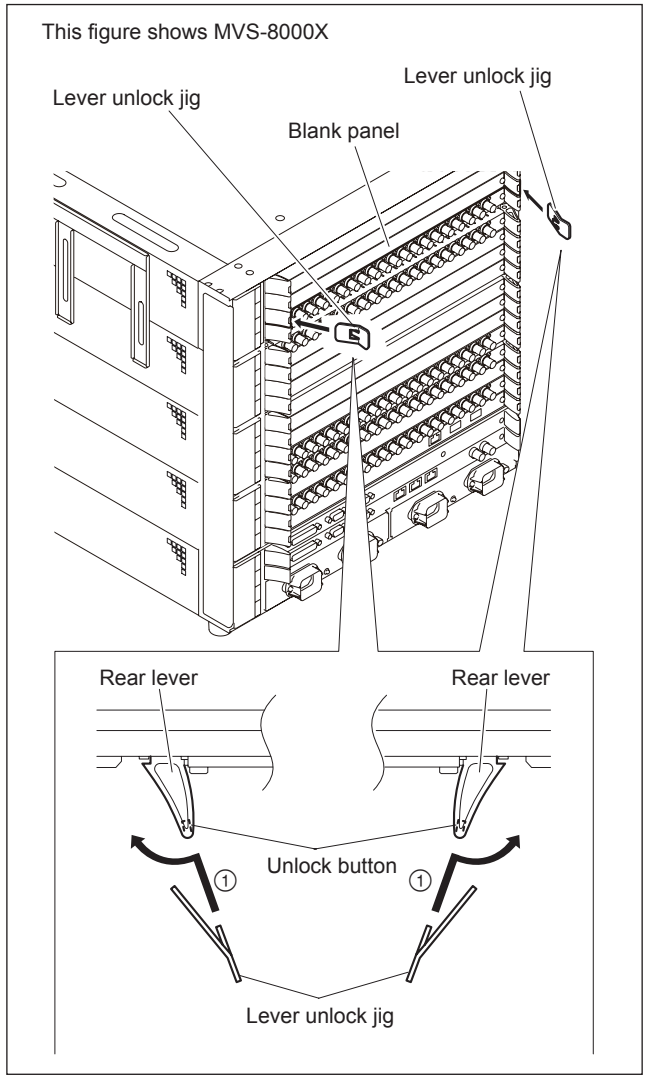


1-4-2. Installing the Connector Board

Service Tool

Lever unlock jig : Part No. 4-193-124-01

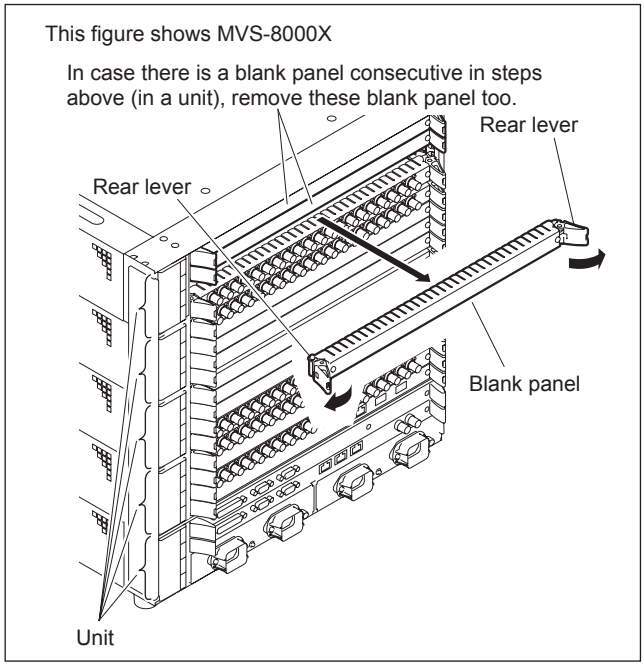
1. Insert the protrusion of the lever unlock jigs into the red groove of the blank panel's rear levers (①) and while pushing the lever unlock jigs, open the rear levers outward to unlock.



2. While the rear levers are opened, remove the blank panel.

Notes

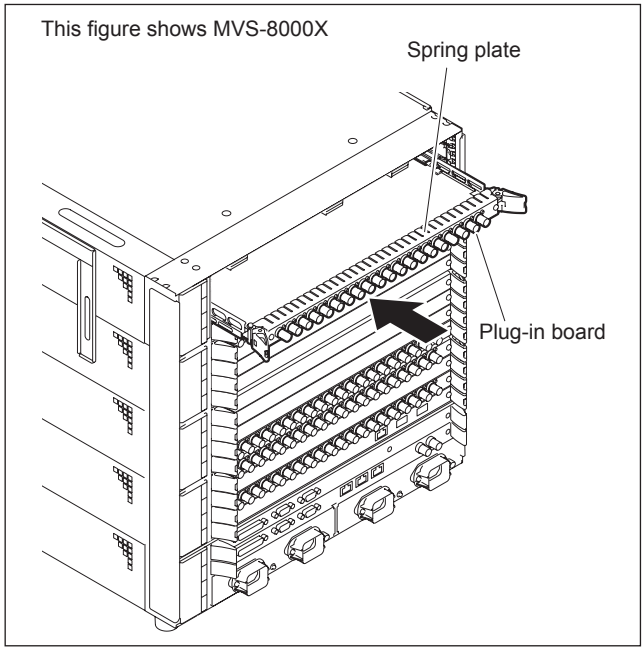
- Store the removed blank panel in a safe place.
- In case there is a blank panel consecutive in steps above (in a unit), remove these blank panel too.



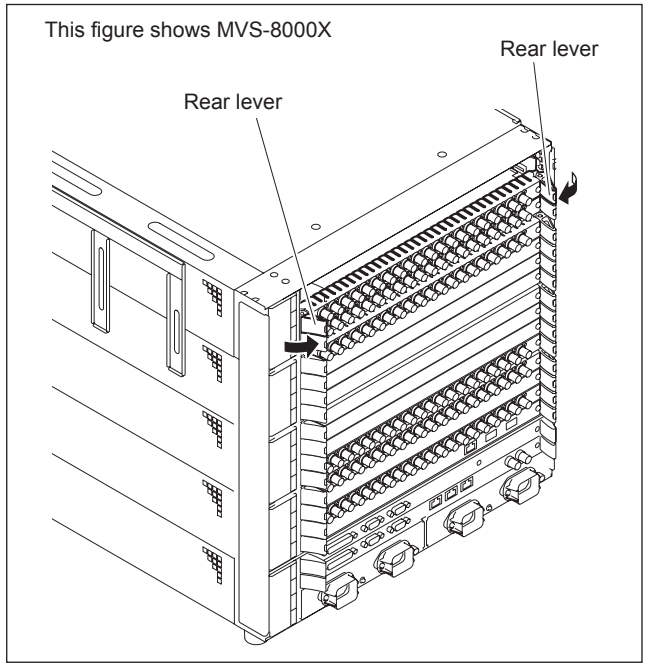
3. While the rear levers are opened as shown in the illustration, insert the plug-in board into the board guide rail.

Note

Insert making sure the board's upper and lower spring plates do not catch on the board.



4. Push the rear levers inward until a click sound is made and they are locked.



MVS-8000X Option List

Name of option	Name of board	Slot on the rear side
MKS-8110X	CNI-37 board	6, 7, 8, 9, 10, 11
MKS-8160X	CNO-38 board	14
MKS-8170X	CNI-37 board	1
	CNO-37 board	2
MKS-8180X	CNI-37 board	3
MKS-8440X	CN-3235 board	16

MVS-7000X Option List

Name of option	Name of board	Slot on the rear side
MKS-7171X	CNO-37 board	3
MKS-8110X	CNI-37 board	2, 6, 7, 8
MKS-8160X	CNO-38 board	10
MKS-8440X	CN-3235 board	12

5. Install the blank panel removed once in the slot on one step.

1-4-3. Installing the HK-PSU05

The HK-PSU05 is used after it is installed in the MVS-8000X or the MVS-7000X.

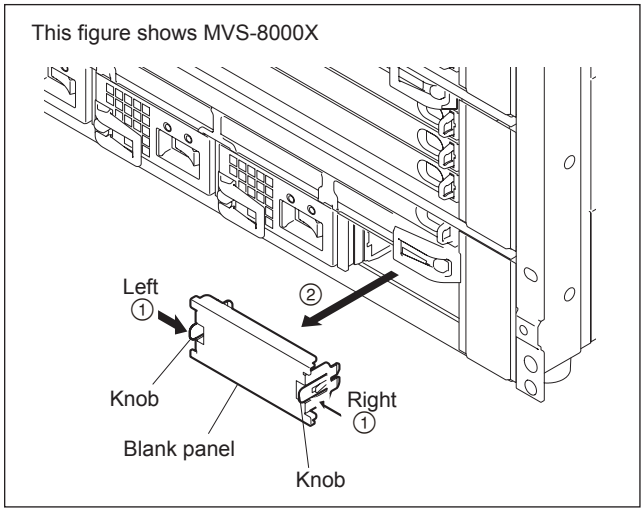
Note

Before installing the HK-PSU05, be sure to turn off the main power. If the HK-PSU05 is installed while the main power is turned on, it can result in electrical shock or damage to printed circuit boards.

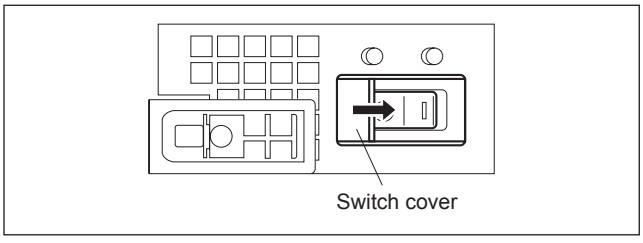
Installation procedure

1. Remove the front panel of the MVS-8000X/MVS-7000X.
   (Refer to Section 1-4-1.)

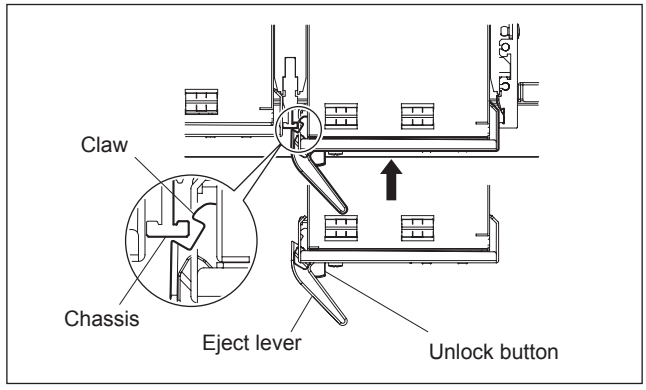
2. While pushing either of blank panel's knobs toward the (①) position, remove by pulling toward the (②) position.



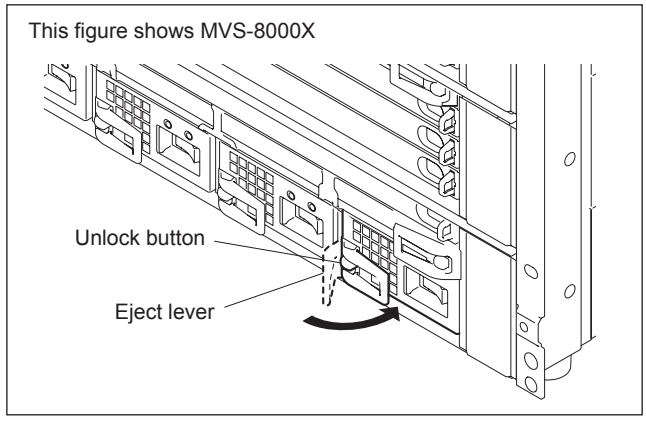
3. Turn OFF the power switch and close the switch cover by sliding it right. If the switch is ON, the switch cover will not slide and the unlock button cannot be pressed.



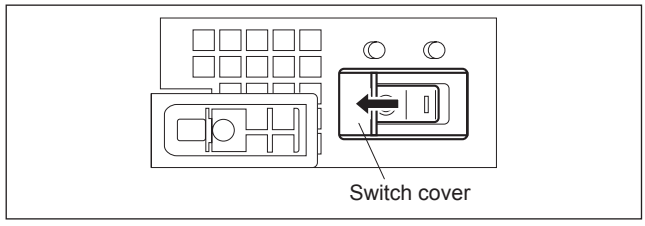
4. Push the unlock button, and open the eject lever.
5. Insert the HU-PSU05 into the slot, and push until the eject lever claws catch the chassis.



6. Push the unlock button, as shown in the illustration it is in the locked position.



7. Slide the switch cover left to open.



1-4-4. Installing the Software Options

For the installation procedure of the software options BZS-8200X/8420X/8560X/7200X/7420X/7500X/7510X/7520X/7530X/7540X/7541X/7560X/7561X, refer to the MVS-8000X/MVS-7000X System User's Guide.

1-5. Rack Mounting

The MVS-8000X/MVS-7000X is mounted in the 19-inch standard rack.

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 rack mount parts (supplied with MVS-8000X). 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.

WARNING

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.
- Hold the bottom of unit and mount in the rack in a stable position.

WARNING

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

1-5-1. MVS-8000X

To mount the MVS-8000X in the rack, use the rack mount parts (supplied with MVS-8000X) and follow the procedure described below.

Note

If other than the rack mount parts (supplied with MVS-8000X) is used, the unit may not be mounted in the 19-inch standard rack.

Using parts list (Accessory of the MVS-8000X)

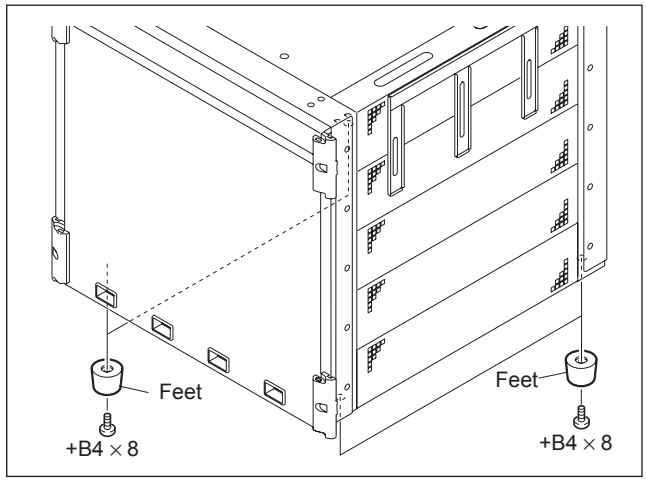
- Rack tool 2pcs
- Support angle 2pcs
- Bracket 4pcs
- Rack tool attaching screw (+B4 × 6 : 7-682-560-04) 6pcs
- Support angle attaching screw (+PSW4 × 10 : 7-682-962-01) 8pcs
- Bracket attaching screw (+B4 × 10 : 7-682-562-04) 8pcs

Other required parts

- Screw for rack mounting (+B5 × 12 : 7-682-576-09) 4pcs

Rack Mounting Procedure

1. Loosen the four screws (+B4 × 8) and remove the four feet.

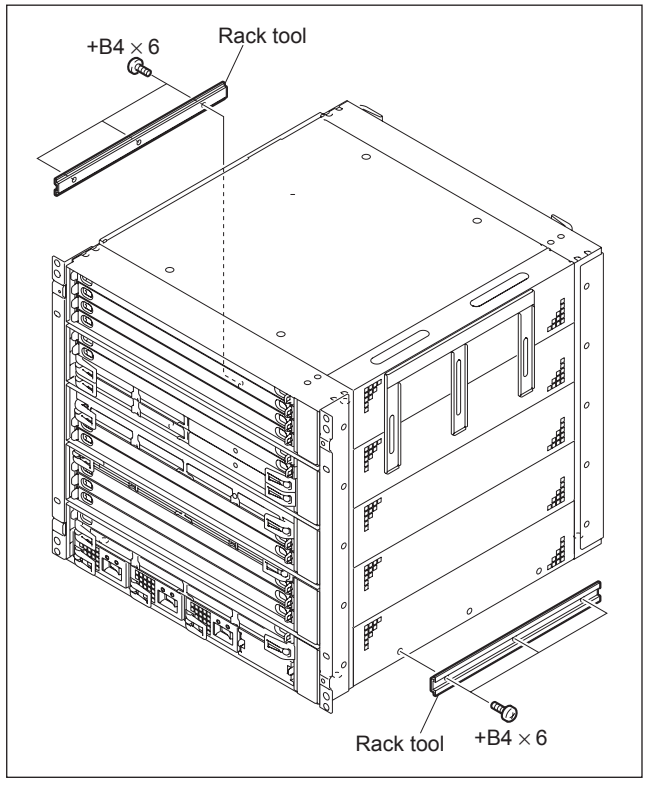


2. Remove the front panel of the equipment. (Refer to Section 1-4-1.)
3. Attach the rack tool to the side of the equipment using the specified six screws.

Note

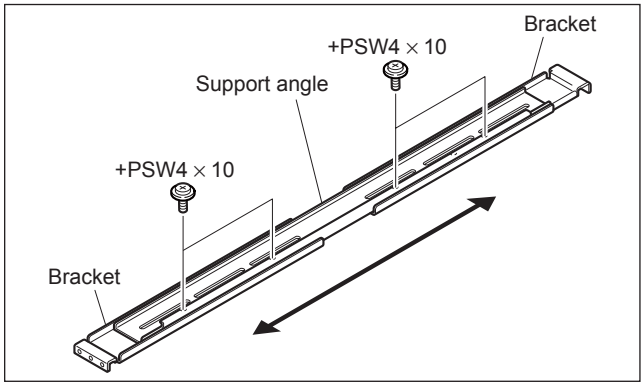
Use +B4 × 6 screws. Tighten the screws to the following torque.

Tightening torque : 120 × 10^{-2} N•m {12.2 kgf • cm}



4 Attach the bracket to the support angle by inserting the specified four screws and loosely tightening.

5. Loosen the screws on the rear of the right and left adapters and adjust the length of the adapter accordin to the depth of the rack.

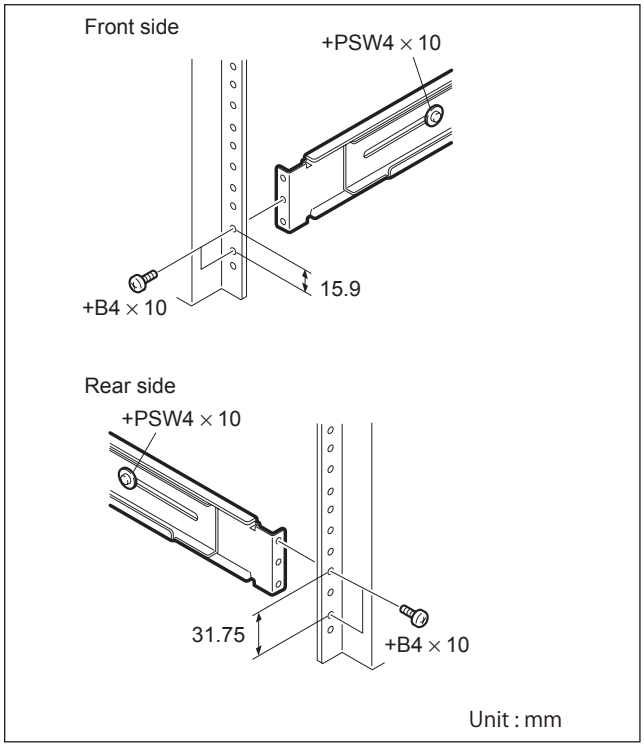


Note

Maximum depth of bracket : 750 mm
Minimum depth of bracket : 545 mm

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

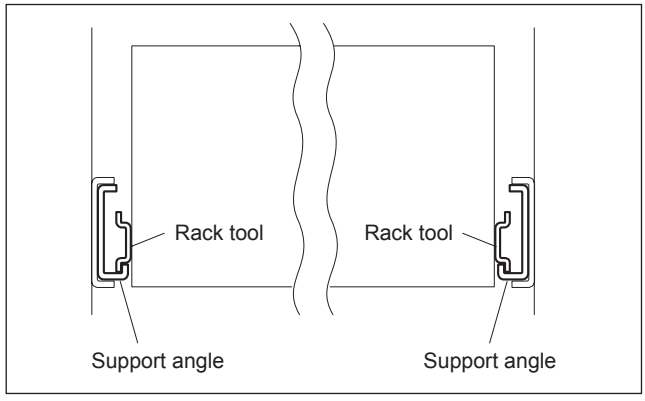
7. Tighten the screws (+PSW4 × 10 : four screws each on the right and left) for adjusting the length of the adapter completely (the screws that were loosened in step 5).



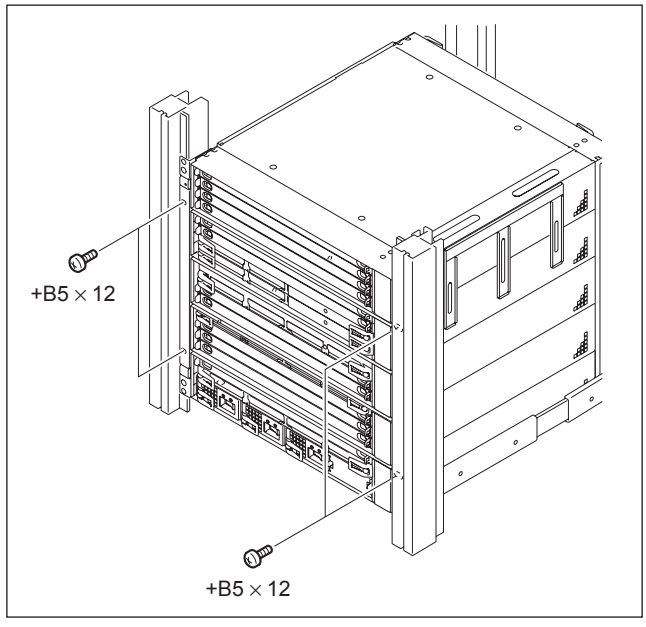
8. Align the groove of the rack tool at the side of the equipment with the rail, and slide the equipment to the rear.

Note

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



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



10. Attach the front panel to the equipment.
(Refer to Section 1-4-1.)

1-5-2. MVS-7000X

To mount the MVS-7000X 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.

Part of the RMM-10

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

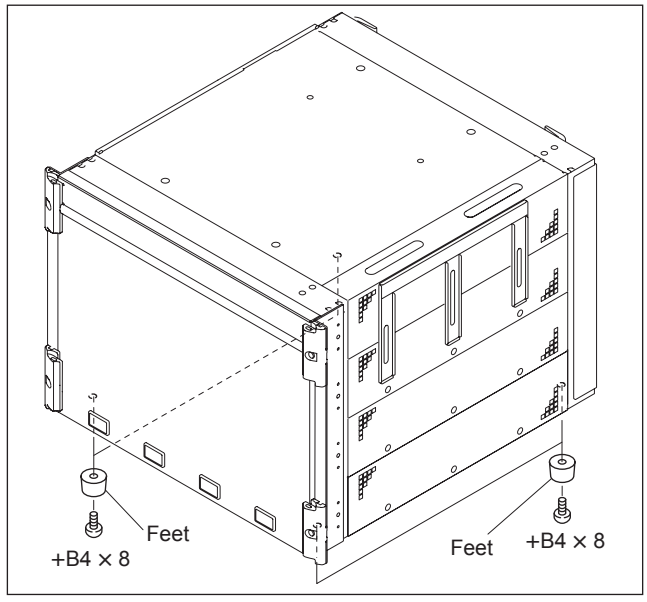
Other requlred parts

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

- Screw for rack mounting (+B5 × 12: 7-682-576-09) 4 pcs

Rack Mounting Procedure

1. Loosen the four screws (+B4 × 8) and remove the four feet.

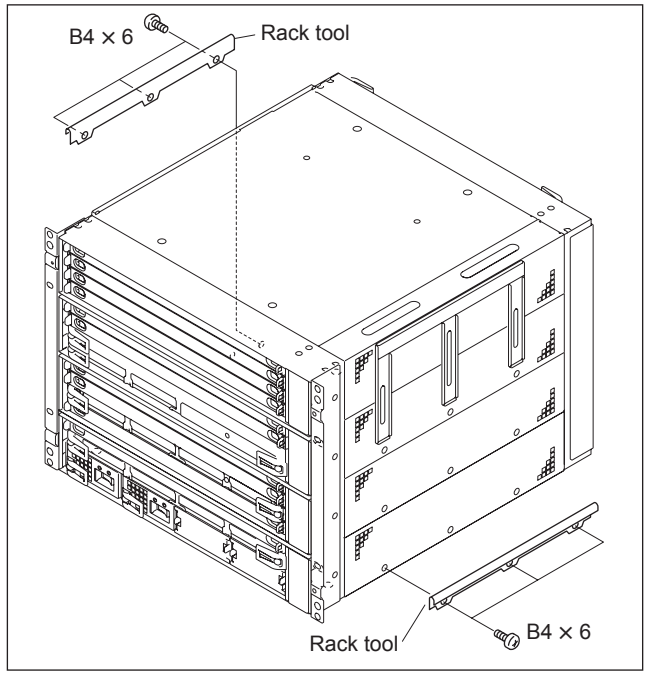


2. Remove the front panel of the equipment. (Refer to Section 1-4-1.)
3. Attach the rack tool to the side of the equipment using the specified six screws.

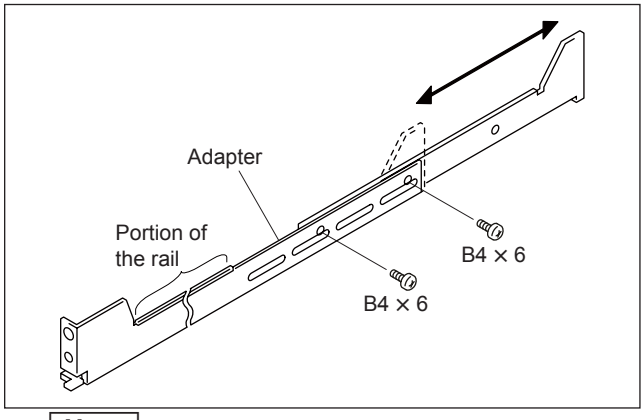
   Note

   Use +B4 × 6 screws. Tighten the screws to the following torque.

   Tightening torque: 120×10^{-2} N•m {12.2 kgf•cm}



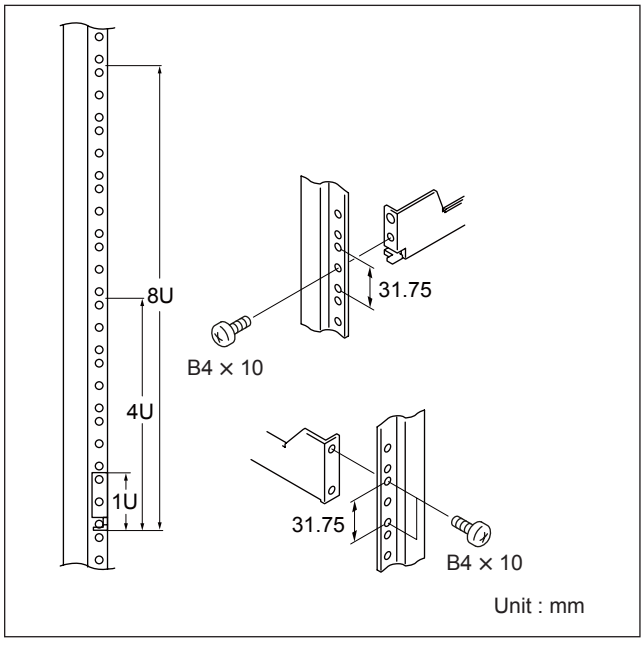
4. Loosen the screws on the rear of the right and left adapters and adjust the length of the adapter according to the depth of the rack.
(The figure bellow shows the left adapter.)



Note

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

5. Attach the right and left adapters to the rack completely using the specified six screws.
(The figure bellow shows the left adapter.)

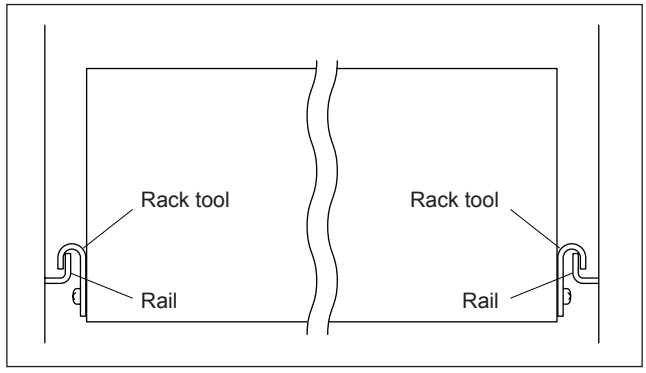


6. Tighten the screws (B4 × 6: two screws each on the right and left) for adjusting the length of the adapter completely (the screws that were loosened in step 4).

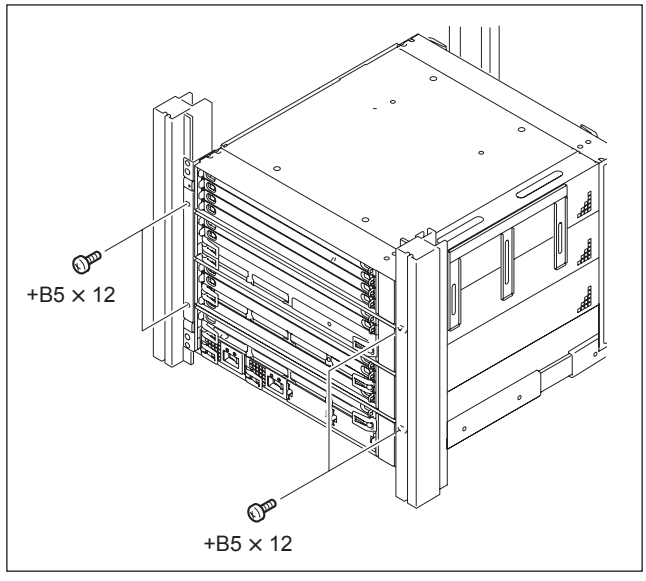
7. Align the groove of the rack tool at the side of the equipment with the rail, and slide the equipment to the rear.

Note

The rack tools 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 the equipment.
(Refer to Section 1-4-1.)

1-6. Matching Connectors

1-6-1. MVS-8000X

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 part No.
MKS-8160X	OUTPUTS 25 to 44	BNC, 75 Ω	Belden 1694 coaxial cable	–
MKS-8170X	DME OUTPUTS 1 to 20 DME INPUTS 1 to 20			
MKS-8180X	PREMIUM INPUTS 1 to 20			
MKS-8110X	PRIMARY INPUTS 21 to 40 41 to 60 61 to 80 81 to 100 101 to 120 121 to 140			
MVS-8000X	OUTPUTS 1 to 24 45 to 48 PRIMARY INPUTS 1 to 20 141 to 144 ME1 to ME4, PP 1 to 4 FC1 IN 1 to 8 FC2 IN 9 to 16 FC OUT 1 to 4 MSD1, 2 1, 2 REF IN	BNC, 75 Ω	Belden 1694 coaxial cable	–
	REMOTE 1 to 4	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
	GPI D-sub 25-pin, Female 1, 2	D-sub 25-pin, Male	D-sub 25-pin, Male Connector 25-pin, Male Junction Shell 25-pin	 1-560-904-11*1 1-563-377-11
	NETWORK A(CTRL) NETWORK B(DATA) NETWORK C *3 FM DATA	RJ-45 Modular Jack *2	–	–
	FM DEVICE 1, 2	USB TypeA 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 or 1000BASE-T standards.
∗3: NETWORK C is not supported.

1-6-2. MVS-7000X

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 part No.
MKS-8160X MKS-7171X MKS-8110X	OUTPUTS 25 to 44 DME OUTPUTS 1 to 20 DME INPUTS 1 to 20	BNC, 75 Ω	Belden 1694 coaxial cable	–
MVS-7000X	OUTPUTS 1 to 24 45 to 48 PRIMARY INPUTS 1 to 20 FC OUT 1 to 4 MSD1, 2 1, 2 REF IN	BNC, 75 Ω	Belden 1694 coaxial cable	–
	REMOTE 1 to 4	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
	GPI D-sub 25-pin, Female 1, 2	D-sub 25-pin, Male	D-sub 25-pin, Male Connector 25-pin, Male Junction Shell 25-pin	 1-560-904-11*1 1-563-377-11
	NETWORK A(CTRL) NETWORK B(DATA) FM DATA	RJ-45 Modular Jack *2	–	–
	FM DEVICE 1, 2	USB TypeA Receptacle 4-pin	–	–

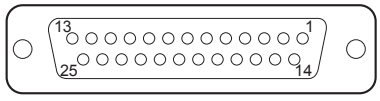
∗1: The following crimp contact is required for the plug.
AWG#18 to #22 : 1-566-493-21
AWG#22 to #24 : 1-564-774-11
AWG#24 to #30 : 1-564-775-11

∗2: Conforms to the IEEE 802.3 Ethernet 100BASE-TX or 1000BASE-T standards.

1-7. Input/Output Signals of Connectors

The input/output signals of the connectors at the rear panel are as follows.

GPI 1, 2 * : (D-sub 25-pin, Female)
* GPI 2 is not supported
INPUT × 8, TTL
OUTPUT × 4, relay contacts 30 V/0.1 A (resistive load)
OUTPUT × 4, open collector 30 V rated voltage

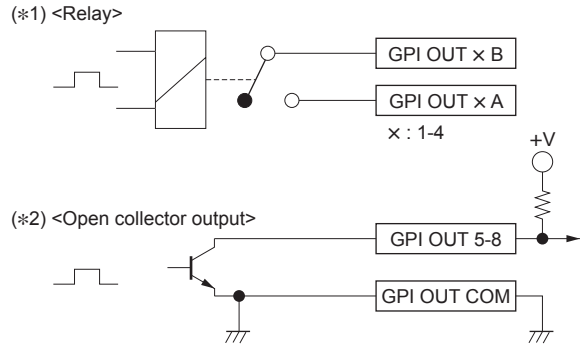


(External view)

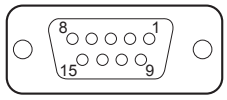
Pin No.	Signal Name	Function
1	GND	Ground
2	GND	Ground
3	GPI IN 2	General-purpose input
4	GPI IN 4	
5	GPI IN 6	
6	GPI IN 8	
7	GPI OUT 1B	General-purpose relay output (B) (*1)
8	GPI OUT 2B	
9	GPI OUT 3B	
10	GPI OUT 4B	
11	GPI OUT 6	General-purpose open collector output (*2)
12	GPI OUT 8	
13	GPI OUT COM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

Note

A and B of the same number constitute a pair of relay contacts.



REMOTE 1 to 4 : RS-422A (D-sub 9-pin, Female)
<DEVICE> (*3) from External Devices



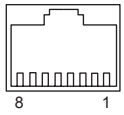
(External view)

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

(*3) <DEVICE> : The controlling device.

NETWORK A (CTRL)/NETWORK B (DATA)/NETWORK C (*4)/FM DATA:

100BASE-TX, 1000BASE-T, RJ-45 (8-pin)

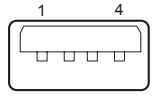


(External view)

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 (–)

(*4) : Installed only in MVS-8000X. Not supported.

FM DEVICE 1, 2 (*5) : 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

(*5) : FM DEVICE 2 is not supported. (Only FM DEVICE 1 is supported.)

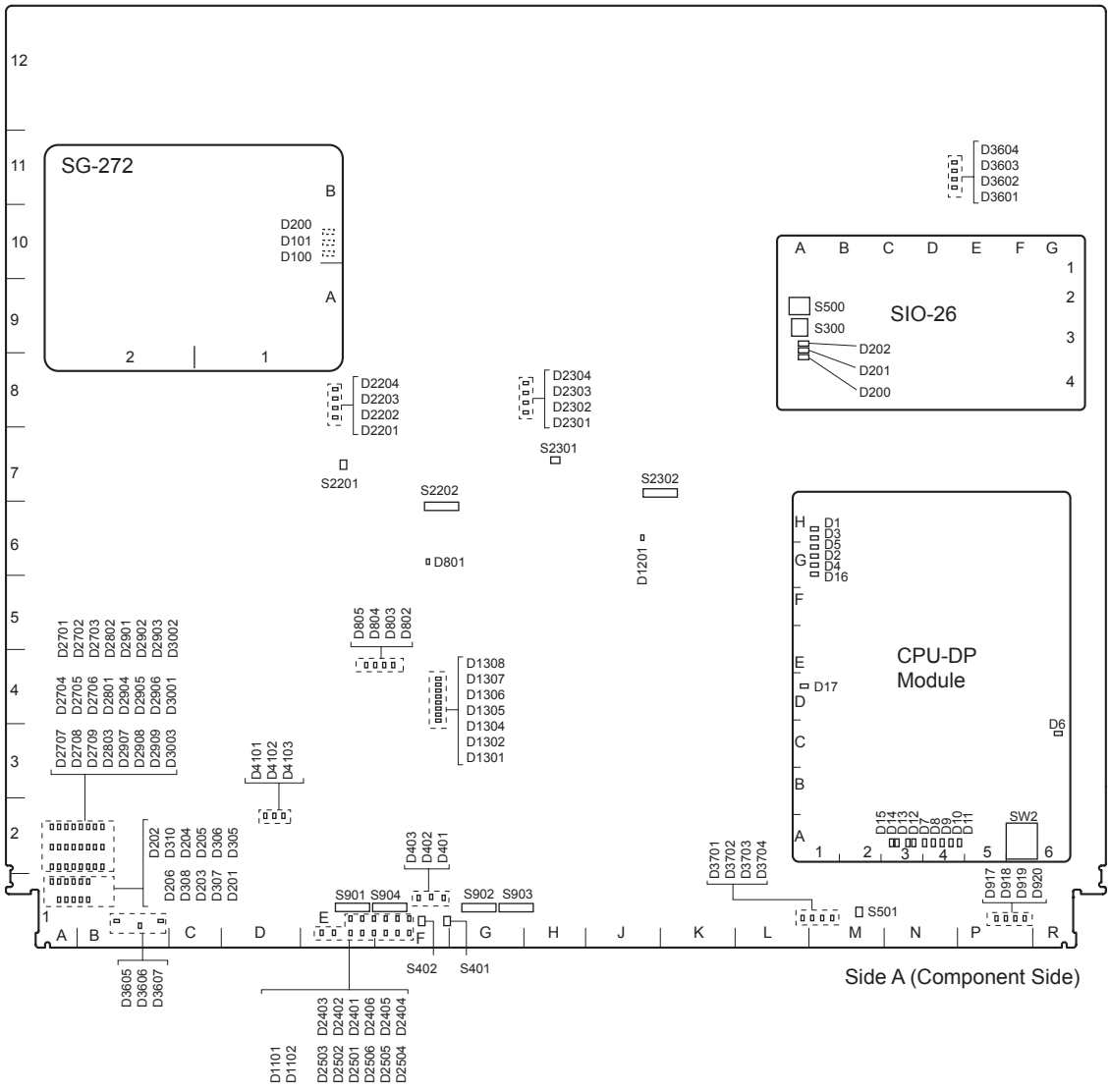
1-8. Checks on Completion of Installation

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

Note

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

1. CA-82 board



< LED >

D201 (B-1) : 1.0 V

+1.0 V power supply status indication.
Lights when the +1.0 V power is supplied.

D202 (A-1) : 12 V

+12 V power supply status indication.
Lights when the +12 V power is supplied. If this LED does not light, the fuse may have blown.

D203 (A-1) : 1.2 V-1
+1.2 V-1 power supply status indication.
Lights when the +1.2 V power is supplied.

D204 (A-1) : 3.3 V-1
+3.3 V-1 power supply status indication.
Lights when the +3.3 V power is supplied.

D206 (A-1) : 1.9 V
+1.9 V-1 power supply status indication.
Lights when the +1.9 V power is supplied.

D205 (A-1) : 3.3 V-2
+3.3 V-2 power supply status indication.
Lights when the +3.3 V power is supplied.

D305 (B-1) : 2.5 V-2
+2.5 V-2 power supply status indication.
Lights when the +2.5 V power is supplied.

D306 (B-1) : 2.5 V-1
+2.5 V-1 power supply status indication.
Lights when the +2.5 V power is supplied.

D308 (A-1) : 1.8 V
+1.8 V power supply status indication.
Lights when the +1.8 V power is supplied.

D310 (A-1) : 5 V
+5 V power supply status indication.
Lights when the +5 V power is supplied.

D307 (B-1) : 1.2 V-2
+1.2 V-2 power supply status indication.
Lights when the +1.2 V power is supplied.

D401 (F-1) : CA RESET B
The board reset status indication. Lights when the following occurs.
- When S401/S402 is pressed.
- When power is not properly supplied.
- When a reset request is made from software.
- When IC1/IC5 does not start up properly.

D402 (F-1) : CA RESET A
The board reset status indication. Lights when the following occurs.
- When S401/S402 is pressed.
- When +12 V, +3.3 V, or +1.2 V-1 power is not properly supplied.
- When a reset request is made from software.
- When IC1/IC5 does not start up properly

D403 (F-1) : SWER RESET
System reset status indication. Lights when the following occurs.
- When S402 is pressed.
- When +12 V, +3.3 V, or +1.2 V-1 power is not properly supplied.
- When a reset request is made from software.
- When IC1/IC5 does not start up properly

D801 (F-6) : IC1 ERR
Error status indication of IC1. Lights when the configuration error is occurred.

D802 to D804 (E-4, F-4) : IC1 STAT
IC1 error status indication.
Indicates the internal status. (For maintenance)

D917 to D920 (P-1), ND901 (N-1), ND902 (P-1) : CPU STATUS
CPU software status indication.

D1201 (J-6) : IC2 ERR
IC2 error status indication. Lights when the configuration error is occurred.

D1301 to D1308 (F-4) : IC2 STAT
IC2 error status indication.
Indicates the internal status. (For maintenance)

D1101 (E-1) : REF EXT
REF IN status indication.
Lights when REF signal is not input to the REF IN terminal. Turn off when identified the REF signal.

D1102 (E-1) : PLL LOCK
REF IN status indication.
Lights when the REF IN signal matches with the switcher format setup.

D2201 to D2204 (E-8) : NEP1 STAT
Internal status indication of external communication IC (NEP1).
Blinks in order D2201 to D2203 when start up normally, and D2204 is turned off.

D2301 to D2304 (H-8) : NEP2 STAT
Internal status indication of external communication IC (NEP2).
Blinks in order D2301 to D2303 when start up normally, and D2304 is turned off.

D2401 to D2406 (E-1, F-1) : EXT1
Communication status indication of NEP1. Each LED works as below.
- D2401 (10) : Lights when linked by 10base-T.
- D2402 (100) : Lights when linked by 100base-TX.
- D2403 (1000) : Lights when linked by 1000base-T.
- D2404 (DUP) : Lights when communicated by full-duplex.
- D2405 (RX) : Blinks when receiving the data.
- D2406 (TX) : Blinks when transmitting the data.

D2501 to D2506 (E-1, F-1) : EXT2
Communication status indication of NEP2. Each LED works as above.

D2707 to D2709, D2803, D2907 to D2909, D3003 (A-2, B-2) : LINK/ACT P0 to P7
Ethernet communication status indication for internal communications.
Lights when linked, and blinks when communicating.

D2704 to D2706, D2801, D2904 to D2906, D3001 (A-2, B-2) : 100 P0 to P7
Ethernet communication status indication for internal communications.
Lights when linked by 100base-TX.

D2701 to D2703, D2802, D2901 to D2903, D3002 (A-2, B-2) : 1000 P0 to P7
Ethernet communication status indication for internal communications.
Lights when 1000base-T link is established.
P0 to P7 indicate ports connected with other boards and are assigned as shown below.
- P0 : SLOT10
- P1 : SLOT16
- P2 : SLOT8
- P3 : SLOT1
- P4 : SLOT7
- P5 : SLOT4
- P6 : SLOT2
- P7 : reserved

D3601 to D3604 (N-11) : IC5 STAT
IC5 status indication.
Indicates the internal status. (For maintenance)

D3605 (B-1) : POWER
Power supply status indication.
Lights in green when all power supply on the board are normally. If the power supply has abnormality, turns off.

D3606 (B-1) : BECON
For future expansion.

D3607 (B-1) ; STATUS
For future expansion.

D3701 (L-1) : CF LED0
CF card controller status indication.
Lights or blinks when communicate with CF card.

D3702 (M-1) : CF LED2
CF card controller status indication. (Not used)

D3703 (M-1) : CF LED1
CF card controller status indication. (Not used)

D3704 (M-1) : CF DET
Lights when CF card is inserted.

D4101 to D4103 (D-2) : DB0 ETHER
Ethernet communication status indication for maintenance.
- D4101 (100) : Lights when linked by 100base-TX.
- D4102 (1000) : Lights when linked by 1000base-T.
- D4103 (LINK/ACT) : Lights when linked, and blinks when communicating.

< Switch >

S401 (F-1) : CA RESET
Reset the board.

S402 (F-1) : SWER RESET
Reset the all system, and restart.

S501 (M-1) : MON
Start up in monitor mode when press S401, S402 or power on while pressing this switch.

S901/S904 (E-1, F-1) : SETTING1, SETTING2
Sets the software mode.
Default setting when shipped from the factory is all OFF.

S902 (G-1) : GROUP ID
Sets the GROUP ID for connecting LAN. Do not change the setting.
In the default settings when shipped from the factory, bit 1 is set to ON and others are set to OFF.

S903 (G-1) : UNIT ID
Sets the UNIT ID for connecting LAN. Do not change the setting.
In the default settings when shipped from the factory, bit 1 is set to ON and others are set to OFF.

S2201 (E-7) : NEP1 RESET
Reset the NEP1.

S2202 (F-6) : NEP1 SET
Sets the start-up mode of NEP1.
In the default settings when shipped from the factory, bit 8 is set to ON and others are set to OFF.

S2301 (H-7) : NEP2 RESET
Reset the NEP2.

S2302 (J-7) : NEP2 SET
Sets the start-up mode of NEP2.
In the default settings when shipped from the factory, bit 8 is set to ON and others are set to OFF.

< LED on the CPU-DP Module >

D1 (L-6) : 3.3 V
Power supply status indication.
Lights when +3.3 V power is supplied to the regulator on CPU-DP module.

D2 (L-6) : 2.5 V
Power supply status indication.
Lights when +2.5 V power is supplied normally.

D3 (L-6) : 1.8 V_DDR
Power supply status indication.
Lights when +1.8 V power is supplied normally to the DDR2 on CPU-DP module.

D4 (L-6) : 1.2 V
Power supply status indication.
Lights when +1.2 V power is supplied normally.

D5 (L-6) : 1.1 V
Power supply status indication.
Lights when +1.1 V power is supplied normally.

D6 (R-4) : CD
Lights when the connector on CPU-DP module connected to the base board normally.

D7 (N-2) : RUN
Lights when complete the boot process normally of CPU-DP module.

D8 to D11 (N-2) : STATUS LED1 to 4
Internal status indication of CPU-DP module.
Controlled by software.

D12 (N-2) : GbE1
Lights when linked Ethernet 1 on CPU-DP module.
On this board, corresponds to Network C connection.

D13 (N-2) : GbE2
Lights when linked Ethernet 2 on CPU-DP module.
Not used on this board.

D14 (N-2) : SGMII1
Lights when linked SGMII 1 on CPU-DP module.
This board supports Ethernet connections for internal communications.

D15 (N-2) : SGMII2
Lights when linked SGMII 2 on CPU-DP module.
Not used on this board.

D16 (L-6) : 3.3 V_LV
Power supply status indication.
Lights when +3.3 V power is supplied normally.

D17 (L-4) : 1.8 V_PHY
Power supply status indication.
Lights when +1.8 V power is supplied normally to the PHY on CPU-DP module.

< Switch on the CPU-DP Module >

SW2 (P-2) : CPU-DP MODE
Sets the start-up mode of CPU-DP module.
Default setting when shipped from the factory is all OFF.

< LED on the SG-272 board >

D100 (B-1) : REF OK status LED
Lights when detected the V-sync of the reference input.

D101 (B-1) : REF EXT status LED
Lights when the synchronize signal input to the reference input.

D200 (B-1) : LOCK status LED
Lights when synchronized to the reference signal.

< LED on the SIO-26 board >

D200 (A-3) : Communication error indication
Lights when the communication error is occurred through the Editor port or the Serial Tally port.

D201 (A-3) : Communication status indication
Blinks when communicating through the Editor port.

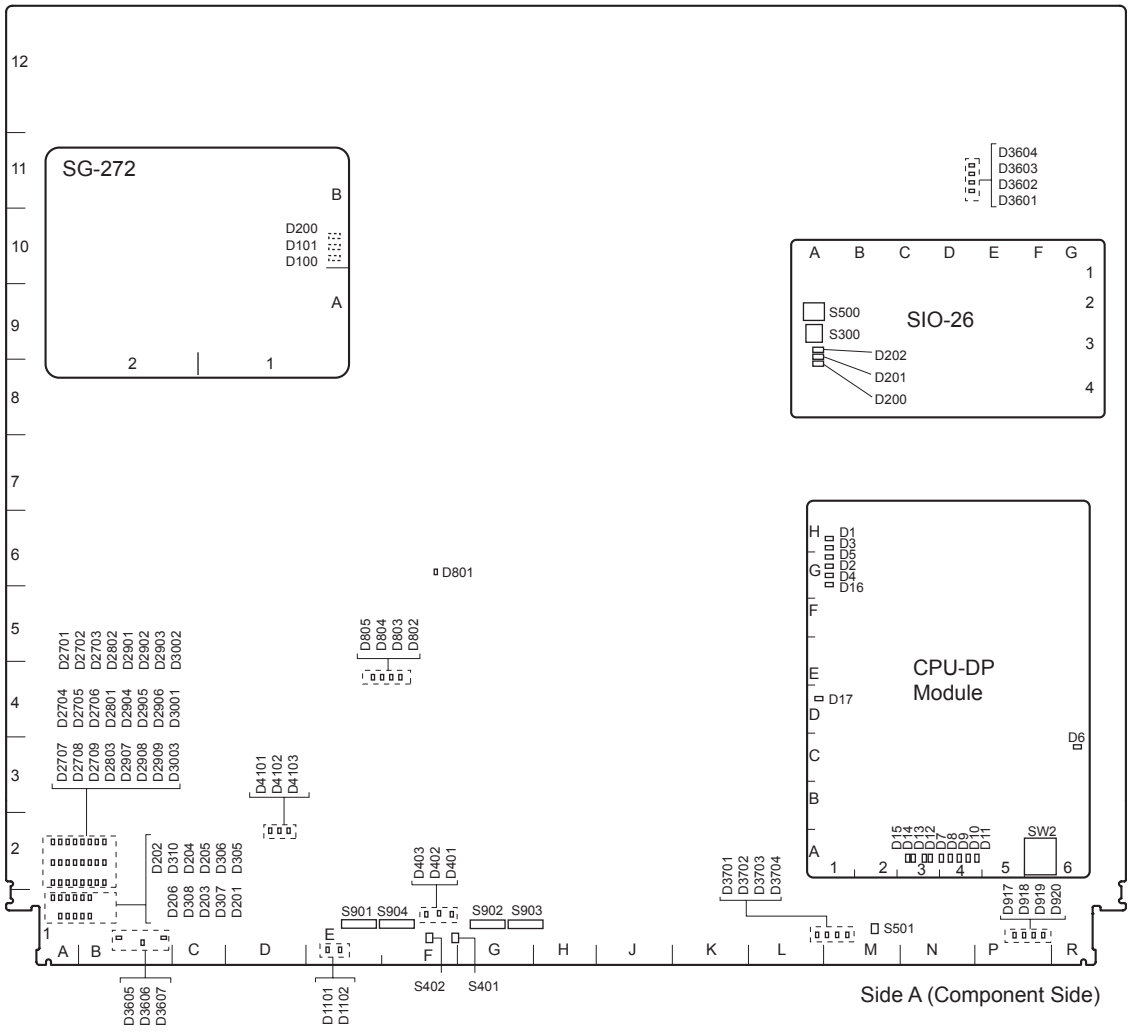
D202 (A-3) : Communication status indication
Blinks when communicating through the Serial Tally port.

< Switch on the SIO-26 board >

S300 (A-3) : Switch for production
Used only for production in the assembly factory. Do not change the setting.
Default setting when shipped from the factory is all OFF.

S500 (A-2) : Reset switch
Initializes the SIO-26 board.

2. CA-82A board



< LED >

D201 (B-1) : 1.0 V

+1.0 V power supply status indication.
Lights when the +1.0 V power is supplied.

D202 (A-1) : 12 V

+12 V power supply status indication.
Lights when the +12 V power is supplied. If this LED does not light, the fuse may have blown.

D203 (A-1) : 1.2 V-1

+1.2 V-1 power supply status indication.
Lights when the +1.2 V power is supplied.

D204 (A-1) : 3.3 V-1

+3.3 V-1 power supply status indication.
Lights when the +3.3 V power is supplied.

D206 (A-1) : 1.9 V

+1.9 V-1 power supply status indication.
Lights when the +1.9 V power is supplied.

D205 (A-1) : 3.3 V-2

+3.3 V-2 power supply status indication.
Lights when the +3.3 V power is supplied.

D305 (B-1) : 2.5 V-2

+2.5 V-2 power supply status indication.
Lights when the +2.5 V power is supplied.

D306 (B-1) : 2.5 V-1
+2.5 V-1 power supply status indication.
Lights when the +2.5 V power is supplied.

D308 (A-1) : 1.8 V
+1.8 V power supply status indication.
Lights when the +1.8 V power is supplied.

D310 (A-1) : 5 V
+5 V power supply status indication.
Lights when the +5 V power is supplied.

D307 (B-1) : 1.2 V-2
+1.2 V-2 power supply status indication.
Lights when the +1.2 V power is supplied.

D401 (F-1) : CA RESET B
The board reset status indication. Lights when the following occurs.
- When S401/S402 is pressed.
- When power is not properly supplied.
- When a reset request is made from software.
- When IC1/IC5 does not start up properly.

D402 (F-1) : CA RESET A
The board reset status indication. Lights when the following occurs.
- When S401/S402 is pressed.
- When +12 V, +3.3 V, or +1.2 V-1 power is not properly supplied.
- When a reset request is made from software.
- When IC1/IC5 does not start up properly

D403 (F-1) : SWER RESET
System reset status indication. Lights when the following occurs.
- When S402 is pressed.
- When +12 V, +3.3 V, or +1.2 V-1 power is not properly supplied.
- When a reset request is made from software.
- When IC1/IC5 does not start up properly

D801 (F-6) : IC1 ERR
Error status indication of IC1. Lights when the configuration error is occurred.

D802 to D804 (E-4, F-4) : IC1 STAT
IC1 error status indication.
Indicates the internal status. (For maintenance)

D917 to D920 (P-1), ND901 (N-1), ND902 (P-1) : CPU STATUS
CPU software status indication.

D1101 (E-1) : REF EXT
REF IN status indication.
Lights when REF signal is not input to the REF IN terminal. Turn off when identified the REF signal.

D1102 (E-1) : PLL LOCK
REF IN status indication.
Lights when the REF IN signal matches with the switcher format setup.

D2707 to D2709, D2803, D2907 to D2909, D3003 (A-2, B-2) : LINK/ACT P0 to P7
Ethernet communication status indication for internal communications.
Lights when linked, and blinks when communicating.

D2704 to D2706, D2801, D2904 to D2906, D3001 (A-2, B-2) : 100 P0 to P7
Ethernet communication status indication for internal communications.
Lights when linked by 100base-TX.

D2701 to D2703, D2802, D2901 to D2903, D3002 (A-2, B-2) : 1000 P0 to P7
Ethernet communication status indication for internal communications.
Lights when 1000base-T link is established.
P0 to P7 indicate ports connected with other boards and are assigned as shown below.
- P0 : SLOT10
- P1 : SLOT16
- P2 : SLOT8
- P3 : SLOT1
- P4 : SLOT7
- P5 : SLOT4
- P6 : SLOT2
- P7 : reserved

D3601 to D3604 (N-11) : IC5 STAT
IC5 status indication.
Indicates the internal status. (For maintenance)

D3605 (B-1) : POWER
Power supply status indication.
Lights in green when all power supply on the board are normally. If the power supply has abnormality, turns off.

D3606 (B-1) : BECON
For future expansion.

D3607 (B-1) ; STATUS
For future expansion.

D3701 (L-1) : CF LED0
CF card controller status indication.
Lights or blinks when communicate with CF card.

D3702 (M-1) : CF LED2
CF card controller status indication. (Not used)

D3703 (M-1) : CF LED1
CF card controller status indication. (Not used)

D3704 (M-1) : CF DET
Lights when CF card is inserted.

D4101 to D4103 (D-2) : DB0 ETHER
Ethernet communication status indication for maintenance.
- D4101 (100) : Lights when linked by 100base-TX.
- D4102 (1000) : Lights when linked by 1000base-T.
- D4103 (LINK/ACT) : Lights when linked, and blinks when communicating.

< Switch >

S401 (F-1) : CA RESET
Reset the board.

S402 (F-1) : SWER RESET
Reset the all system, and restart.

S501 (M-1) : MON
Start up in monitor mode when press S401, S402 or power on while pressing this switch.

S901/S904 (E-1, F-1) : SETTING1, SETTING2
Sets the software mode.
Default setting when shipped from the factory is all OFF.

S902 (G-1) : GROUP ID
Sets the GROUP ID for connecting LAN. Do not change the setting.
In the default settings when shipped from the factory, bit 1 is set to ON and others are set to OFF.

S903 (G-1) : UNIT ID
Sets the UNIT ID for connecting LAN. Do not change the setting.
In the default settings when shipped from the factory, bit 1 is set to ON and others are set to OFF.

< LED on the CPU-DP Module >

D1 (L-6) : 3.3 V
Power supply status indication.
Lights when +3.3 V power is supplied to the regulator on CPU-DP module.

D2 (L-6) : 2.5 V
Power supply status indication.
Lights when +2.5 V power is supplied normally.

D3 (L-6) : 1.8 V_DDR
Power supply status indication.
Lights when +1.8 V power is supplied normally to the DDR2 on CPU-DP module.

D4 (L-6) : 1.2 V
Power supply status indication.
Lights when +1.2 V power is supplied normally.

D5 (L-6) : 1.1 V
Power supply status indication.
Lights when +1.1 V power is supplied normally.

D6 (R-4) : CD
Lights when the connector on CPU-DP module connected to the base board normally.

D7 (N-2) : RUN
Lights when complete the boot process normally of CPU-DP module.

D8 to D11 (N-2) : STATUS LED1 to 4
Internal status indication of CPU-DP module.
Controlled by software.

D12 (N-2) : GbE1
Lights when linked Ethernet 1 on CPU-DP module.
On this board, corresponds to Network A connection.

D13 (N-2) : GbE2
Lights when linked Ethernet 2 on CPU-DP module.
On this board, corresponds to Network B connection.

D14 (N-2) : SGMII1
Lights when linked SGMII 1 on CPU-DP module.
This board supports Ethernet connections for internal communications.

D15 (N-2) : SGMII2
Lights when linked SGMII 2 on CPU-DP module.
Not used on this board.

D16 (L-6) : 3.3 V_LV
Power supply status indication.
Lights when +3.3 V power is supplied normally.

D17 (L-4) : 1.8 V_PHY
Power supply status indication.
Lights when +1.8 V power is supplied normally to the PHY on CPU-DP module.

< Switch on the CPU-DP Module >

SW2 (P-2) : CPU-DP MODE
Sets the start-up mode of CPU-DP module.
Default setting when shipped from the factory is all OFF.

< LED on the SG-272 board >

D100 (B-1) : REF OK status LED
Lights when detected the V-sync of the reference input.

D101 (B-1) : REF EXT status LED
Lights when the synchronize signal input to the reference input.

D200 (B-1) : LOCK status LED
Lights when synchronized to the reference signal.

< LED on the SIO-26 board >

D200 (A-3) : Communication error indication
Lights when the communication error is occurred through the Editor port or the Serial Tally port.

D201 (A-3) : Communication status indication
Blinks when communicating through the Editor port.

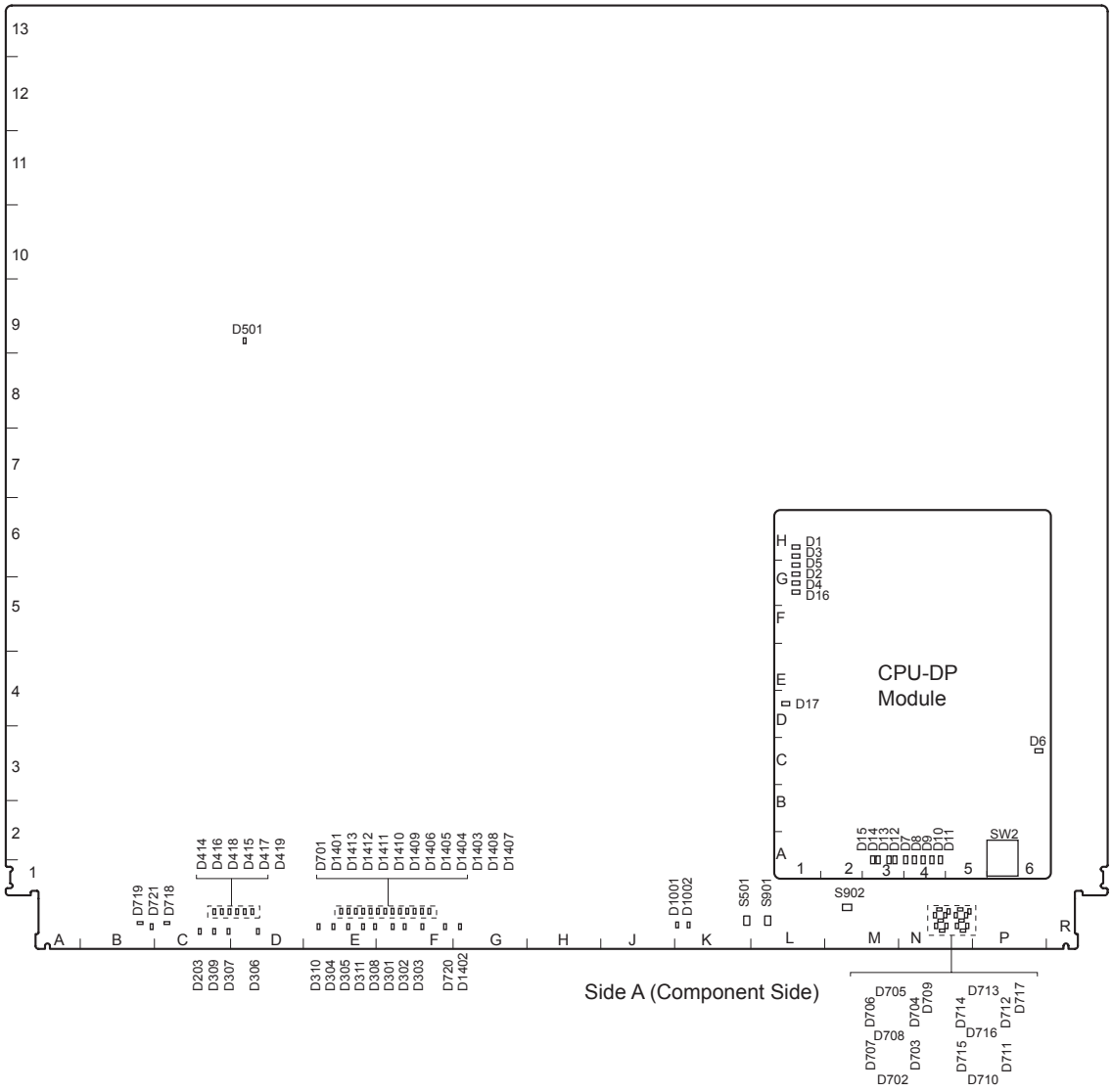
D202 (A-3) : Communication status indication
Blinks when communicating through the Serial Tally port.

< Switch on the SIO-26 board >

S300 (A-3) : Switch for production
Used only for production in the assembly factory. Do not change the setting.
Default setting when shipped from the factory is all OFF.

S500 (A-2) : Reset switch
Initializes the SIO-26 board.

3. MIX-53 Board



< LED >

D719 (B-1) : POWER
Power supply status indication.
Lights in green when all power supply on the board are normally.

D203 (C-1) : +12 V
+12 V power supply status indication.
Lights when the +12 V power is supplied. If this LED does not light, the fuse may have blown.

D301, D302, D303 (F-1) : +1.0 V-1, -2, -3
+1.0 V power supply status indication.
Lights when the +1.0 V power is supplied.

D304, D305, D311, D308 (E-1) : +1.1 V-1, -2, -3, -4
+1.1 V power supply status indication.
Lights when the +1.1 V power is supplied.

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

D307 (C-1) : +2.5 V
+2.5 V power supply status indication.
Lights when the +2.5 V power is supplied.

D309 (C-1) : +3.3 V
+3.3 V power supply status indication.
Lights when the +3.3 V power is supplied.

D310 (E-1) : +1.2 V
+1.2 V power supply status indication.
Lights when the +1.2 V power is supplied.

D414, D415 (C-1, D-1) : +1.0V-AVCC1, 2
+1.0 V analog power supply status indication.
Lights when the +1.0 V power is supplied.

D416 to D419 (C-1, D-1) : +1.2V-APLL1, 2, +1.2V-AVT1, 2
+1.2 V analog power supply status indication.
Lights when the +1.2 V power is supplied.

D501 (D-9) : CC_UNLOCK
Indicates lock/unlock of the clock conditioner.
If this LED lit, the clock conditioner can possibly be unlocked.

D701 (E-1) : CAD1
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA can possibly be working incorrectly.

D702 to D717 (N-1) : CPU status
CPU on the board status indication.

D718 (C-1) : STATUS
For future expansion.

D720 (F-1) : PLL UNLOCK
Indicates lock/unlock of the PLL (Phase Locked Loop) in the FPGA.
If this LED lit, the PLL can possibly be unlocked.

D721 (B-1) : BECON
For future expansion.

D1001 (K-1) : INET LINK
Lights when Ethernet 1 on CPU module links with CA board.

D1002 (K-1) : INET ACT
Ethernet 1 on CPU module links with CA board and blinks when data send or receive is in progress.

D1401 (E-1) : CAD2
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC21) can possibly be working incorrectly.

D1402 (G-1) : CONF ERR
Indicates the configuration error of the FPGA.
If this LED lit, any FPGA can possibly be working incorrectly.

D1403 (F-1) : WPG
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC10) can possibly be working incorrectly.

D1404 (F-1) : MIX
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC9) can possibly be working incorrectly.

D1405 (F-1) : K34
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC8) can possibly be working incorrectly.

D1406 (F-1) : K12
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC7) can possibly be working incorrectly.

D1407 (F-1) : R34
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC12) can possibly be working incorrectly.

D1408 (F-1) : R12
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC11) can possibly be working incorrectly.

D1409 (F-1) : SDI5
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC6) can possibly be working incorrectly.

D1410 (E-1) : SDI4
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC5) can possibly be working incorrectly.

D1411 (E-1) : SDI3
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC4) can possibly be working incorrectly.

D1412 (E-1) : SDI2
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC3) can possibly be working incorrectly.

D1413 (E-1) : SDI1
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC2) can possibly be working incorrectly.

< Switch >

S501 (K-1) : RST
Reset the MIX board. Pressing this switch initializes the MIX board.

S901 (L-1) : MON
For monitor switch used in maintaining through the terminal pin.

S902 (M-1) : CPU RESET
This is a reset switch used for design.

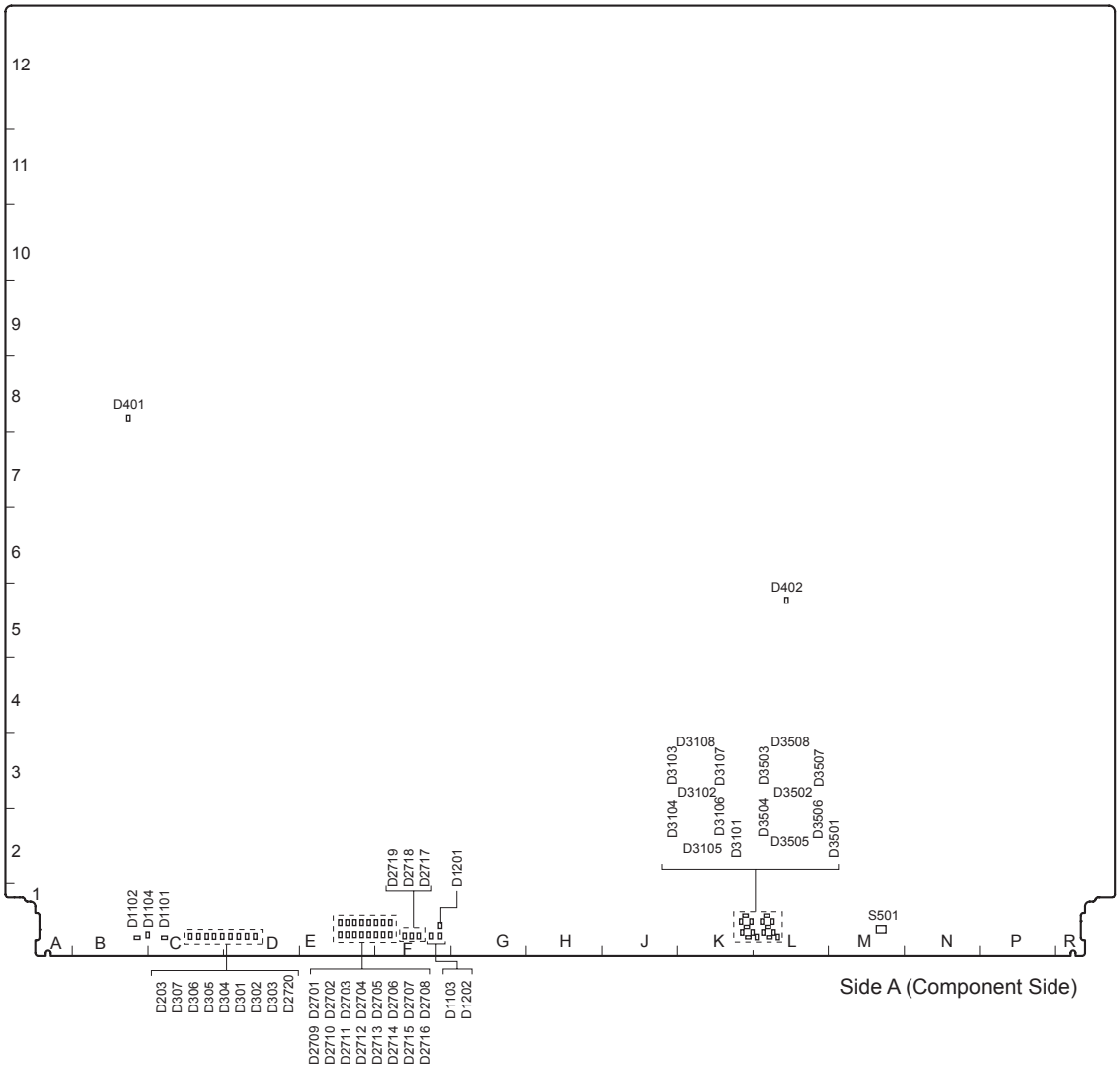
< LED on the CPU-DP Module >

Refer to < LED on the CPU-DP module > in “1. CA-82 board”.

< Switch on the CPU-DP Module >

Refer to < Switch on the CPU-DP module > in “1. CA-82 board”.

4. OUT-35 Board



< LED >

D203 (C-1) : +12 V
+12 V power supply status indication.
Lights when the +12 V power is supplied. If this LED does not light, the fuse may have blown.

D301, D302, D303 (D-1) : +1.0 V-1, -2, -3
+1.0 V power supply status indication.
Lights when the +1.0 V power is supplied.

D304 (D-1) : +1.2 V
+1.2 V power supply status indication.
Lights when the +1.2 V power is supplied.

D305 (C-1) : +1.8 V
+1.8 V power supply status indication.
Lights when the +1.8 V power is supplied.

D306 (C-1) : +2.5 V
+2.5 V power supply status indication.
Lights when the +2.5 V power is supplied.

D307 (C-1) : +3.3 V
+3.3 V power supply status indication.
Lights when the +3.3 V power is supplied.

D401 (B-8) : CC1_UNLOCK
Indicates lock/unlock of the clock conditioner for OUT, MSD, CCR.
If this LED lit, the clock conditioner can possibly be unlocked.

D402 (L-5) : CC2_UNLOCK
Indicates lock/unlock of the clock conditioner for FC OUT FPGA.
If this LED lit, the clock conditioner can possibly be unlocked.

D1101 (C-1) : STATUS
For future expansion.

D1102 (B-1) : POWER
Power supply status indication.
Lights in green when all power supply on the board are normally. If the power supply has abnormality, turns off.

D1103 (F-1) : PLL ULK
Indicates lock/unlock of the PLL (Phase Locked Loop) in the FPGA.
If this LED lit, the PLL can possibly be unlocked.

D1104 (B-1) : BECON
For future expansion.

D1201, D1202 (F-1) : CNF ERR
Indicates the configuration error of the FPGA.
If this LED lit, any FPGA can possibly be working incorrectly.

D2701 to D2708 (E-1, F-1) : +1.0V-AVCC1 to 8
+1.0 V analog power supply status indication.
Lights when the +1.0 V power is supplied.

D2709 to D2716 (E-1, F-1) : +1.2V-APLL1 to 8
+1.2 V analog power supply status indication.
Lights when the +1.2 V power is supplied.

D2717 to D2719 (F-1) : +1.2V-AVTTR, C, L
+1.2 V analog power supply status indication.
Lights when the +1.2 V power is supplied.

D2720 (D-1) : ALL_MGT_PWR
All analog power supplies (+1.0 V to +1.2V) status indication.
Lights when the all power (+1.0 V-AVCC1 to 8, +1.2 V-APLL1 to 8, +1.2 V-AVTTR, C, L) are supplied.

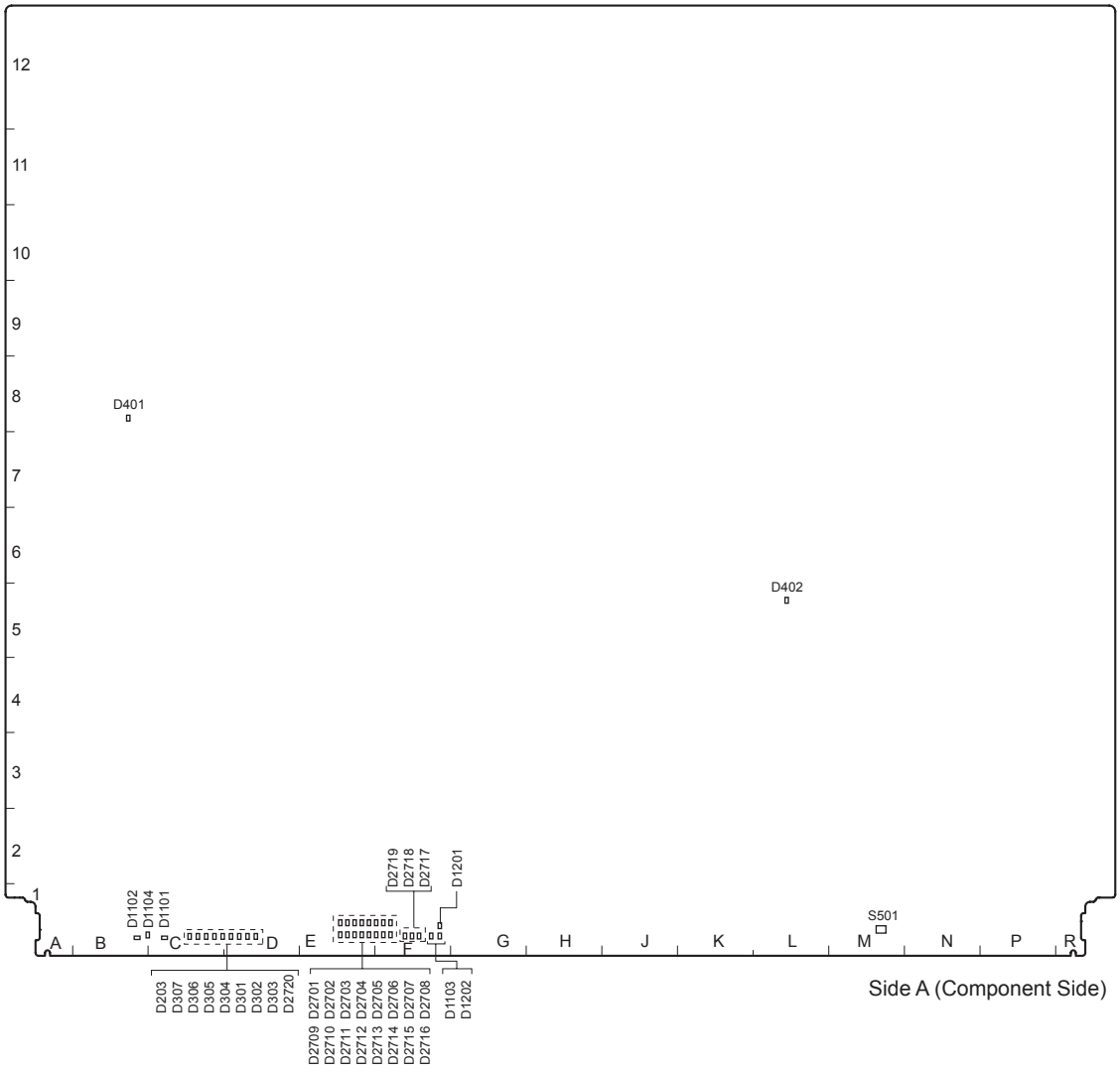
D3101 to D3108 (K1) : IMP1 DISP
CCR1 status indication.

D3501 to D3108 (L1) : IMP2 DISP
CCR2 status indication.

< Switch >

S501 (M-1) : RST
For design.

5. OUT-35A Board



< LED >

D203 (C-1) : +12 V
+12 V power supply status indication.
Lights when the +12 V power is supplied. If this LED does not light, the fuse may have blown.

D301, D302, D303 (D-1) : +1.0 V-1, -2, -3
+1.0 V power supply status indication.
Lights when the +1.0 V power is supplied.

D304 (D-1) : +1.2 V
+1.2 V power supply status indication.
Lights when the +1.2 V power is supplied.

D305 (C-1) : +1.8 V
+1.8 V power supply status indication.
Lights when the +1.8 V power is supplied.

D306 (C-1) : +2.5 V
+2.5 V power supply status indication.
Lights when the +2.5 V power is supplied.

D307 (C-1) : +3.3 V
+3.3 V power supply status indication.
Lights when the +3.3 V power is supplied.

D401 (B-8) : CC1_UNLOCK
Indicates lock/unlock of the clock conditioner for OUT, MSD, CCR.
If this LED lit, the clock conditioner can possibly be unlocked.

D402 (L-5) : CC2_UNLOCK
Indicates lock/unlock of the clock conditioner for FC OUT FPGA.
If this LED lit, the clock conditioner can possibly be unlocked.

D1101 (C-1) : STATUS
For future expansion.

D1102 (B-1) : POWER
Power supply status indication.
Lights in green when all power supply on the board are normally. If the power supply has abnormality, turns off.

D1103 (F-1) : PLL ULK
Indicates lock/unlock of the PLL (Phase Locked Loop) in the FPGA.
If this LED lit, the PLL can possibly be unlocked.

D1104 (B-1) : BECON
For future expansion.

D1201, D1202 (F-1) : CNF ERR
Indicates the configuration error of the FPGA.
If this LED lit, any FPGA can possibly be working incorrectly.

D2701 to D2708 (E-1, F-1) : +1.0V-AVCC1 to 8
+1.0 V analog power supply status indication.
Lights when the +1.0 V power is supplied.

D2709 to D2716 (E-1, F-1) : +1.2V-APLL1 to 8
+1.2 V analog power supply status indication.
Lights when the +1.2 V power is supplied.

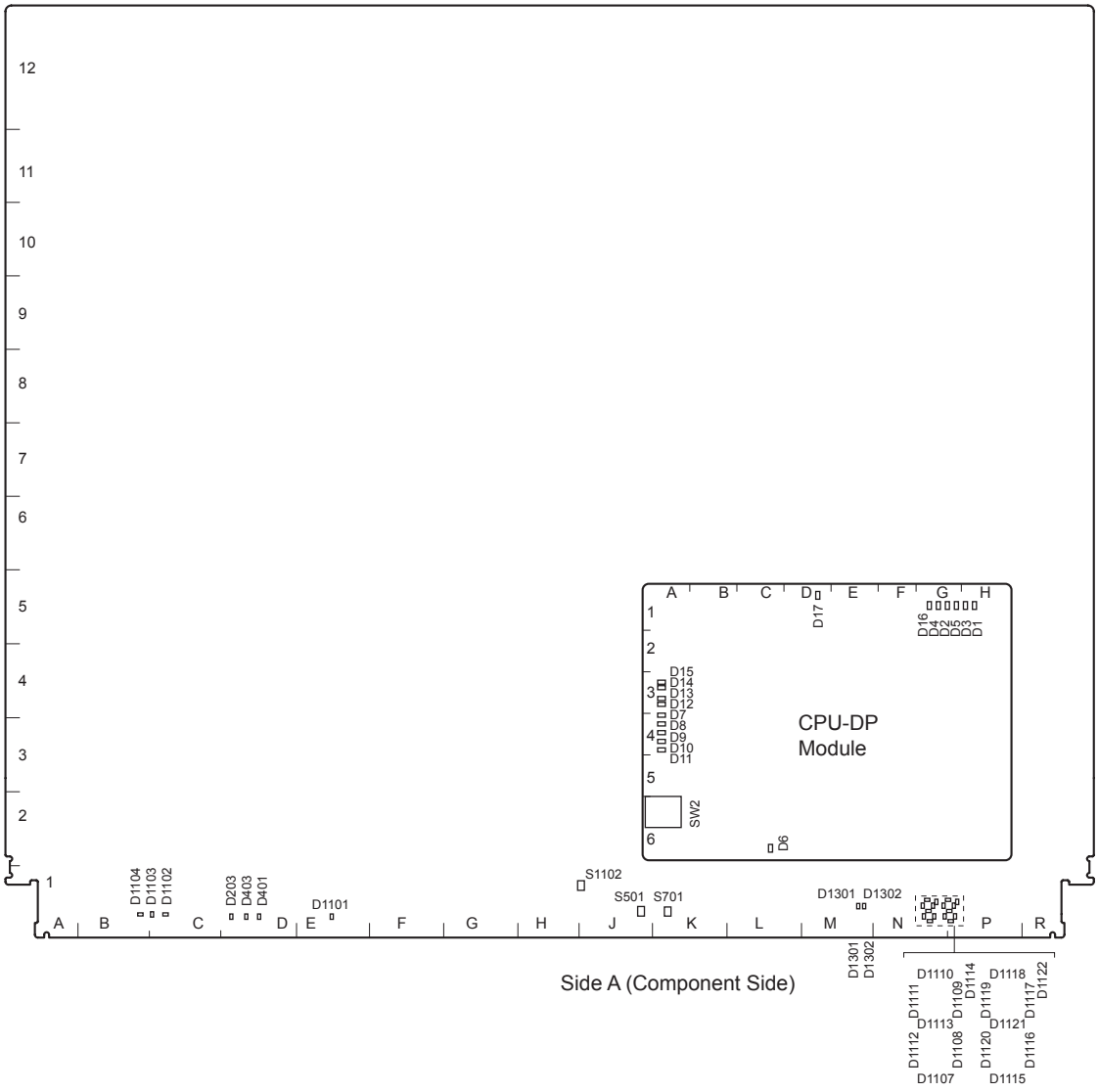
D2717 to D2719 (F-1) : +1.2V-AVTTR, C, L
+1.2 V analog power supply status indication.
Lights when the +1.2 V power is supplied.

D2720 (D-1) : ALL_MGT_PWR
All analog power supplies (+1.0 V to +1.2V) status indication.
Lights when the all power (+1.0 V-AVCC1 to 8, +1.2 V-APLL1 to 8, +1.2 V-AVTTR, C, L) are supplied.

< Switch >

S501 (M-1) : RST
For design.

6. XPT-31, XPT-31A Boards



< LED >

D203 (D-1) : 12 V

+12 V power supply status indication.
Lights when the +12 V power is supplied. If this LED does not light, the fuse may have blown.

D401 (D-1) : 1.2 V-2

+1.2 V-2 power supply status indication.
Lights when the +1.2 V power is supplied.

D403 (D-1) : 3.3 V

+3.3 V power supply status indication.
Lights when the +3.3 V power is supplied.

D1101 (E-1) : CONF ERR

Indicates the configuration error of the IC601.
If this LED lit, the IC601 can possibly be working incorrectly.

D1102 (C-1) : STATUS

For future expansion.

D1103 (C-1) : BECON

For future expansion.

D1104 (B-1) : POWER

Power supply status indication.
Lights in green when all power supply on the board are normally. If the power supply has abnormality, turns off.

D1107 to D1122 (N-1, P-1) : CPU status LED
CPU status indication.

D1301 (M-1) : INET LINK
Ethernet communication status indication for internal communications.
Lights when linked.

D1302 (M-1) : INET ACT
Ethernet communication status indication for internal communications.
Blinks when data receiving/transmitting.

< Switch >

S501 (J-1) : RST
Pressing this switch initializes the board.

S701 (K-1) : MON
The reset switch that is used to reset the monitor during maintenance through the terminal. (Valid only for the XPT-31 board)

S1102 (J-1) : CPU RESET
Pressing this switch initializes only the CPU on the circuit board. (Valid only for the XPT-31 board)

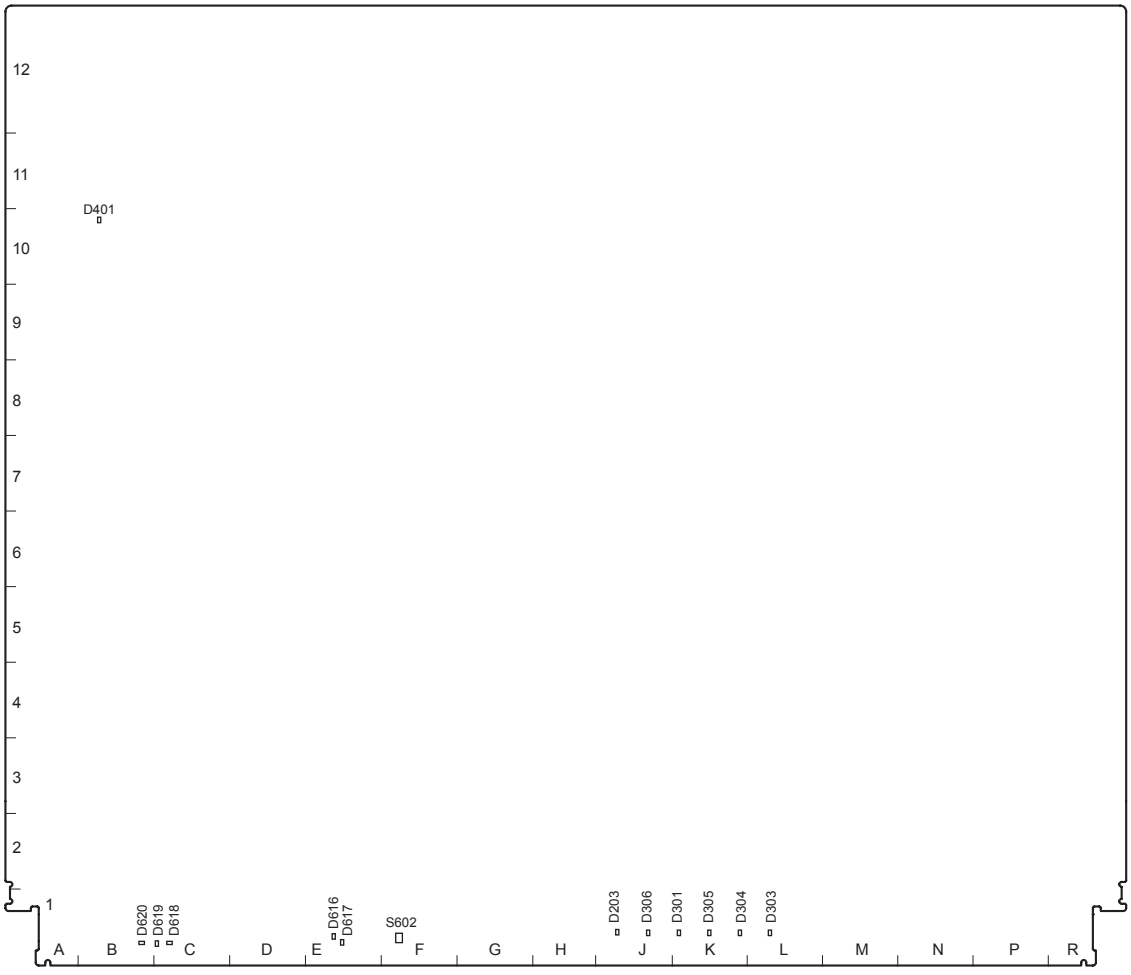
< LED on the CPU-DP Module >

Refer to < LED on the CPU-DP module > in “1. CA-82 board”.
(CPU-DP is installed only on the XPT-31 board.)

< Switch on the CPU-DP Module >

Refer to < Switch on the CPU-DP module > in “1. CA-82 board”.
(CPU-DP is installed only on the XPT-31 board.)

7. XPT-32 Board



< LED >

D203 (J-1) : 12 V
+12 V power supply status indication.
Lights when the +12 V power is supplied. If this LED does not light, the fuse may have blown.

D301 (K-1) : 2.5 V
+2.5 V power supply status indication.
Lights when the +2.5 V power is supplied.

D303 (L-1) : 1.0 V
+1.0 V power supply status indication.
Lights when the +1.0 V power is supplied.

D304 (K-1) : 1.2 V
+1.2 V power supply status indication.
Lights when the +1.2 V power is supplied.

D305 (K-1) : 1.8 V
+1.8 V power supply status indication.
Lights when the +1.8 V power is supplied.

D306 (J-1) : 3.3 V
+3.3 V power supply status indication.
Lights when the +3.3 V power is supplied.

D401 (B-10) : IC402 lock status indication
Indicates lock/unlock of the PLL (Phase Locked Loop) circuit in the IC402.
If this LED lit, the PLL circuit in the IC402 can possibly be unlocked.

D616 (E-1) : PLL UNLOCK
Indicates lock/unlock of the PLL (Phase Locked Loop) in the FPGA.
If this LED lit, the PLL can possibly be unlocked.

D617 (E-1) : CONF ERR
Indicates the configuration error of the FPGA.
If this LED lit, the IC401 or IC801 can possibly be working incorrectly.

D618 (C-1) : STATUS
For future expansion.

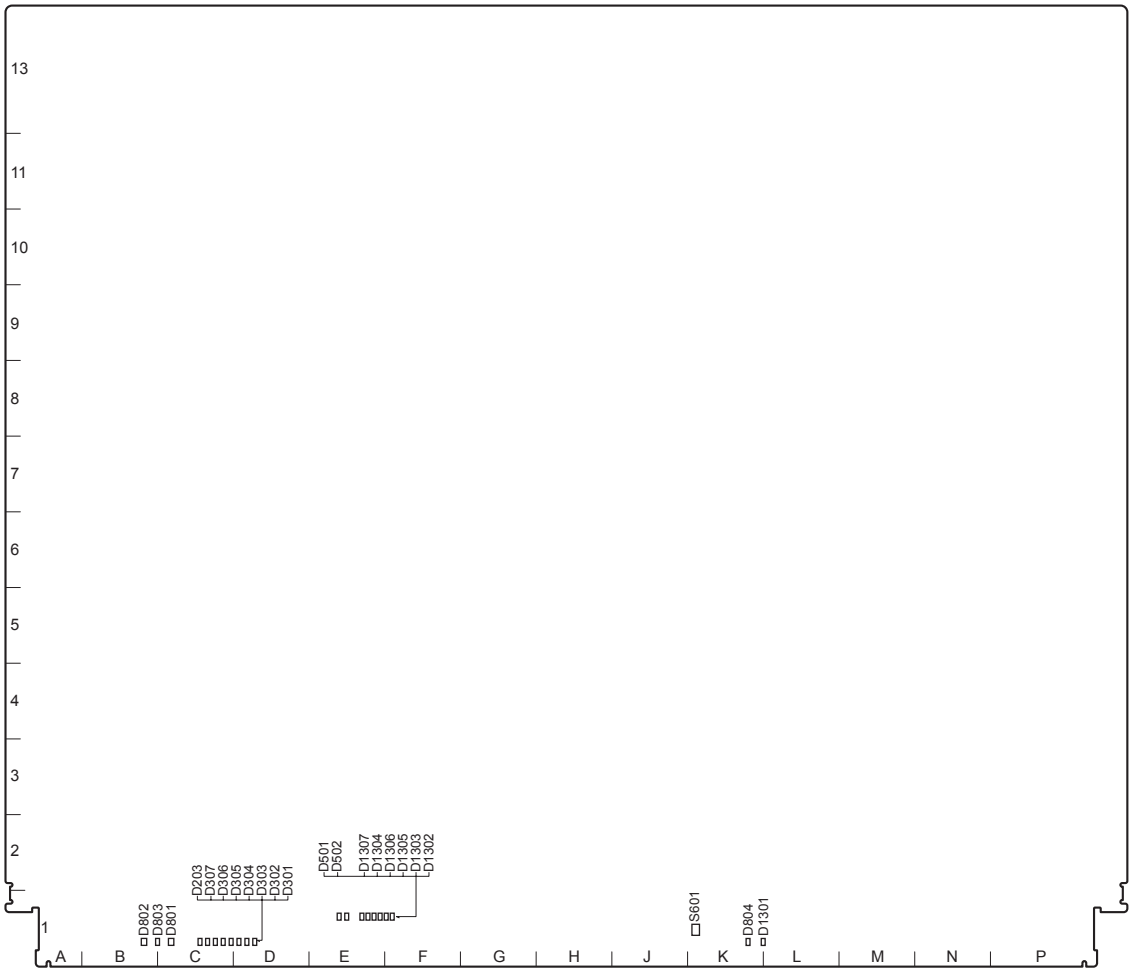
D619 (C-1) : BECON
For future expansion.

D620 (B-1) : POWER
Power supply status indication.
Lights in green when all power supply on the board are normally. If the power supply has abnormality, turns off.

< Switch >

S602 (F-1) : RST
Pressing this switch initializes the board.

8. FC-112 board



Side A (Component Side)

< LED >

D802 (B-1) : POWER
Power supply status indication.
Lights in green when all power supply on the board are normally.

D803 (B-1) : BECON
For future expansion.

D801 (C-1) : STATUS
For future expansion.

D203 (C-1) : +12 V
+12 V power supply status indication.
Lights when the +12 V power is supplied.
If this LED does not light, the fuse may have blown.

D307 (C-1) : +3.3 V
+3.3 V power supply status indication.
Lights when the +3.3 V power is supplied.

D305, D306 (C-1) : +2.5 V-1, -2
+2.5 V power supply status indication.
Lights when the +2.5 V power is supplied.

D304 (C-1) : +1.8 V
+1.8 V power supply status indication.
Lights when the +1.8 V power is supplied.

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

D301, D302 (D-1) : +1.0 V-1, -2
+1.0 V power supply status indication.
Lights when the +1.0 V power is supplied.

D804 (K-1) : PLL UNLOCK
Indicates lock/unlock of the PLL (Phase Locked Loop) in the FPGA.
If this LED lit, the PLL can possibly be unlocked.

D1301 (K-1) : CONF ERR
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA can possibly be working incorrectly.

D501 (E-1) : CC1_UNLOCK
Indicates lock/unlock of the clock conditioner 1.
If this LED lit, the clock conditioner 1 can possibly be unlocked.

D502 (E-1) : CC2_UNLOCK
Indicates lock/unlock of the clock conditioner 2.
If this LED lit, the clock conditioner 2 can possibly be unlocked.

D1307 (E-1) : SDI1
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC2) can possibly be working incorrectly.

D1304 (E-1) : SDI2
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC3) can possibly be working incorrectly.

D1306 (E-1) : FC1/2
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC4) can possibly be working incorrectly.

D1305 (E-1) : FC3/4
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC5) can possibly be working incorrectly.

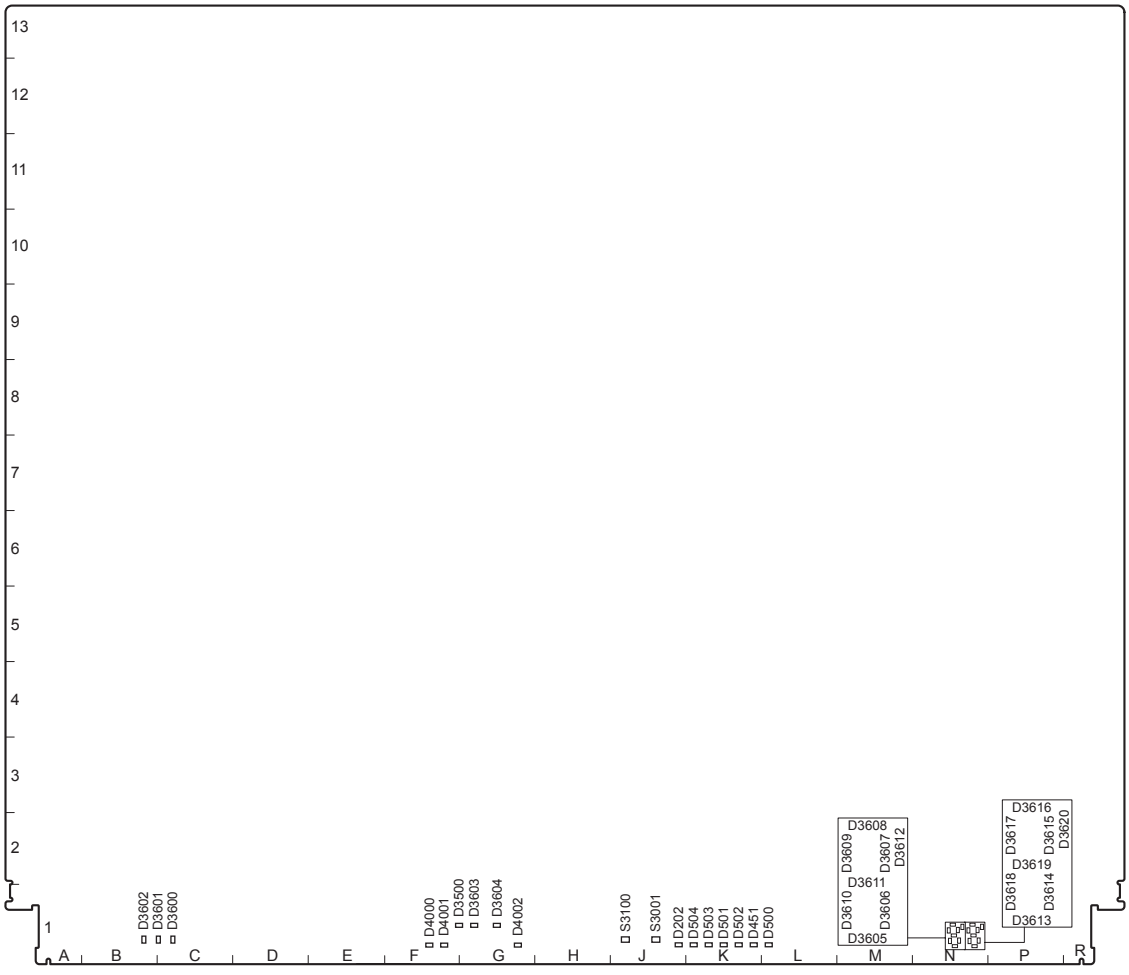
D1303 (F-1) : FC5/6
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC6) can possibly be working incorrectly.

D1302 (F-1) : FC7/8
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC7) can possibly be working incorrectly.

< Switch >

S601 (K-1) : RST
for design.

9. MY-118 board



Side A (Component Side)

< LED >

D3602 (B-1) : POWER
Power supply status indication.
Lights in green when all power supply on the board are normally.

D3601 (B-1) : BECON
For future expansion.

D3600 (C-1) : STATUS
For future expansion.

D202 (J-1) : +12 V
+12 V power supply status indication.
Lights when the +12 V power is supplied.
If this LED does not light, the fuse may have blown.

D504 (K-1) : +3.3 V
+3.3 V power supply status indication.
Lights when the +3.3 V power is supplied.

D503 (K-1) : +2.5 V
+2.5 V power supply status indication.
Lights when the +2.5 V power is supplied.

D501, D502 (K-1) : +1.8 V-1, -2
+1.8 V power supply status indication.
Lights when the +1.8 V power is supplied.

D451 (K-1) : +1.2 V-PLD
+1.2 V power supply status indication.
Lights when the +1.2 V power is supplied.

D500 (L-1) : +1.0 V
+1.0 V power supply status indication.
Lights when the +1.0 V power is supplied.

D3603 (G-1) : PLL UNLOCK
Indicates lock/unlock of the PLL (Phase Locked Loop) in the FPGA.
If this LED lit, the PLL can possibly be unlocked.

D3604 (G-1) : CONF ERR
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA can possibly be working incorrectly.

D4000 (F-1) : INET LINK
Lights when linked Ethernet 1 on CPU module with the CA board.

D4001 (F-1) : INET ACT
Blinks when linking Ethernet 1 on the CPU module with the CA board and receiving/transmitting the data.

D4002 (G-1) : EXT LINK/ACT
Lights when the FM DATA LAN linked, and blinks when communicating.

D3605 to D3620 (N-1) : CPU STATUS
Indicates CPU status on board.

D3500 (G-1) : CC_UNLOCK
Indicates lock/unlock of the clock conditioner.
If this LED lit, the clock conditioner can possibly be unlocked.

< Switch >
S3100 (J-1) : RST
This is reset switch for the MY board.
Pressing this switch initializes the CPU on the MY board.

S3001 (J-1) : MON
The switch that is used to reset the monitor during maintenance through the terminal.

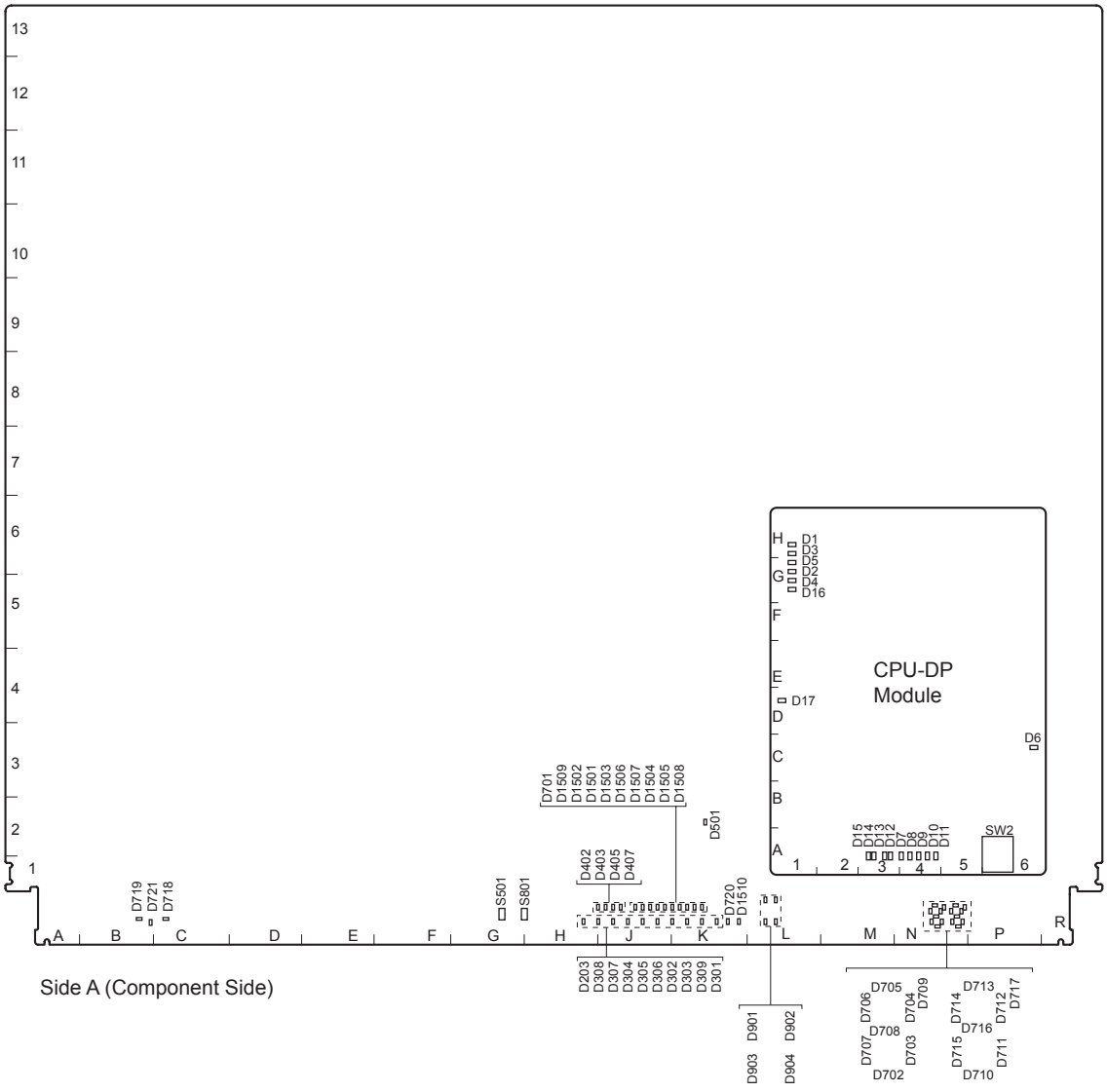
< LED on the CPU-DP Module >

Refer to < LED on the CPU-DP Module > in “1. CA-82 board”.

< Switch on the CPU-DP Module >

Refer to < Switch on the CPU-DP Module > in “1. CA-82 board”.

10. DVP-53 Board



< LED >

D719 (B-1) : POWER
Power supply status indication.
Lights in green when all power supply on the board are normally.

D203 (H-1) : +12 V
+12 V power supply status indication.
Lights when the +12 V power is supplied. If this LED does not light, the fuse may have blown.

D301 (K-1) : +1.0 V
+1.0 V power supply status indication.
Lights when the +1.0 V power is supplied.

D302, D303, D309 (K-1) : +1.1 V-1, -2, -3
+1.1 V power supply status indication.
Lights when the +1.1 V power is supplied.

D304, D305, D306 (J-1) : +1.8 V-1, -2, -3
+1.8 V power supply status indication.
Lights when the +1.8 V power is supplied.

D307 (J-1) : +2.5 V
+2.5 V power supply status indication.
Lights when the +2.5 V power is supplied.

D308 (J-1) : +3.3 V
+3.3 V power supply status indication.
Lights when the +3.3 V power is supplied.

D407 (J-1) : +1.2 V
+1.2 V power supply status indication.
Lights when the +1.2 V power is supplied.

D402 (J-1) : +1.0V-AVCC1
+1.0 V analog power supply status indication.
Lights when the +1.0 V power is supplied.

D403, D405 (J-1) : +1.2V-APLL1, +1.2V-AVT1
+1.2 V analog power supply status indication.
Lights when the +1.2 V power is supplied.

D501 (K-2) : CC_UNLOCK
Indicates lock/unlock of the clock conditioner.
If this LED lit, the clock conditioner can possibly be unlocked.

D701 (J-1) : CAD1
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA can possibly be working incorrectly.

D702 to D717 (N-1) : CPU status
CPU on the board status indication.

D718 (C-1) : STATUS
For future expansion.

D720 (K-1) : PLL UNLOCK
Indicates lock/unlock of the PLL (Phase Locked Loop) in the FPGA.
If this LED lit, the PLL can possibly be unlocked.

D721 (A-1) : BECON
For future expansion.

D901 (A-1) : INET SWER LINK
Lights when Ethernet 1 on CPU module links with CA board.

D902 (L-1) : INET SWER ACT
Ethernet 1 on CPU module links with CA board and blinks when data send or receive is in progress.

D903 (L-1) : INET DME LINK
For test LED.

D904 (L-1) : INET DME ACT
For test LED.

D1509 (J-1) : CAD2
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC21) can possibly be working incorrectly.

D1510 (K-1) : CONF ERR
Indicates the configuration error of the FPGA.
If this LED lit, any FPGA can possibly be working incorrectly.

D1502 (J-1) : SDI1
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC5) can possibly be working incorrectly.

D1501 (J-1) : SDI2
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC6) can possibly be working incorrectly.

D1503 (J-1) : PVMX
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC11) can possibly be working incorrectly.

D1506 (K-1) : FINTP1
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC7) can possibly be working incorrectly.

D1507 (K-1) : FINTP2
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC8) can possibly be working incorrectly.

D1504 (K-1) : AINTP1
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC9) can possibly be working incorrectly.

D1505 (K-1) : AINTP2
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC10) can possibly be working incorrectly.

D1508 (K-1) : VMIX
Indicates the configuration error of the FPGA.
If this LED lit, the FPGA (IC12) can possibly be working incorrectly.

< Switch >

S501 (G-1) : RST
Reset the DVP board. Pressing this switch initializes the DVP board.

S801 (G-1) : MON
For monitor switch used in maintaining through the terminal pin.

< LED on the CPU-DP Module >

Refer to < LED on the CPU-DP module > in “1. CA-82 board”.

< Switch on the CPU-DP Module >

Refer to < Switch on the CPU-DP module > in “1. CA-82 board”.

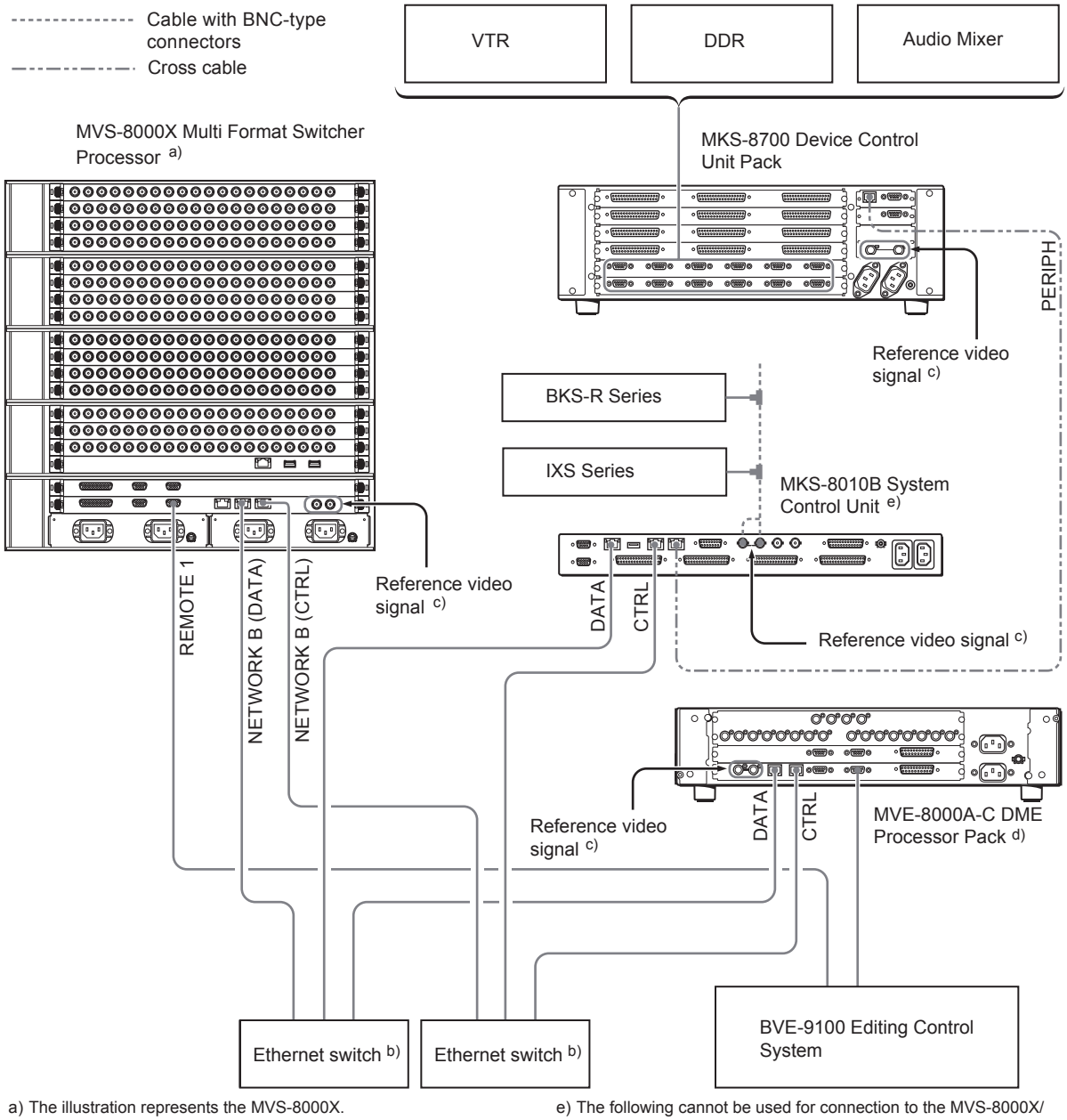
1-9. System Connection

Configure the MVS-8000X series system connections referring to the connection example as shown below.

1. Connection example of the MVS-8000X system

Note

The following connection can also be made for the MVS-7000X system.



a) The illustration represents the MVS-8000X.

b) It is recommended that the CTRL and DATA LAN networks be configured by connecting separate Ethernet switches for each LAN.

c) Terminate with the supplied 75Ω terminators.

d) This figure shows the rear panel when one MKE-8021A is installed in the MVE-8000A.

e) The following cannot be used for connection to the MVS-8000X/ MVS-7000X.

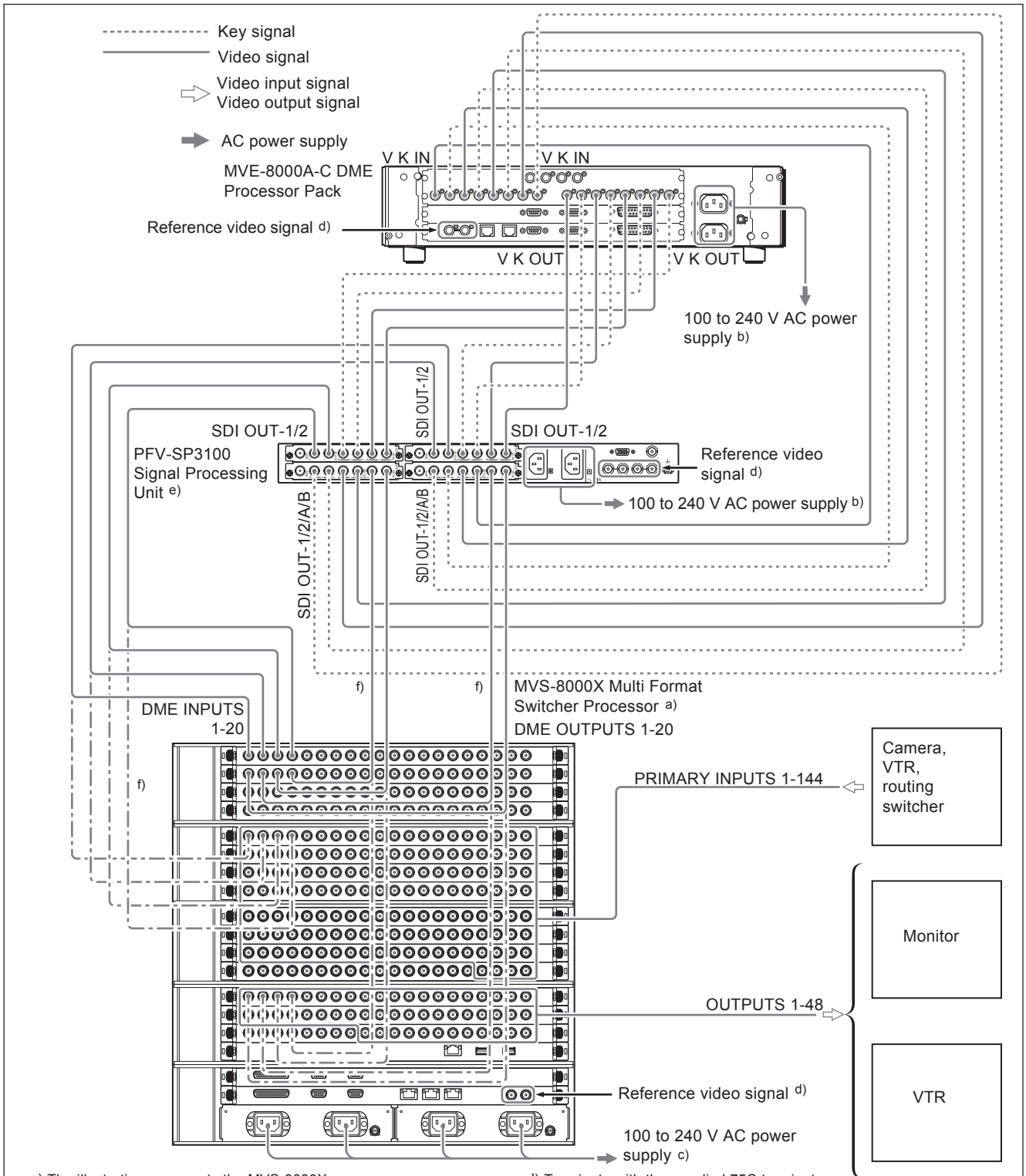
Model	Relevant serial numbers
MKS-8010	All
MKS-8010A	10001 to 11196
MKS-9011A	10001 to 12000
MKS-9012A	10001 to 21000

2. Flow of Video Signals

The figure below shows the flow of video signals in a MVS-8000X system.

Note

The following flow of video signals also applies to the MVS-7000X system.

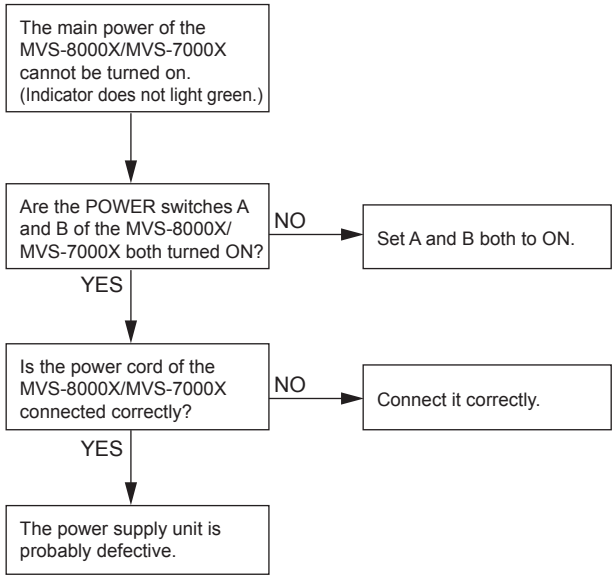


a) The illustration represents the MVS-8000X.
b) For the AC power cord, refer to the MVE-8000A Operation Manual.
c) For the AC power cord of this unit, refer to the MVS-8000X/ MVS-7000X Operation Manual.
d) Terminate with the supplied 75Ω terminators.
e) This figure shows the PFV-SP3100 with HKSP-1530 and HKSP-3015 installed.
f) Connection for SDI /IF mode

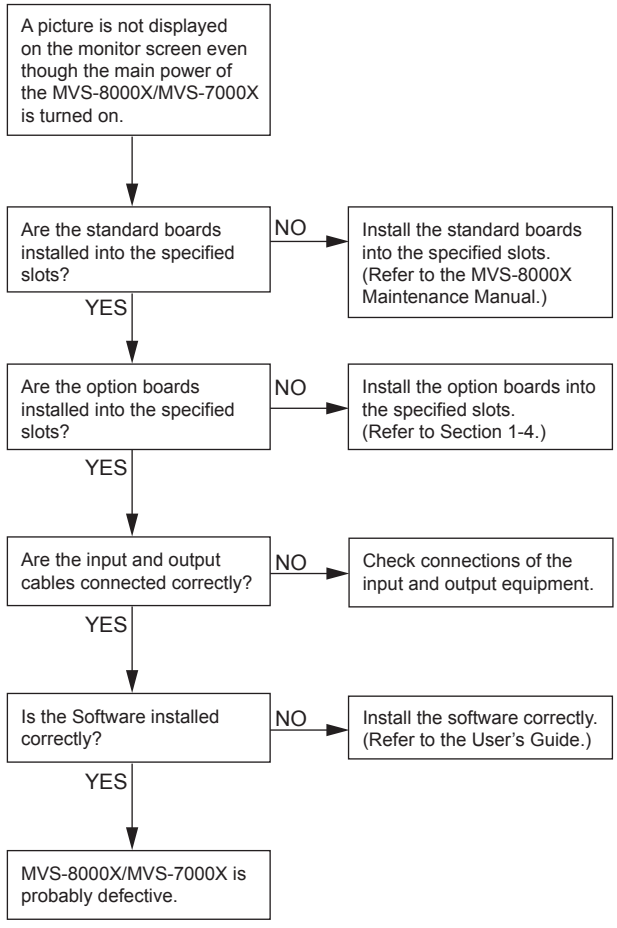
Section 2
Service Overview

2-1. Troubleshooting

The main power of the MVS-8000X/MVS-7000X cannot be turned on. (Indicator does not light green.)



The monitor picture is not displayed 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.

Part	Where used	Maintenance	Suggested period
Fan	Side on the right of the MVS-8000X/ MVS-7000X	Cleaning Replacement	Once in a month Once in about 4 years
Filter	Front panel on the MVS-8000X/ MVS-7000X	Cleaning	Once in 2 months
Power supply unit	MVS-8000X/MVS-7000X	Replacement	About 7 years 6 month

2-2-2. Cleaning

1. Front panel

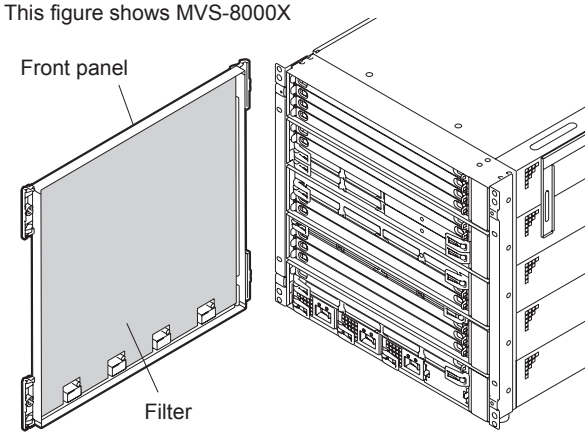
The filter on the rear of the front panel can easily accumulate the dust. Be sure to remove dust by cleaning as follows.

(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.

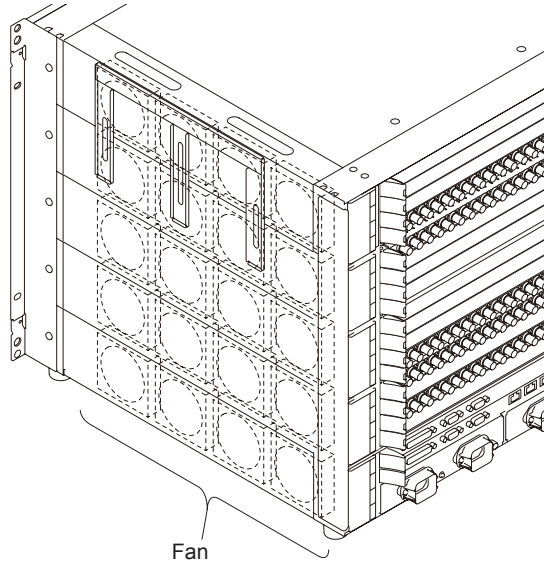
This figure shows MVS-8000X



2. Fan

MVS-8000X/MVS-7000X 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.

This figure shows MVS-8000X



2-3. About the Data Backup Capacitor

A large capacitor is installed on the CA-82 board (MVS-8000X) or the CA-82A board (MVS-7000X) in order to retain the data such as the data used with resume mode, snapshots, and effects in the MVS-8000X/MVS-7000X series machine.

Leave the main power of the MVS-8000X/MVS-7000X series 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-7000X (SY)
MVS-8000X (SY) E
4-189-509-03

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