SONY

SWITCHER PROCESSOR PACK

MVS-8000A-C
MVS8000AS-C

MULTI FORMAT SWITCHER PROCESSOR

MVS-8000A
MVS-8000ASF

HK-PSU04

MKS-8160A

MKS-8162A

MKS-8210A

MKS-8440A

MKS-8110M

MKS-8111M

MKS-8161M

MKS-8170M

MKS-8420M

BZS-8250

INSTALLATION MANUAL
1st Edition (Revised 1)

⚠警告

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

⚠ WARNING

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

⚠ WARNUNG

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

⚠ AVERTISSEMENT

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

MVS-8000A	Serial No. 10001 and Higher
MVS8000ASF	Serial No. 10001 and Higher
HK-PSU04	Serial No. 10001 and Higher
MKS-8160A	Serial No. 10001 and Higher
MKS-8162A	Serial No. 10001 and Higher
MKS-8210A	Serial No. 10001 and Higher
MKS-8440A	Serial No. 10001 and Higher
MKS-8110M	Serial No. 10001 and Higher
MKS-8111M	Serial No. 10001 and Higher
MKS-8161M	Serial No. 10001 and Higher
MKS-8170M	Serial No. 10001 and Higher
MKS-8420M	Serial No. 10001 and Higher
BZS-8250	

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 rear of the unit 10 cm (4 inches) or more away from walls in order to obtain proper exhaust and radiation of heat.**

When using a LAN cable:

For safety,do not connect to the connector for peripheral device wiring that might have excessive voltage.

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Manual Structure

1. Installation

2. Service Overview

Manual Structure

Purpose of this manual

This manual is the installation manual of Switcher Processor Pack MVS-8000A-C/MVS8000AS-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-8000A-C/MVS8000AS-C system.

Related manuals

The following manuals are prepared for MVS-8000A-C/MVS8000AS-C and their optional boards and units.

- **Operation Manual (Supplied with MVS-8000A-C/MVS8000AS-C)**
  This manual describes the application and operation of MVS-8000A-C/MVS8000AS-C.

- **System Setup Manual (Available on request)**
  This manual describes the information that is required to connect the MVS-8xxx/MVE-8000/DCU-8000/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.

- **"Semiconductor Pin Assignments" CD-ROM (Available on request)**
  This "Semiconductor Pin Assignments" CD-ROM allows you to search for semiconductors used in B&P Company equipment.
  Semiconductors that cannot be searched for on this CD-ROM are listed in the maintenance manual for the corresponding unit. The maintenance manual contains a complete list of all semiconductors and their ID Nos., and thus should be used together with the CD-ROM.
  Part number: 9-968-546-XX

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-8000A : Approx. 51 kg
MVS-8000ASF : Approx. 28 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-8000A-C/MVS8000AS-C (MVS-8000A series hereafter) is cooled by a fan (both sides). 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 DVS-9000 series).

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-8000A : 15 to 6.25 A
MVS-8000ASF : 7.5 to 3.1 A

Notes

- As the inrush current at turn-on is a maximum 120 A (at 100 V)/150 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-8000A 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-8000A, be sure to turn on the power of two or more power supply units.
- The MVS-8000ASF contains the single power supply unit as the standard configuration. A maximum of two power supply units may be installed. When starting up the MVS-8000ASF, be sure to turn on the power of one or more power supply units.

1-2-2. Recommended Power Cord

WARNING

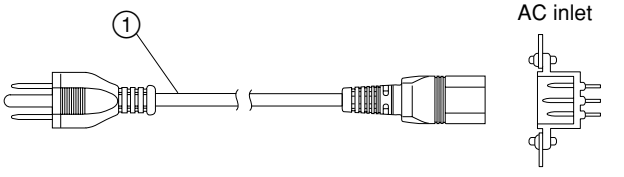
- Use the approved Power Cord (3-core mains lead)/ Appliance Connector/Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
- Use the Power Cord (3-core mains lead)/Appliance Connector/Plug conforming to the proper ratings (Voltage, Ampere).

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

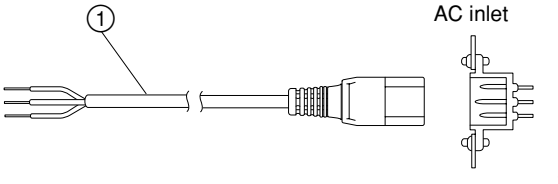
CAUTION

- 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) : ⚠1-557-377-11

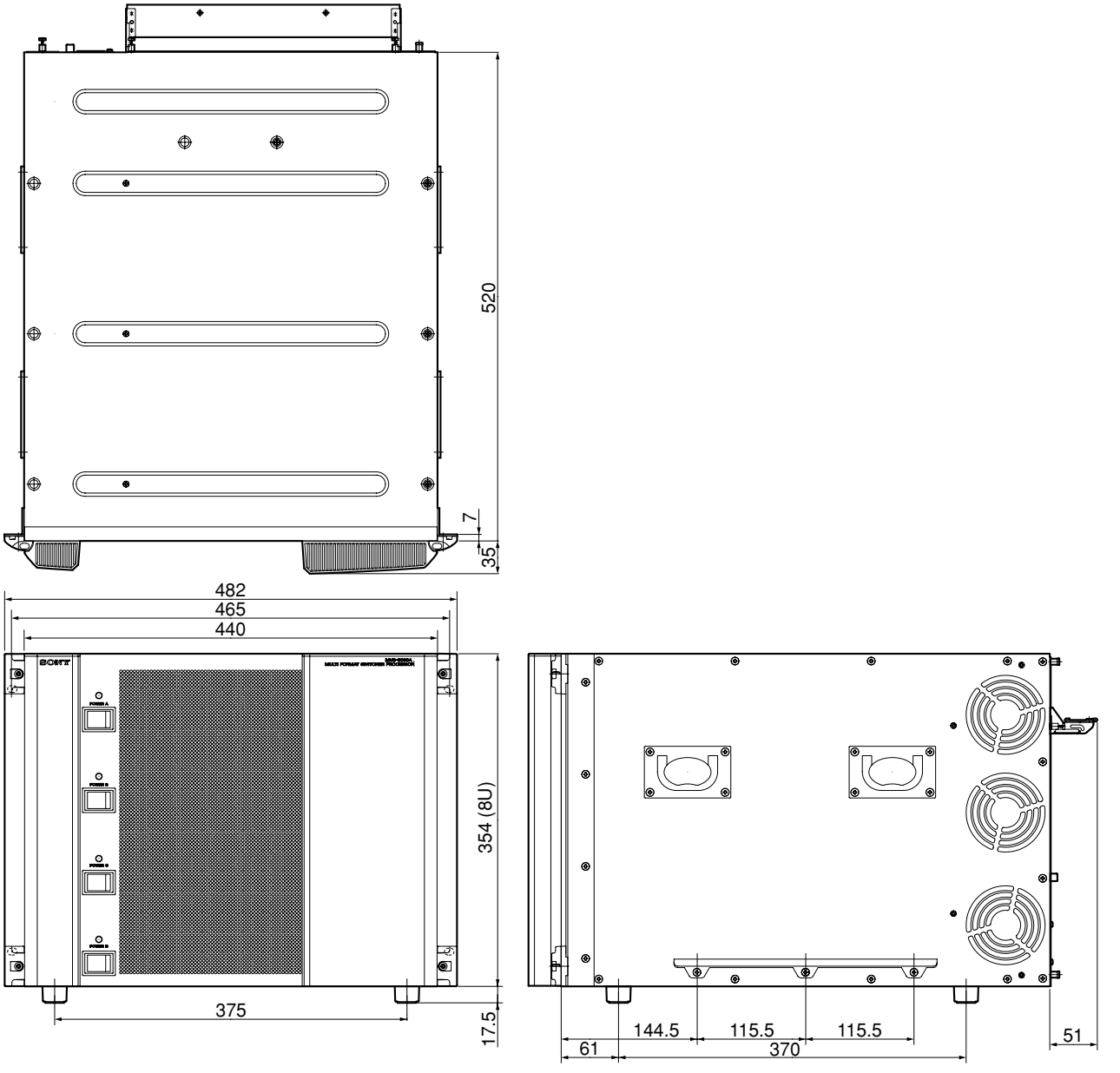


For customers in the all European countries
① Power cord, 250 V 10 A (2.4 m) : ⚠1-782-929-12

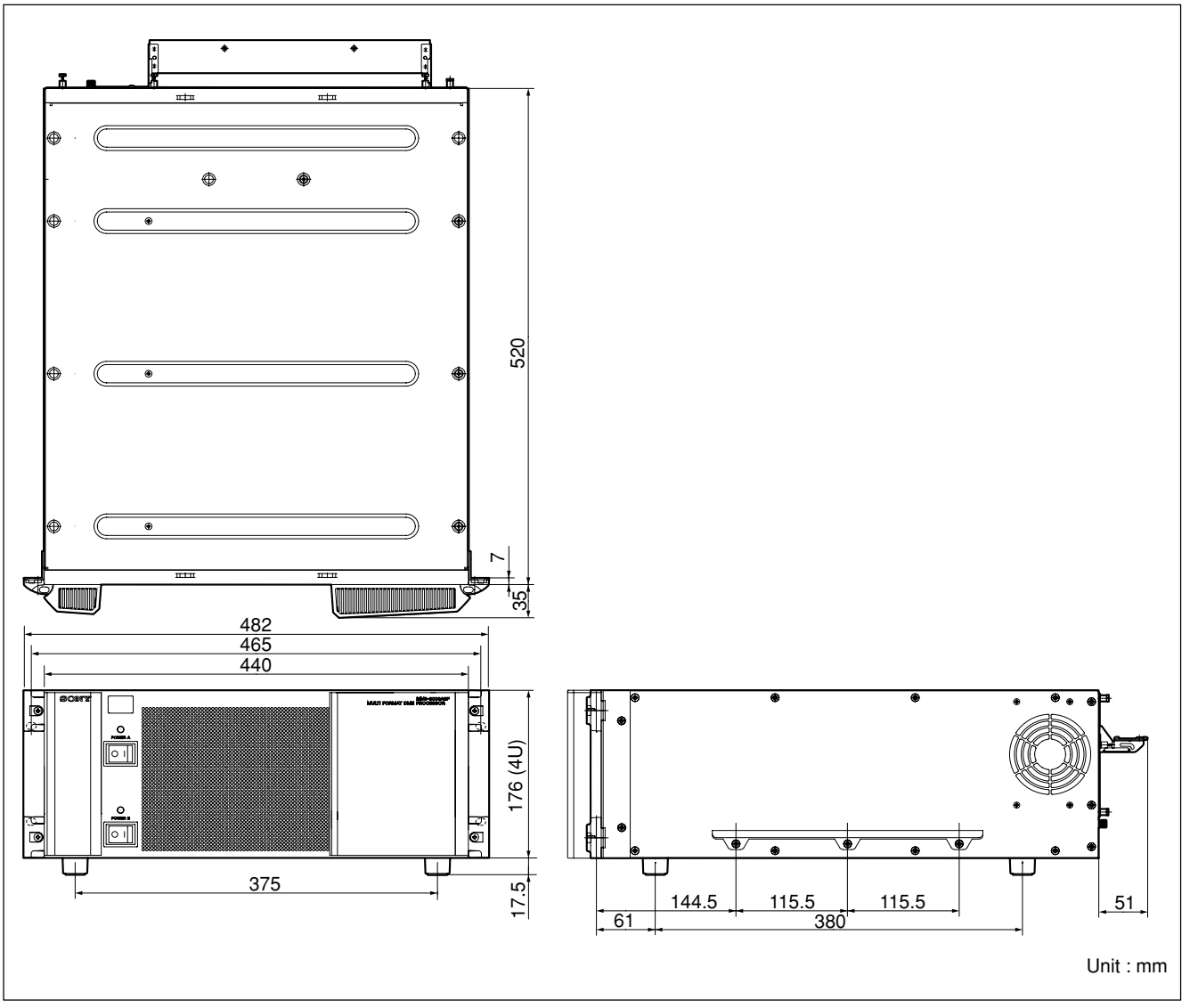


1-3. Installation Space (External dimensions)

1-3-1. MVS-8000A



1-3-2. MVS-8000ASF



1-4. Installing the Options

The MVS-8000A-C/MVS8000AS-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-8000A/8000ASF.

MVS-8000A/8000ASF Option List

Model name	Board configuration	
	Plug-in board	Connector board
MKS-8160A (MVS-8000A only) 24 Output Board	OUT-28 board	CNO-25 board
MKS-8162A (MVS-8000ASF only) 12 Output Connector Board	CNO-25 board	–
MKS-8210A Mix/Effect Board	MIX-48A board	–
MKS-8440A Frame Memory Board	MY-112B board	–
MKS-8170A DME Interface Board	DIF-141 board	–
MKS-8420A Color Correction Board	CC-90 board	–
MKS-8161M (MVS-8000A only) 8 Monitor Output Board	–	CNO-24 board
MKS-8110M 17 Input Board	–	CNI-22 board
MKS-8111M (MVS-8000A only) Additional 12 Input Board	–	CNI-23 board
HK-PSU04 Power Supply Unit	–	–
BZS-8250* Simple P/P Software	–	–

* : BZS-8250 is the software options.

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.

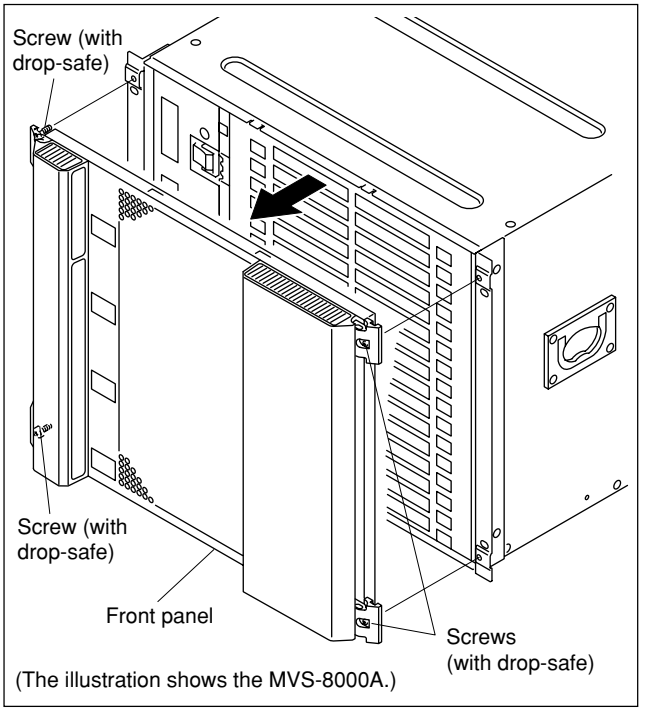
Each plug-in board of the Production Switcher Processor MVS-8000A/8000ASF is allocated to a specific slot into which they must be installed. Check to see that the respective plug-in boards are installed in their respective slots. The name of the board is shown near the eject lever at the right-most end 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-8000A/8000ASF. Install the respective plug-in boards according to this instruction.

Notes

- Check to see that connectors of the plug-in boards are securely inserted into the mother board (MVS-8000A : MB-1014 board, MVS-8000ASF : MB-1034 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 V4.20 or later version. For installing the software, refer to the user's guide of the MVS-8000A/8000ASF system.

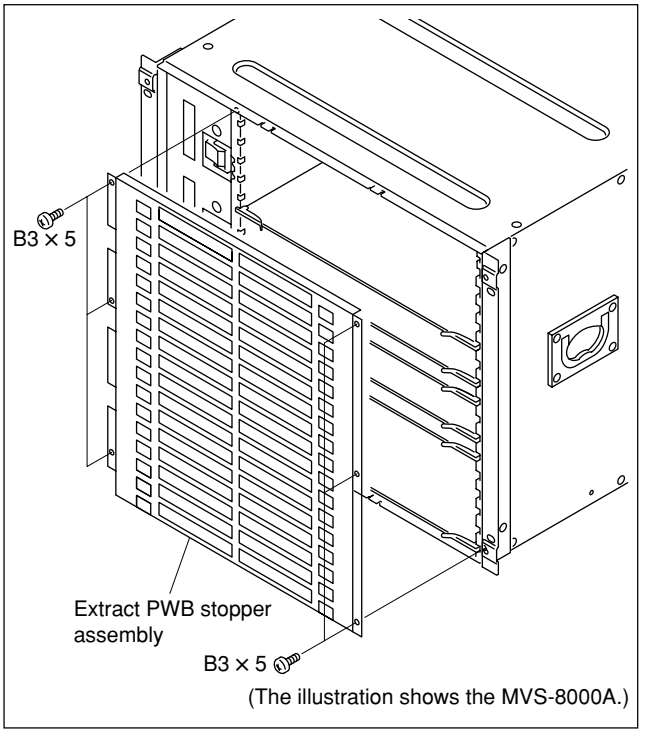
Installation Procedure

1. Turn off the main power of this unit (MVS-8000A or MVS-8000ASF) 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.



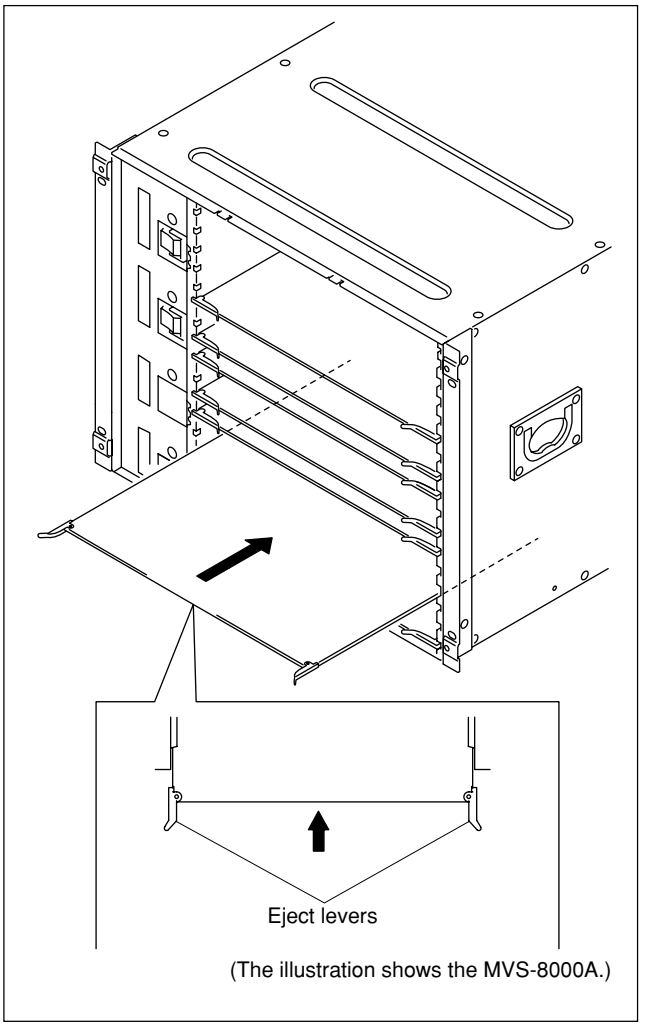
(The illustration shows the MVS-8000A.)

3. Remove the fixing screws (MVS-8000A: 6 screws, MVS-8000ASF: 4 screws) and remove the Extract PWB stopper assembly.



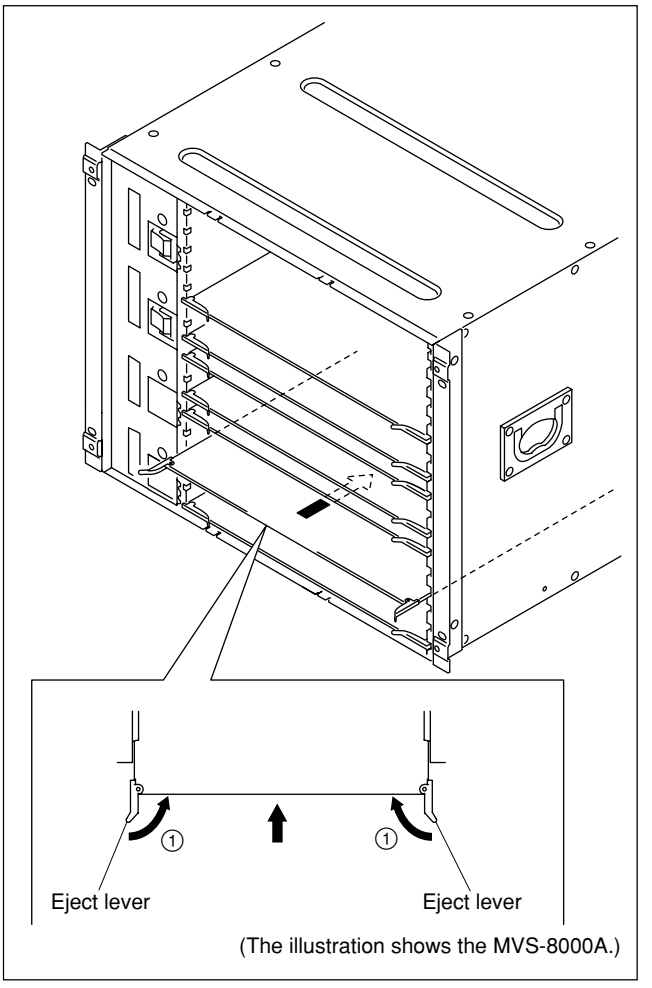
(The illustration shows the MVS-8000A.)

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



(The illustration shows the MVS-8000A.)

5. While closing the eject levers in the direction of arrow ①, push in the plug-in board.



(The illustration shows the MVS-8000A.)

6. Attach the plug-in board loose-proof assembly and the front panel by reversing the installation steps of 2, 3.

MVS-8000A option

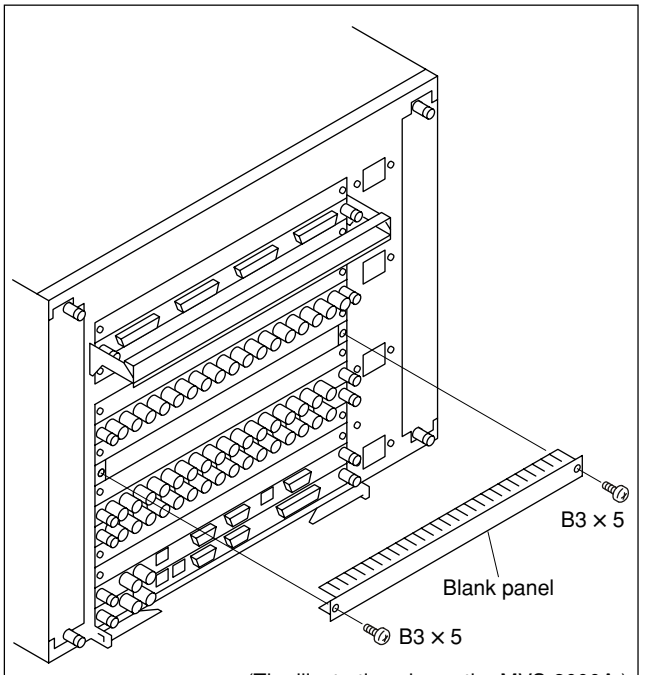
Name of option	Name of board	Slot on the front side
MKS-8160A	OUT-28 board	14
MKS-8210A	MIX-48A board	1, 3
MKS-8440A	MY-112B board	15, 16
MKS-8170M	DIF-141 board	4
MKS-8420M	CC-90 board	13

MVS-8000ASF option

Name of option	Name of board	Slot on the front side
MKS-8210A	MIX-48A board	1
MKS-8440A	MY-112B board	7
MKS-8170M	DIF-141 board	2
MKS-8420M	CC-90 board	6

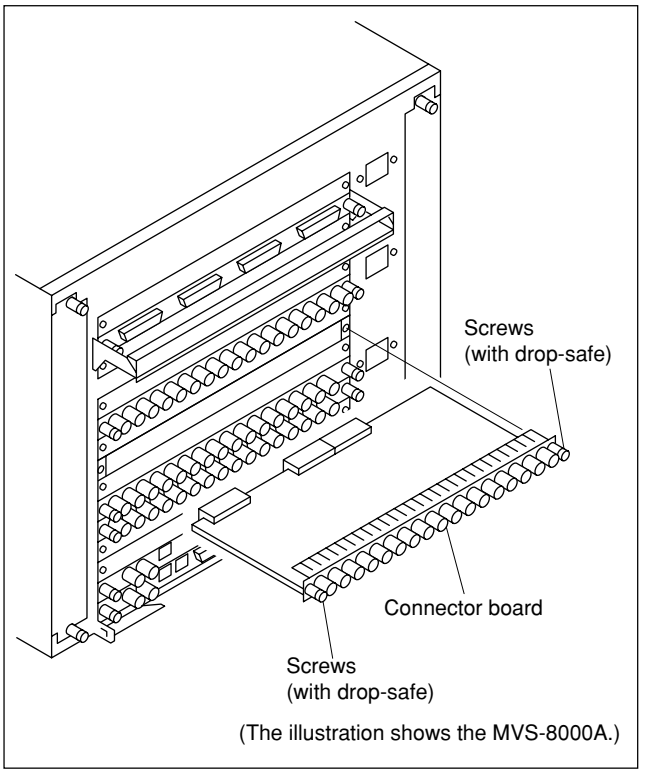
1-4-2. Installing the Connector Board

1. Remove the two screws and remove the blank panel.
Note
Store the removed blank panel in a safe place.



(The illustration shows the MVS-8000A.)

2. Insert the connector board horizontally level and secure it with the two fixing screws.



(The illustration shows the MVS-8000A.)

MVS-8000A option

Name of option	Name of board	Slot on the rear side
MKS-8160A	CNO-25 board	14, 15
MKS-8161M	CNO-24 board	5
MKS-8110M	CNI-22 board	9, 10, 11
MKS-8111M	CNI-23 board	7

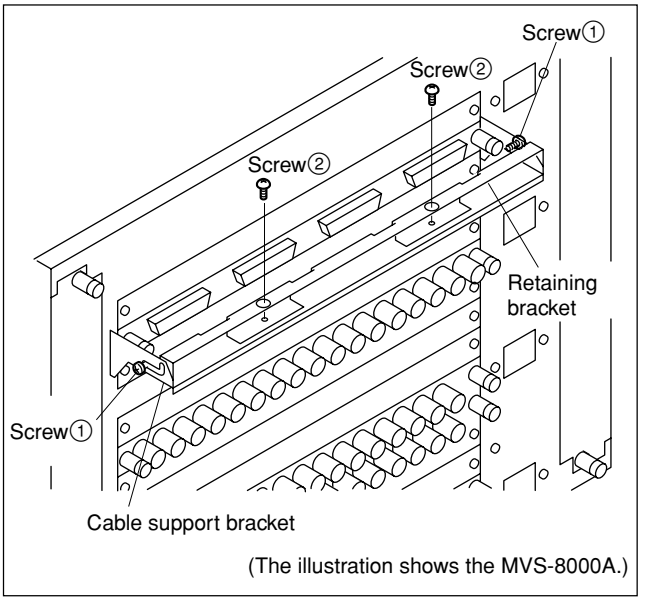
MVS-8000ASF option

Name of option	Name of board	Slot on the rear side
MKS-8162A	CNO-25 board	6
MKS-8110M	CNI-22 board	4

Connecting the DME Special Cable

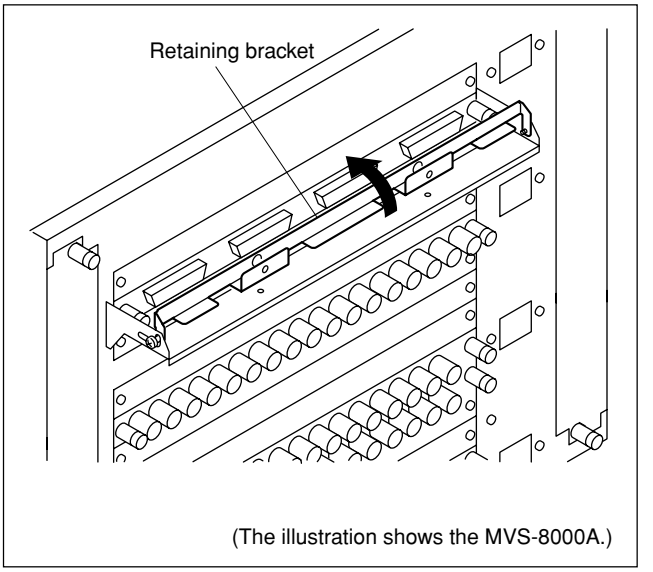
- Connecting Procedure of the DME Special Cable
  Follow the procedure below to connect the DME special cable (supplied with the MVE-8000A/MVE-9000) to the CN-2135 board connector.

1. Loosen the two screws (B3 × 6) ① of the cable support bracket.
2. Loosen the two screws (B3 × 6) ② of the cable support bracket.



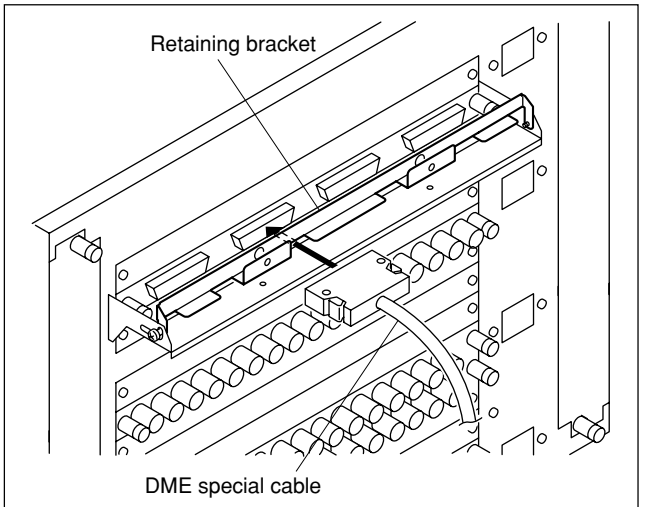
(The illustration shows the MVS-8000A.)

3. Pull the retaining bracket in the direction of the arrow to open it.



(The illustration shows the MVS-8000A.)

4. Connect the DME special cable to each connector.



(The illustration shows the MVS-8000A.)

5. Set the retaining bracket to the original position.
6. Secure the retaining bracket with the two screws ② that have been removed.
7. Tighten the two screws ①.

1-4-3. Installing the HK-PSU04

The HK-PSU04 is used after it is installed in the MVS-8000A or MVS-8000ASF.

Note

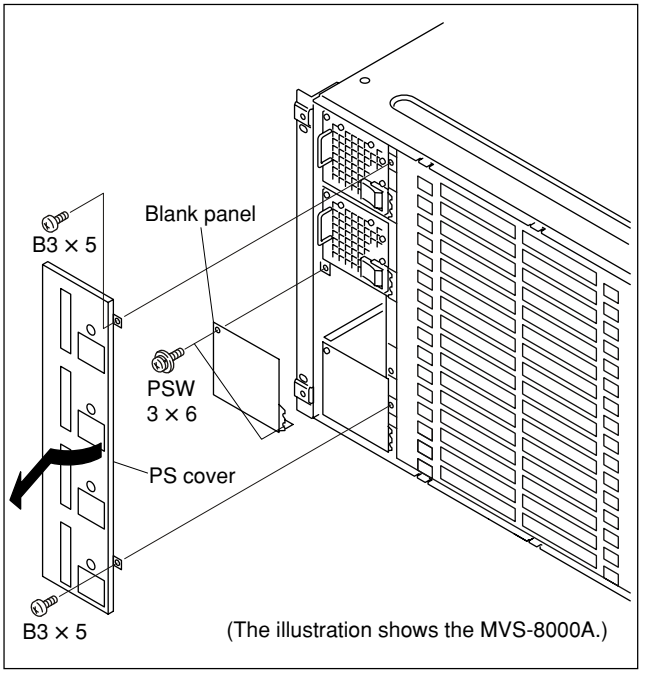
Before installing the HK-PSU04, be sure to turn off the main power. If the HK-PSU04 is installed while the main power is turned on, it can result in electrical shock or damage to printed circuit boards.

Installation procedure

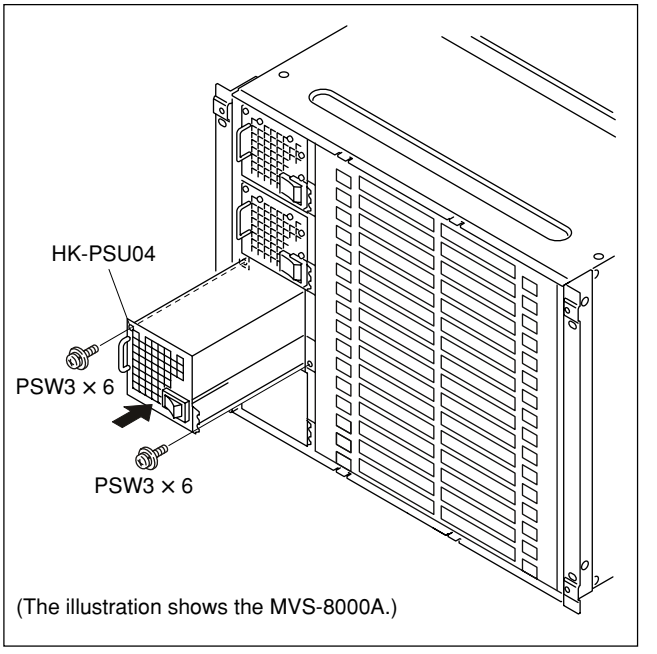
1. Remove the front panel of the MVS-8000A/8000ASF. (Refer to Section 1-4-1.)
2. Remove the two screws (B3 × 5) fixing the PS cover, and remove the PS cover.
3. Remove the two screws (PSW3 × 6) fixing the blank panel to the location where the HK-PSU04 is going to be installed. Then remove the blank panel.

   Note

   Store the removed blank panel in a safe place.



4. Push the portion of the HK-PSU04 marked by the arrow and insert the HK-PSU04 into deep end as far as it will go.
5. Secure the HK-PSU04 with the two screws removed in step 3.



6. Attach the PS cover and the front panel by reversing the installation steps of 1, 2.

1-4-4. Installing the BZS-8250

For the installation procedure of the software options BZS-8250, refer to the MVS-8000A/8000ASF System User's Guide.

1-5. Rack Mounting

The MVS-8000A/8000ASF is mounted in the 19-inch standard rack. To mount the MVS-8000A/8000ASF in the rack, use the specified rack mount kit and follow the procedure described below.

Specified rack mount kit : RMM-10N

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-10N

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

Other required parts

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

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

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.

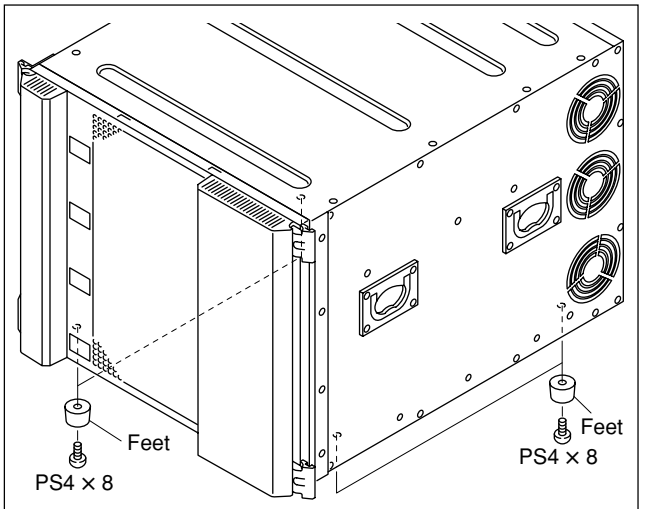
Note

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-10N rack mount kit.

1. Loosen the four screws (PS4 × 8) and remove the four feet.

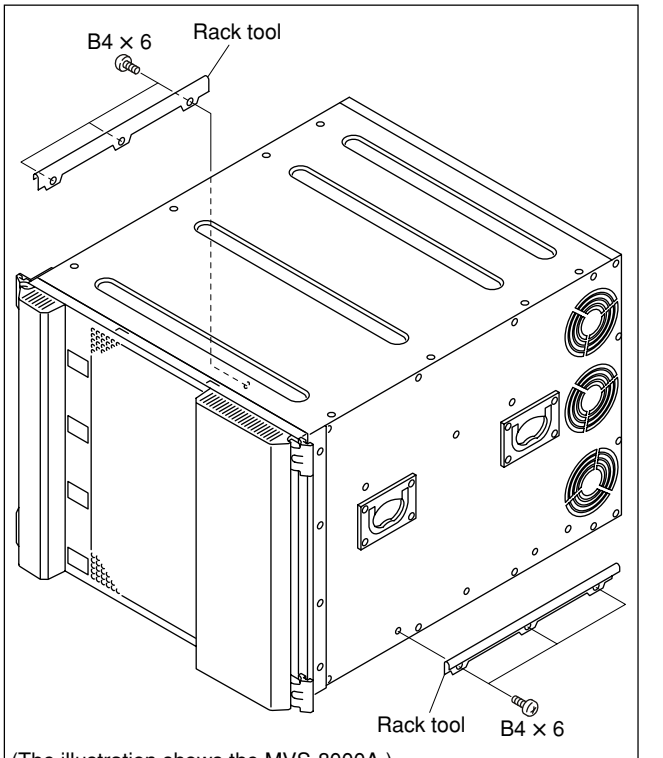


(The illustration shows the MVS-8000A.)

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

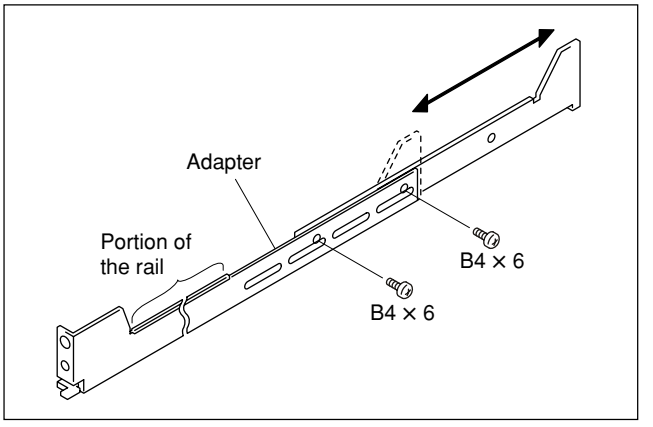
   Note

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



(The illustration shows the MVS-8000A.)

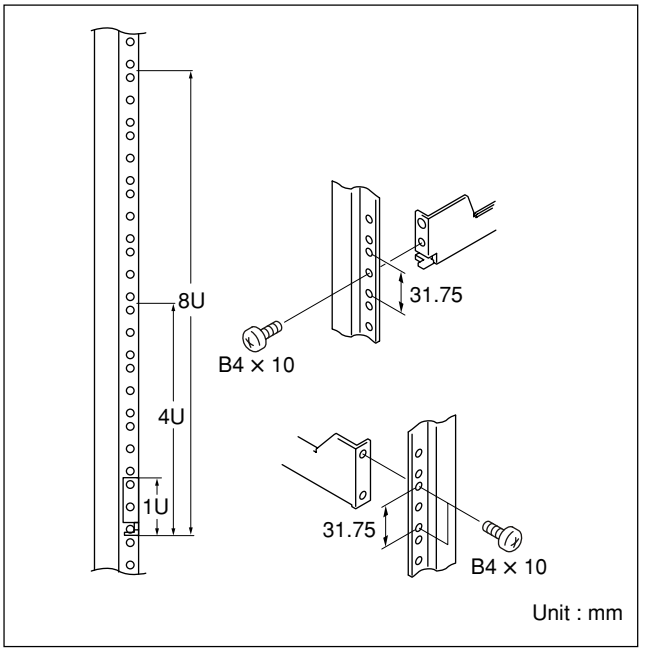
3. Loosen the screws on the rear of the right and left adapters and adjust the length of the adapter according to the depth of the rack.
   (The illustration below shows the left adapter.)



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.)

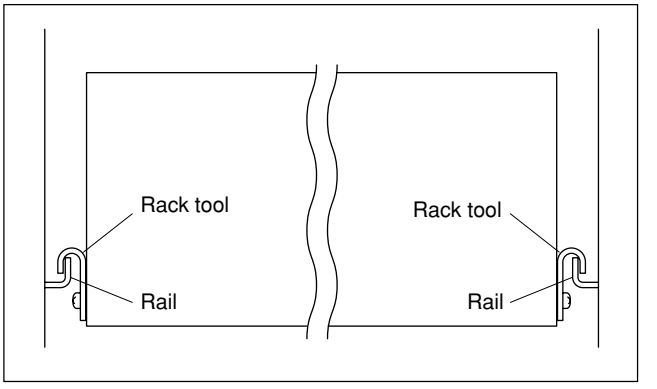


5. Tighten the screws (B4 × 6 : two screws each on the right and left) for adjusting the length of the adapter completely (the screws that were loosened in step 3).
6. Remove the front panel of the equipment.
   (Refer to Section 1-4-1.)

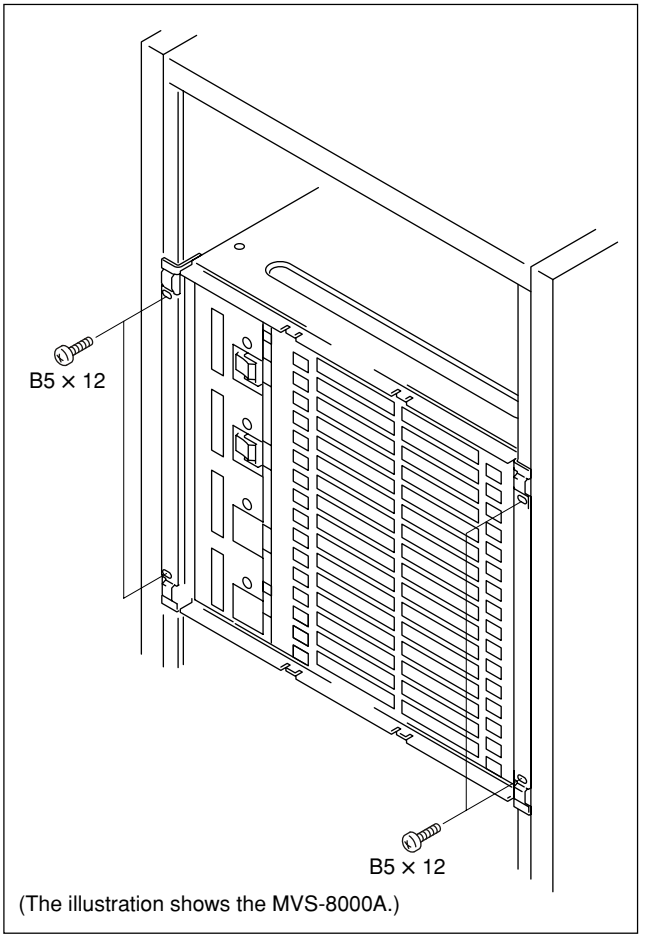
7. Align the groove of the rack tool at the side of the equipment with the rail, and slide the equipment to the rear.

Note

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



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



(The illustration shows the MVS-8000A.)

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

1-6. Matching Connectors

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-8160A MKS-8162A MKS-8161M MKS-8110M MKS-8111M	OUTPUTS 25 to 48 OUTPUTS 13 to 24 MONITOR OUTPUTS 49 to 56 PRIMARY INPUTS 18 to 34 35 to 52 53 to 68 PRIMARY INPUTS 69 to 80	BNC, 75 Ω	Belden 8281 coaxial cable (SDTV system) or Belden 1694 coaxial cable (HDTV system)	– –
MVS-8000A MVS-8000ASF	OUTPUTS 1 to 24 PRIMARY INPUTS 1 to 17 REF IN REF OUT	BNC, 75 Ω	Belden 8281 coaxial cable (SDTV system) or Belden 1694 coaxial cable (HDTV system)	– –
	REMOTE 1 to 4 TERMINAL	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	D-sub 25-pin, Male Connector 25-pin, Male Junction Shell 25-pin	 1-560-904-11*1 1-563-377-11
	DATA CTRL	RJ-45 modular jack*2	–	–
	DME 1A, 1B, 2A, 2B	MDR 68-pin, Female	Dedicated cable (supplied with the MVE-8000A and MVE-9000)	–

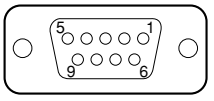
*1 : The following crimp contact is required for the plug.
AWG#18 to #22 : 1-566-493-21
AWG#22 to #24 : 1-564-774-11
AWG#24 to #30 : 1-564-775-11

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

1-7. Input/Output Signals of Connectors

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

TERMINAL : RS-232C (D-sub 9-pin, Female)
to Terminal

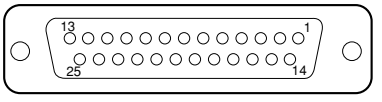


– EXT VIEW –

Pin No.	Signal Name	Function
1	DCD	Data Carrier detect (*1)
2	RXD	Received data
3	TXD	Transmitted data
4	DTR	Data terminal ready (*1)
5	GND	Ground
6	DSR	Data set ready (*1)
7	RTS	Request to send (*2)
8	CTS	Clear to send (*2)
9	–	–

(*1) : Pins 1, 4 and 6 are internally connected together on the CN-2535B board.
(*2) : Pins 7 and 8 are internally connected together on the CN-2535B board.

GPI : (D-sub 25-pin, Female)
INPUT × 8, TTL
OUTPUT × 4, relay contacts 30 V 0.1 A
(resistive load)
OUTPUT × 4, open collector, 30 V rated voltage



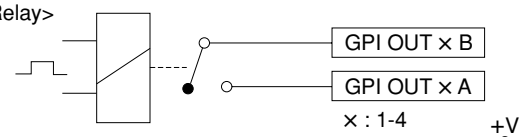
– EXT VIEW –

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) (*3)
8	GPI OUT 2B	
9	GPI OUT 3B	
10	GPI OUT 4B	
11	GPI OUT 6	General-purpose open collector output (*4)
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) (*3)
20	GPI OUT 2A	
21	GPI OUT 3A	
22	GPI OUT 4A	
23	GPI OUT 5	General-purpose open collector output (*4)
24	GPI OUT 7	
25	GPI OUT COM	Ground for open collector output

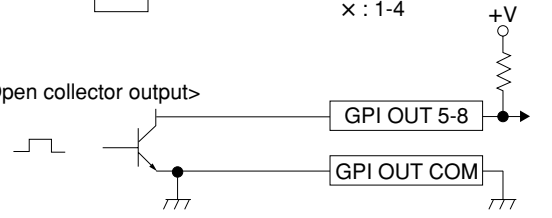
Note

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

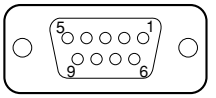
(*3) <Relay>



(*4) <Open collector output>



REMOTE 1 to 4 : RS-422A (D-sub 9-pin, Female)
<DEVICE> (∗5) from External Devices

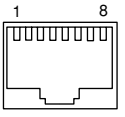


– EXT VIEW –

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

(∗5) <DEVICE> : The controlling device.

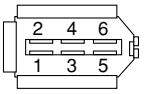
DATA/CTRL/FM DATA : 100BASE-TX, RJ-45 (8-pin)



– EXT VIEW –

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

FM DEVICE : IEEE1394 (6-pin)



– EXT VIEW –

Pin No.	Signal name	Function
1	VP	Cable power (No use)
2	VG	Cable ground
3	TPB–	Strobe on receive, Data on transmit (–)
4	TPB+	Strobe on receive, Data on transmit (+)
5	TPA–	Data on receive, Strobe on transmit (–)
6	TPA+	Data on receive, Strobe on transmit (+)

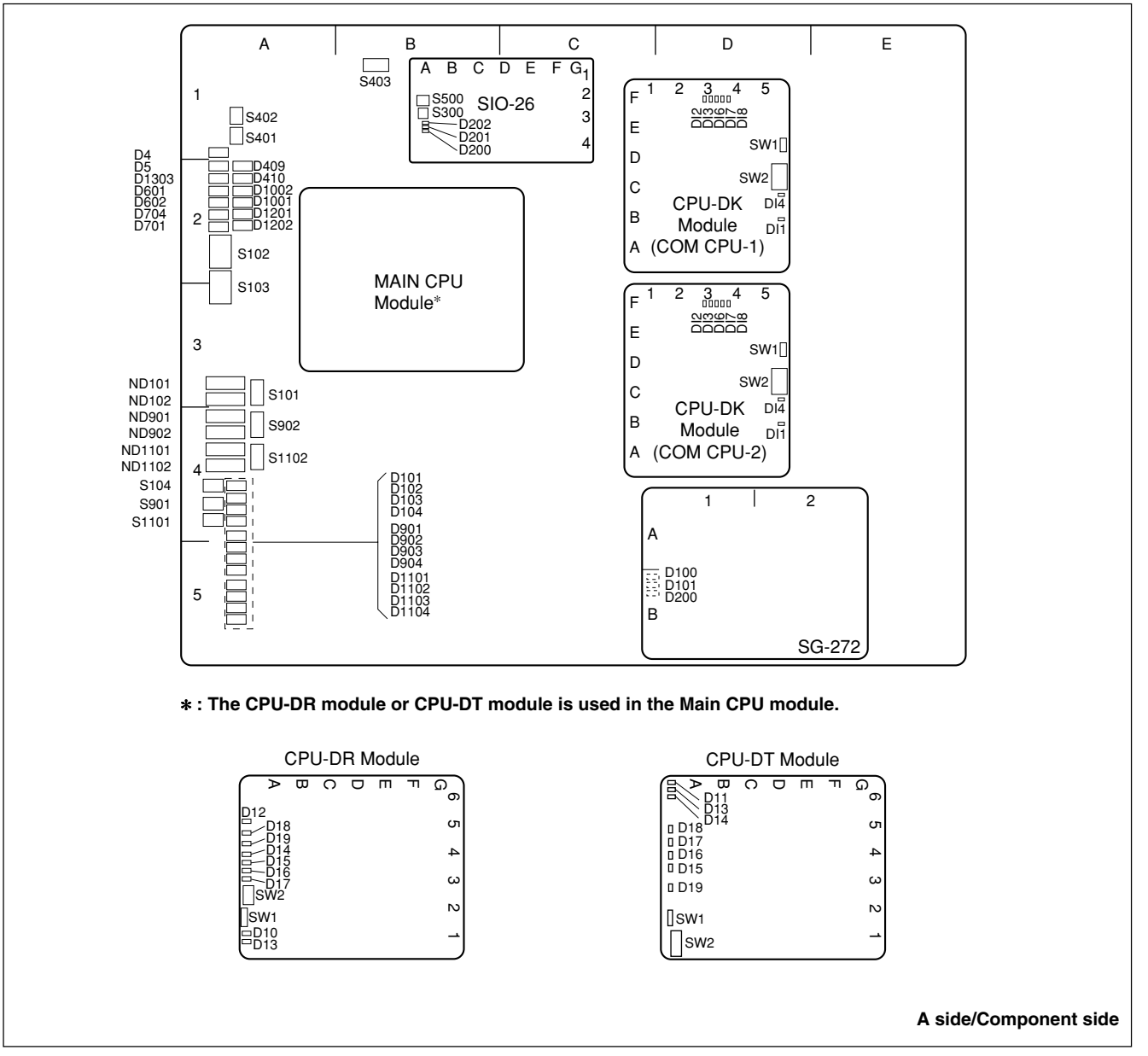
1-8. Checks on Completion of Installation

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-54A board



∗ : The CPU-DR module or CPU-DT module is used in the Main CPU module.

A side/Component side

<LED>

D4 (A-1) : +3.3 V

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

D5 (A-2) : +12 V

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

D101, D102, D103, D104 (A-4), ND101 (A-3), ND102 (A-4) : MAIN CPU status LED

Main CPU status indication.

D409 (A-2) : RESET status LED

System reset status indication.
Lit when S401 is pressed or the power voltage drops to +3.3 V.

D410 (A-2) : CPU RESET status LED

CA-54A board reset status indication.
Lit when S402 is pressed or the power voltage drops to +3.3 V.

D601 (A-2) : REF EXT status LED

REF IN signal presence/absence status indication.
Lit when the REF signal is input to the REF IN connector.
Not lit when the REF signal is not input to the REF IN connector.

D602 (A-2) : PLL LOCK status LED

REF IN signal format status indication.
Lit when the REF IN signal matches with the switcher format setup.

D701 (A-2) : SBUS RX status LED

S-BUS receive status indication.
Lit while the data receive is in progress.

D704 (A-2) : SBUS TX status LED

S-BUS send status indication.
Lit while the data send is in progress.

D901 (A-4), D902, D903, D904 (A-5) : COM CPU-1 status LED

COM CPU-1 status indication.

D1001 (A-2) : COM1 100 status LED

COM CPU-1 Ethernet communication speed status indication.

Lit : 100 Mb/s
Not lit : 10 Mb/s

D1002 (A-2) : COM1 ACT status LED

COM CPU-1 Ethernet communication status indication.
Lit while data send or receive is in progress.

D1101, D1102, D1103, D1104 (A-5) : COM CPU-2 status LED

COM CPU-2 status indication.

D1201 (A-2) : COM2 ACT status LED

COM CPU-2 Ethernet communication status indication.
Lit while data send or receive is in progress.

D1202 (A-2) : COM2 100 status LED

COM CPU-2 Ethernet communication speed status indication.

Lit : 100 Mb/s
Not lit : 10 Mb/s

D1303 (A-2) : +5 V

+5 V power supply status indication.
Lit when the +5 V power is supplied.

ND901, ND902 (A-4) : COM CPU-1 status LED

COM CPU-1 status indication.

ND1101, ND1102 (A-4) : COM CPU-2 status LED

COM CPU-2 status indication.

<Switch>

S101 (A-3) : Mode setting switch for the main CPU

Sets the modes of the main CPU.
Default setting when shipped from the factory is all OFF.

S102 (A-2) : Group ID setting switch for LAN

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 Bits 2 to 8 are set to OFF.

S103 (A-2) : Unit ID setting switch for LAN

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 Bits 2 to 8 are set to OFF.

S104 (A-4) : Monitor reset switch for the main CPU
Pressing this switch resets the system while maintaining this unit through the main CPU control terminal connector.

S401 (A-1) : System reset switch
Pressing this switch activates the system reset and the system re-starts.

S402 (A-1) : CA-CPU reset switch
Pressing this switch resets the CA-54A board.

S403 (B-1) : Switch setting the number of the power supply units
Sets the number of the power units required for the MVS-8000A/8000ASF.
Default settings when shipped from the factory:
MVS-8000A (Serial No. 10001 to 10010)
Bits 1, 2, and 4 are set to OFF, and bit 3 is set to ON.

MVS-8000A (Serial No. 10011 and Higher)
MVS-8000ASF (Serial No. 10001 and Higher)
Bits 1 and 2 are set to ON, and bits 3 and 4 are set to OFF.

S901 (A-4) : Monitor reset switch for the COM CPU-1
Pressing this switch resets the system while maintaining this unit through the COM CPU-1 control terminal.

S902 (A-4) : Modes setting switch for the COM CPU-1
Sets the modes of the COM CPU-1.
Default setting when shipped from the factory is all OFF.

S1101 (A-4) : Monitor reset switch for the COM CPU-2
Pressing this switch resets the system while maintaining this unit through the COM CPU-2 control terminal.

S1102 (A-4) : Modes setting switch for the COM CPU-2
Sets the modes of the COM CPU-2.
Default setting when shipped from the factory is all OFF.

<LED on the CPU-DR module> : Main CPU
D10 (A-1) : RUN status LED
RUN status indication.
Lit when the CPU-DR module starts operating.

D12 (A-4) : CD (Card Detect) status LED
Lit when the CPU-DR module is inserted correctly into the parent board.

D13 (A-1) : +2.5 V
Indicates the status of the +2.5 V power that is generated by the VCC (CORE) and supplied to the CPU-DR module.
Lit while the specified power is turned on.

D14, D15, D16, D17 (A-3) : STATUS1 to STATUS4 status LED
Used for maintenance purpose. Only the STATUS1 LED is lit in normal operation.

D18 (A-4) : +3.3 V
Indicates the status of the VCC (I/O) power that is supplied to the CPU-DR module.
Lit while the specified power is turned on.

D19 (A-4) : CORE status LED
Indicates the status of the VCC (CORE) power that is supplied to the CPU-DR module.
Lit while the specified power is turned on.

<Switch on the CPU-DR module> : Main CPU
SW1 (A-1) : RESET switch
Pressing this switch resets the CPU-DR module.
Note
In some machines in which the CPU-DR module is installed, the system reset may be activated.

SW2 (A-2) : MODE switch
8-pin DIP switch
Used only for production in the assembly factory. All switches are set to OFF for normal operation.

<LED on the CPU-DT module> : Main CPU
D19 (A-3) : RUN status LED
RUN status indication.
Lit when the CPU-DT module starts operating.

D11 (A-6) : CD (Card Detect) status LED
Lit when the CPU-DT module is inserted correctly to the parent board.

D13 (A-6) : +1.5 V
Indicates the status of the +1.5 V power that is generated by the VCC (CORE) and supplied to the CPU-DT module.
Lit while the specified power is turned on.

D14 (A-6) : +3.3 V
Indicates the status of the VCC (I/O) power that is supplied to the CPU-DT module.
Lit while the specified power is turned on.

D15, D16, D17, D18 (A-3, A-4, A-5) : STATUS1 to STATUS4 LED
Used for maintenance purpose.
All LEDs are not lit in normal operation.

<Switch on the CPU-DT module> : Main CPU
SW1 (A-2) : RESET switch
Pressing this switch resets the CPU-DT module.
Note
In some machines in which the CPU-DT module is installed, the system reset may be activated.

SW2 (A-1) : MODE switch
Pin-8 DIP switch.
Used only for production in the assembly factory.
All switches are set to OFF for normal operation.
Factory setting is all OFF.

<LED on the CPU-DK module> : COM CPU-1
: COM CPU-2
DI1 (B-5) : CD (Card Detect) status LED
Lit when the CPU-DK module is inserted correctly to the parent board.

DI2 (F-3) : RUN status LED
Lit when the CPU-DK module starts operating.

DI3 (F-3), DI6 (F-3), DI7 (F-3), DI8 (F-4) : STATUS1 to STATUS4 LED
Used for maintenance purpose. Only the STATUS1 LED is lit in normal operation.

DI4 (B-5) : +3.3 V
Indicates the status of the VCC (CORE) and VCC (I/O) powers that are supplied to the CPU-DK module.
Lit while the specified power is turned on.

<Switch on the CPU-DK module> : COM CPU-1
: COM CPU-2
SW1 (D-5) : RESET switch
Pressing this switch resets the CPU-DK module.
Note
In some machines in which the CPU-DK module is installed, the system reset may be activated.

SW2 (C-5) : MODE switch
8-pin DIP switch
Used only for production in the assembly factory. All switches are set to OFF for normal operation.
Default setting when shipped from the factory is all OFF.

<LED on the SG-272 board>
D100 (B-1) : REF OK status LED
Lit while V sync of the reference input is detected.

D101 (B-1) : REF EXT status LED
Lit while sync signal is input to the reference input.

D200 (B-1) : LOCK status LED
Lit while the machine is locked to the reference signal.

<LED on the SIO-26 board>
D200 (A-3): Communication error indication
Lit when a communication error occurs through the Editor port or the Serial Tally port.

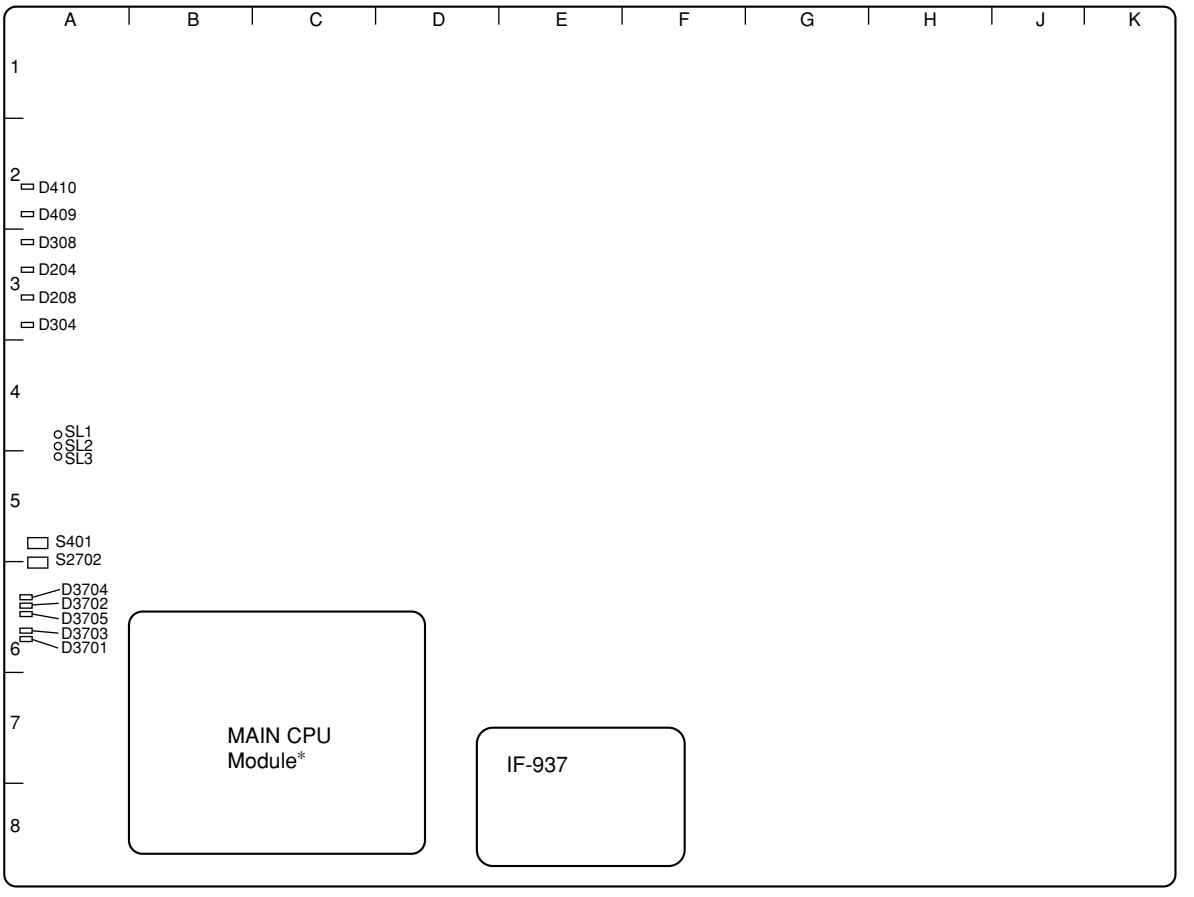
D201 (A-3): Communication status indication
Flashes when a communication is performed through the Editor port.

D202 (A-3): Communication status indication
Flashes when a communication is performed 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.

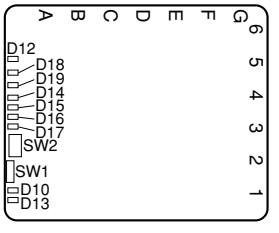
S500 (A-3): Reset switch
Initializes the SIO-26 board.

2. MIX-48A board (MVS-8000A/8000ASF, MKS-8210A)

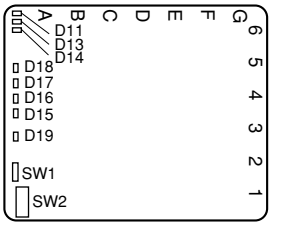


∗ : The CPU-DR module or CPU-DT module is used in the Main CPU module.

CPU-DR Module



CPU-DT Module



A side/Component side

<LED>

D204, D208, D304 (A-3) : +1.5 V-1 to 3

+1.5 V-1 to 3 power supply status indication.
Lit when the +1.5 V-1 to 3 power are supplied.

D308 (A-3) : +2.5 V

+2.5 V power supply status indication.
Lit when the +2.5 V power is supplied.

D409 (A-2) : +3.3 V

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

D410 (A-2) : +12 V

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

D3701 (A-6) : CONFIG. ERROR status LED

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

D3702, D3704, D3705 (A-6) : C2, C1 and C0 status LED

Indicates the status of CPU on the circuit board.

D3703 (A-6) : PLL UNLOCK status LED

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

<Switch>

S401 (A-5) : MIX-CPU reset switch

Pressing this switch initializes the CPU on the MIX-48A board.

S2702 (A-5) : Monitor reset switch

The reset switch that is used to reset the monitor during maintenance through the terminal.

<Slit land>

SL1, SL2 (A-4) and SL3 (A-5) : JTAG chain switching

They are the slit lands that are used to switch the JTAG chains. Connect these slit lands to open or to close them so that the following statuses can be obtained.

SL1	SL2	SL3	Status
short	open	open	The chain of CPLD only is established.
open	short	short	All of the JTAG devices are connected in chain.

<LED on the CPU-DR module>

Refer to < LED on the CPU-DR module > in “1. CA-54A board”.

<Switch on the CPU-DR module>

Refer to < Switch on the CPU-DR module > in “1. CA-54A board”.

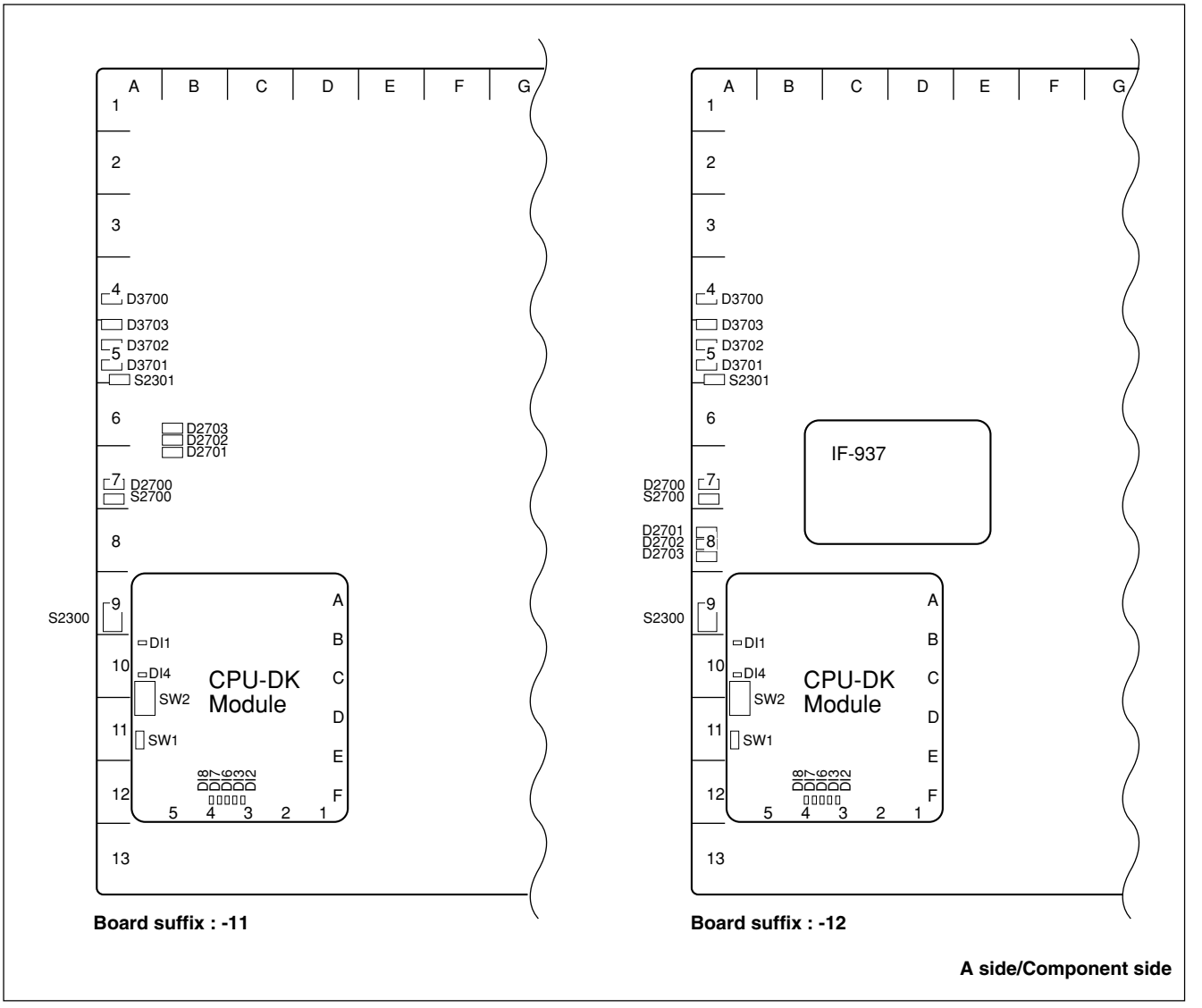
<LED on the CPU-DT module>

Refer to <LED on the CPU-DT module> in “1. CA-54A board”.

<Switch on the CPU-DT module>

Refer to <Switch on the CPU-DT module> in “1. CA-54A board”.

3. DIF-141 board (MKS-8170M)



<LED>

D2700 (A-7) : CONF ERR status LED

FPGA (EP20K100E and Spartan II) CONFIG DONE status indication.
Not lit when all configurations are completed.

D2701 (B-7), D2702 (B-6), D2703 (B-6) (Board suffix-11) : MAIN CPU status LED

Main CPU status indication.

D2701, D2702, D2703 (A-8) (Board suffix-12) : MAIN CPU status LED

Main CPU status indication.

D3700 (A-4) : +12 V

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

D3701 (A-5) : +1.8 V

+1.8 V power supply status indication.
Lit when the +1.8 V power is supplied.

D3702 (A-5) : +2.5 V

+2.5 V power supply status indication.
Lit when the +2.5 V power is supplied.

D3703 (A-4) : +3.3 V

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

<Switch>

S2300 (A-9) : RESET switch

Pressing this switch resets the DIF-141 board.

S2301 (A-5) : MONITOR reset switch

The reset switch that is used to reset the monitor in the maintenance from the TERMINAL.

S2700 (A-7) : JTAG switch

Used only for production in the assembly factory. Set this switch to ON only when writing program in the JTAG device with ISP.

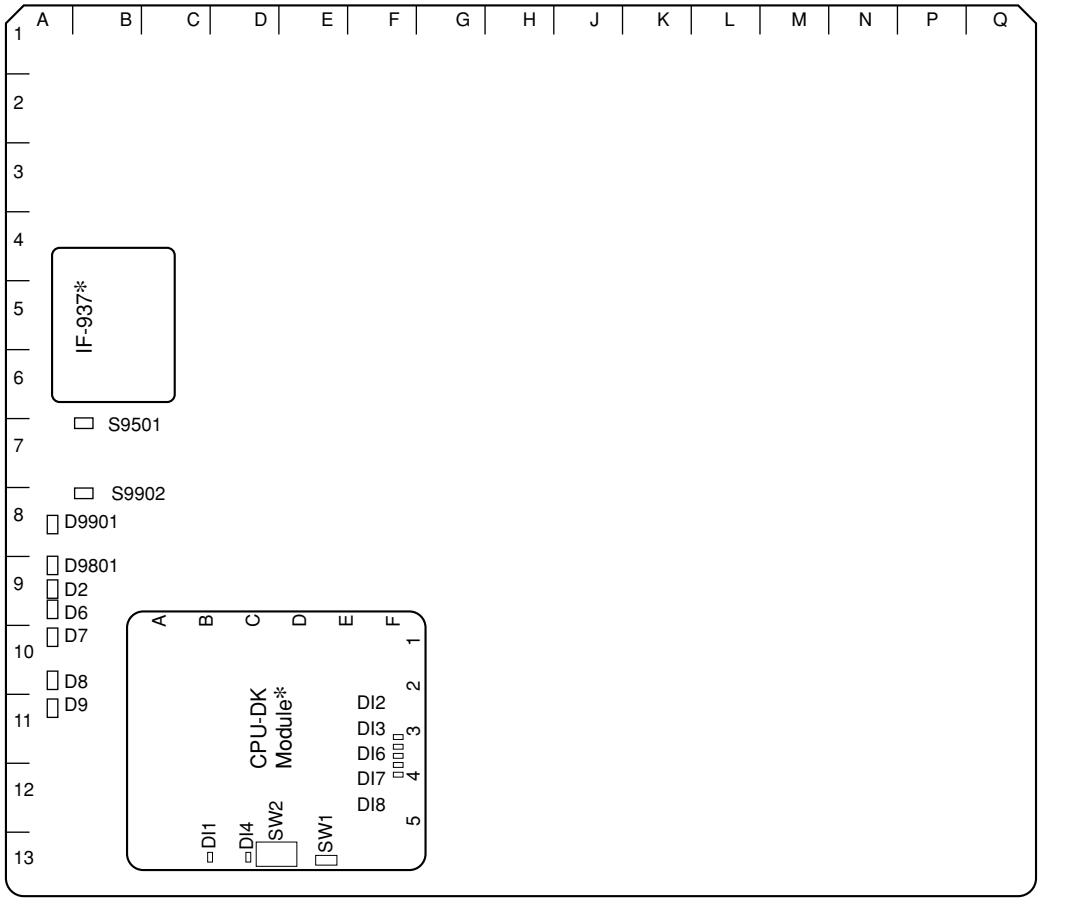
<LED on the CPU-DK module>

Refer to < LED on the CPU-DK module > in “1. CA-54A board”.

<Switch on the CPU-DK module>

Refer to < Switch on the CPU-DK module > in “1. CA-54A board”.

4. XPT-25 board (MVS-8000A/8000ASF)



A side/Component side

∗ : CPU-DK and the IF-937 board are not mounted on the XPT-25 board inserted into the SLOT9 of the MVS-8000A.

<LED>

D9901 (A-8) : RESET status LED

System reset status indication.
Lit:

- When S9902 is pressed.
- When the following power voltage drops.
  3.3 V, 2.5 V-1 to 4
- When the reset signal is received from the CPU in the chassis in use.

D9801 (A-9) : CONFIG. ERROR

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

D2 (A-9) : +12 V

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

D6 (A-9): +3.3 V

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

D7 (A-10), D8 (A-11): +2.5 V-1, -2, -3

+2.5 V power supply status indication.
Lit when the +2.5 V power is supplied.

<Switch>

S9902 (A-8) : XPT-CPU reset switch

Pressing this switch initializes the CPU on the circuit board.

S9501 (A-7) : Monitor reset switch

The reset switch that is used for maintenance through the terminal.

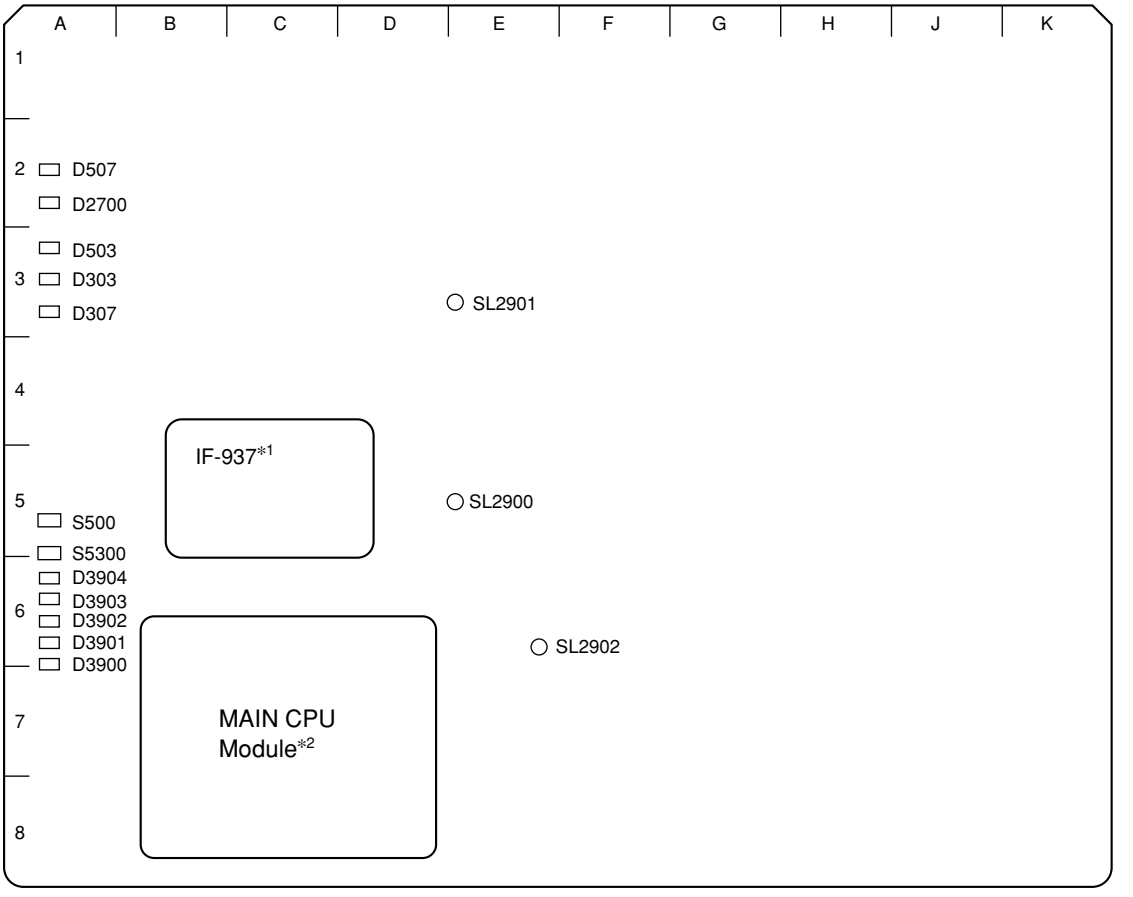
<LED on the CPU-DK Module>

Refer to <LED on the CPU-DK Module> in “1. CA-54A board”.

<Switch on the CPU-DK Module>

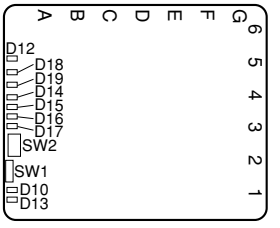
Refer to <Switch on the CPU-DK Module> in “1. CA-54A board”.

5. OUT-28 board (MKS-8160A)
OUT-28A board (MVS-8000A/8000ASF)

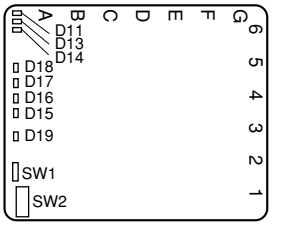


∗1 : The IF-937 board is mounted on the OUT-28A board.
∗2 : The main CPU module is mounted on the OUT-28A board.
The CPU-DR module or CPU-DT module is used in the Main CPU module.

CPU-DR Module



CPU-DT Module



A side/Component side

<LED>

D303, D307 (A-3) : +1.5 V-1, -2

+1.5 V power supply status indication.
Lit when the +1.5 V power is supplied.

D503 (A-3) : +3.3 V

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

D507 (A-2) : +12 V

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

D2700 (A-2) : +5 V

+5 V power supply status indication.
Lit when the +5 V power is supplied.

D3900 (A-6) : CONFIG. ERROR

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

D3901 (A-6) : PLL UNLOCK

Indicates lock/unlock of the PLL (Phase Locked Loop) in the FPGA.
If this LED is lit, the PLL can possibly be unlocked.

D3902, D3903, D3904 (A-6) : C0, C1, C2 status LED

Indicates the status of CPU on the circuit board. (Valid only for OUT-28A board)

<Swtich>

S500 (A-5) : OUT-CPU reset switch

Pressing this switch initializes the CPU on the circuit board. (Valid only for the OUT-28A board)

S5300 (A-6) : MONITOR reset switch

The reset switch that is used to reset the monitoring during maintenance through the terminal. (Valid only for the OUT-28A board)

<LED on the CPU-DR Module>

Refer to <LED on the CPU-DR Module> in “1. CA-54A board”. (CPU-DR is installed only on the OUT-28A board.)

<Switch on the CPU-DR Module>

Refer to <Switch on the CPU-DR Module> in “1. CA-54A board”. (CPU-DR is installed only on the OUT-28A board.)

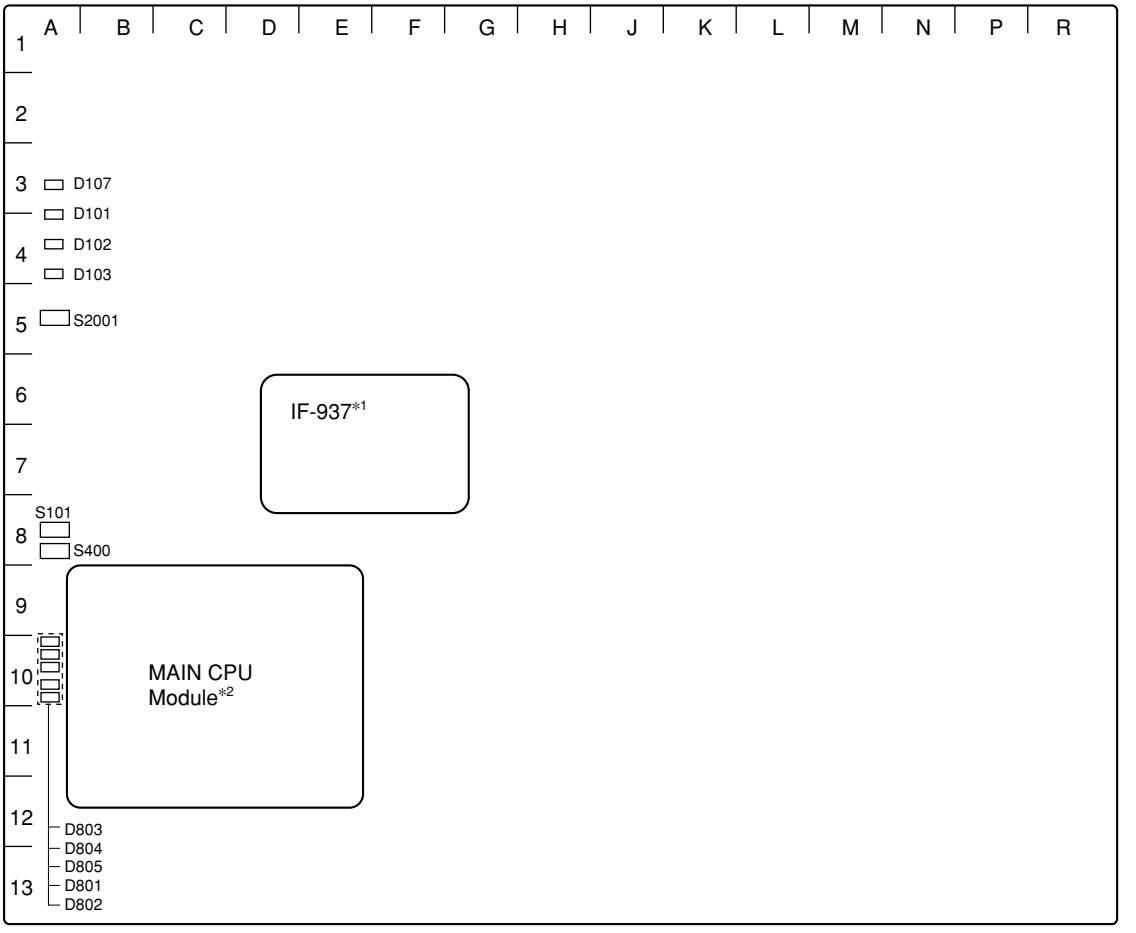
<LED on the CPU-DT module>

Refer to <LED on the CPU-DT module> in “1. CA-54A board”. (CPU-DT is installed only on the OUT-28A board.)

<Switch on the CPU-DT module>

Refer to <Switch on the CPU-DT module> in “1. CA-54A board”. (CPU-DT is installed only on the OUT-28A board.)

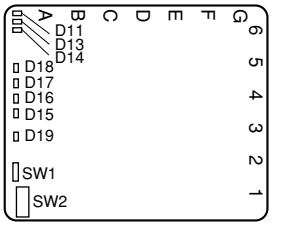
6. CC-90 board (MKS-8420M)



∗1 : The IF-937 board is not mounted on the CC-90 board (suffix: -12).
∗2 : The CPU-DR module or CPU-DT module is used in the Main CPU module.

CPU-DR Module

CPU-DT Module



A side/Component side

<LED>

D101 (A-3) : +3.3 V

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

D102 (A-4) : +1.8 V-1

+1.8 V-1 power supply status indication.
Lit when the +1.8 V-1 power is supplied.

D103 (A-4) : +1.8 V-2

+1.8 V-2 power supply status indication.
Lit when the +1.8 V-2 power is supplied.

D107 (A-3) : +12 V

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

D801 (A-10) : DLL status LED

Indicates lock/unlock of the DLL (Delay Locked Loop) in the CC-90 board.
If this LED lit, the DLL can possibly be unlocked.

D802 (A-10) : FPGA CONFIG status LED

CC-90 board FPGA CONFIG DONE status indication.
Not lit when all configurations are completed.

D803, D804, D805 (A-10) : CC-CPU status LED

Indicates the CPU status on the CC-90 board.

<Switch>

S101 (A-8) : CC-CPU reset switch

Pressing this switch initializes the CPU on the CC-90 board.

S400 (A-8) : Monitor reset switch

The reset switch that is used to reset the monitor during maintenance through the terminal.

S2001 (A-5) : JTAG switch

Used only for production in the assembly factory. Set this switch to ON only when writing program in the JTAG device with ISP.

<LED on the CPU-DR module>

Refer to < LED on the CPU-DR module > in “1. CA-54A board”.

<Switch on the CPU-DR module>

Refer to < Switch on the CPU-DR module > in “1. CA-54A board”.

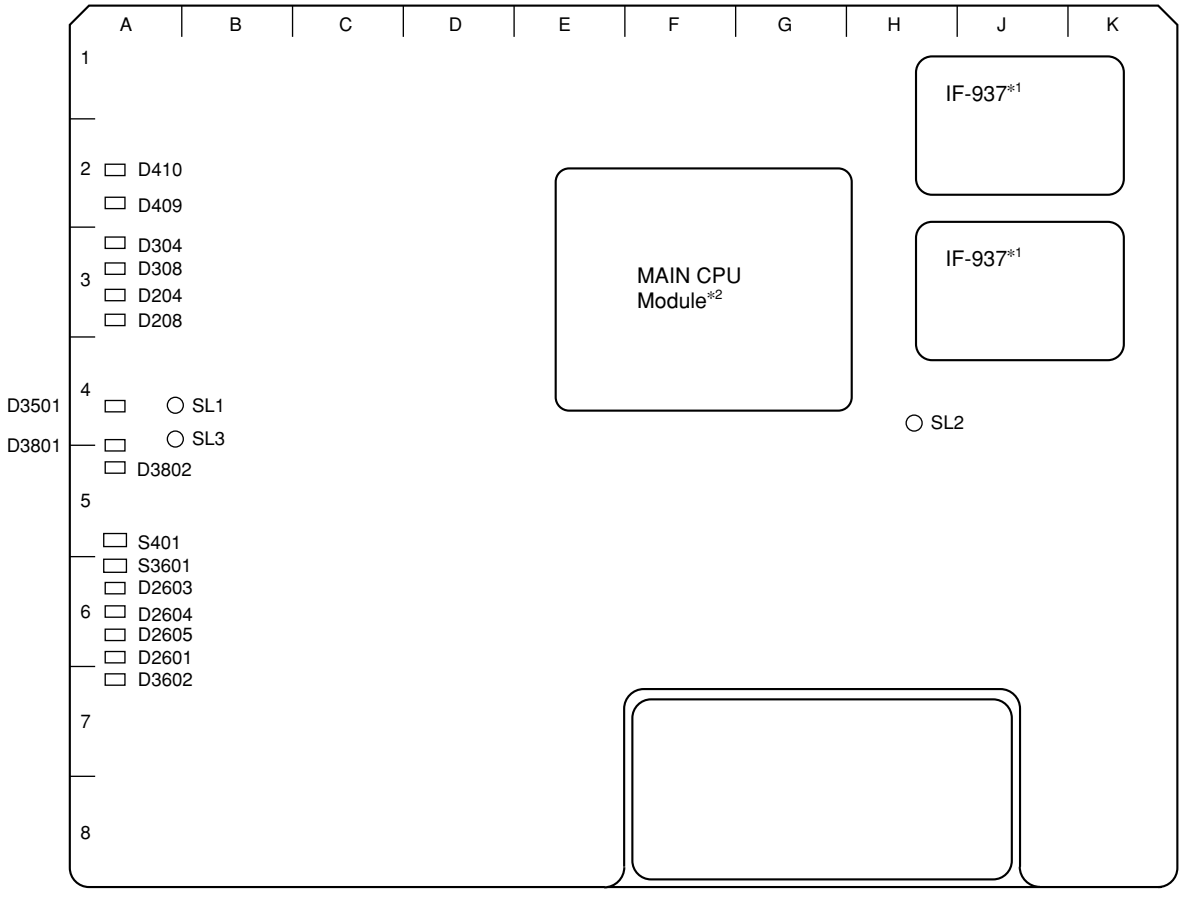
<LED on the CPU-DT module>

Refer to <LED on the CPU-DT module> in “1. CA-54A board”.

<Switch on the CPU-DT module>

Refer to <Switch on the CPU-DT module> in “1. CA-54A board”.

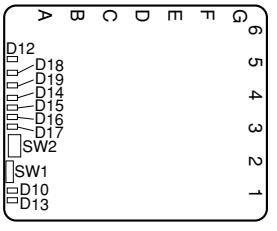
7. MY-112B board (MKS-8440A)



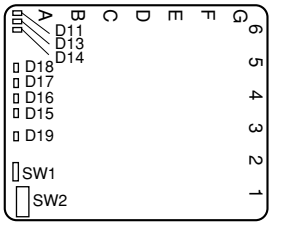
∗1 : Remove the main CPU module and the IF-937 boards (two pieces) when using the MY-112B board inserted into the SLOT15 of the MVS-8000A.

∗2 : The CPU-DR module or CPU-DT module is used in the Main CPU module.

CPU-DR Module



CPU-DT Module



A side/Component side

<LED>

D204, D208 (A-3) : +1.5 V-1, 2

+1.5 V power supply status indication.
Lit when the +1.5 V power are supplied.

D304, D308 (A-3) : +2.5 V-1, 2

+2.5 V power supply status indication.
Lit when the +2.5 V power is supplied.

D401 (A-2) : +12 V

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

D409 (A-2) : +3.3 V

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

D2601 (A-6) : PLL UNLOCK

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

D2602 (A-6) : CONFIG. ERROR

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

D2603, D2604, D2605 (A-6) : C2, C1 and C0 status LED

Indicates the status of CPU on the circuit board. (This LED is invalid for the MY-112B board in the SLOT15 of the MVS-8000A.)

D3801 (A-5) : FM_DATA ACT status LED

Ethernet communication status indication of FM_DATA.
Lit while the data send or receive is in progress.
(This LED is invalid for the MY-112B board in the SLOT15 of the MVS-8000A.)

D3802 (A-5) : FM_DATA 100 status LED

Ethernet communication speed status indication of FM_DATA.
Lit : 100 Mb/s
Not lit : 10 Mb/s
(This LED is invalid for the MY-112B board in the SLOT15 of the MVS-8000A.)

<Switch>

S401 (A-5) : MY-CPU reset switch

Pressing this switch initializes the CPU on the MY-112B board.

S3601 (A-6) : Monitor reset switch

This is a reset switch used in maintaining through the terminal pin.

<Slit land>

SL1 (A-4), SL2 (H-5) and SL3 (A-5) : JTAG chain switching

They are the slit lands that are used to switch the JTAG chains. Connect these slit lands to open or to close them so that the following statuses can be obtained.

SL1	SL2	SL3	Status
short	open	open	The chain of CPLD only is established.
open	short	short	All of the JTAG devices are connected in chain.

<LED on the CPU-DR module>

Refer to < LED on the CPU-DR module > in “1. CA-54A board”.

<Switch on the CPU-DR module>

Refer to < Switch on the CPU-DR module > in “1. CA-54A board”.

<LED on the CPU-DT module>

Refer to <LED on the CPU-DT module> in “1. CA-54A board”.

<Switch on the CPU-DT module>

Refer to <Switch on the CPU-DT module> in “1. CA-54A board”.

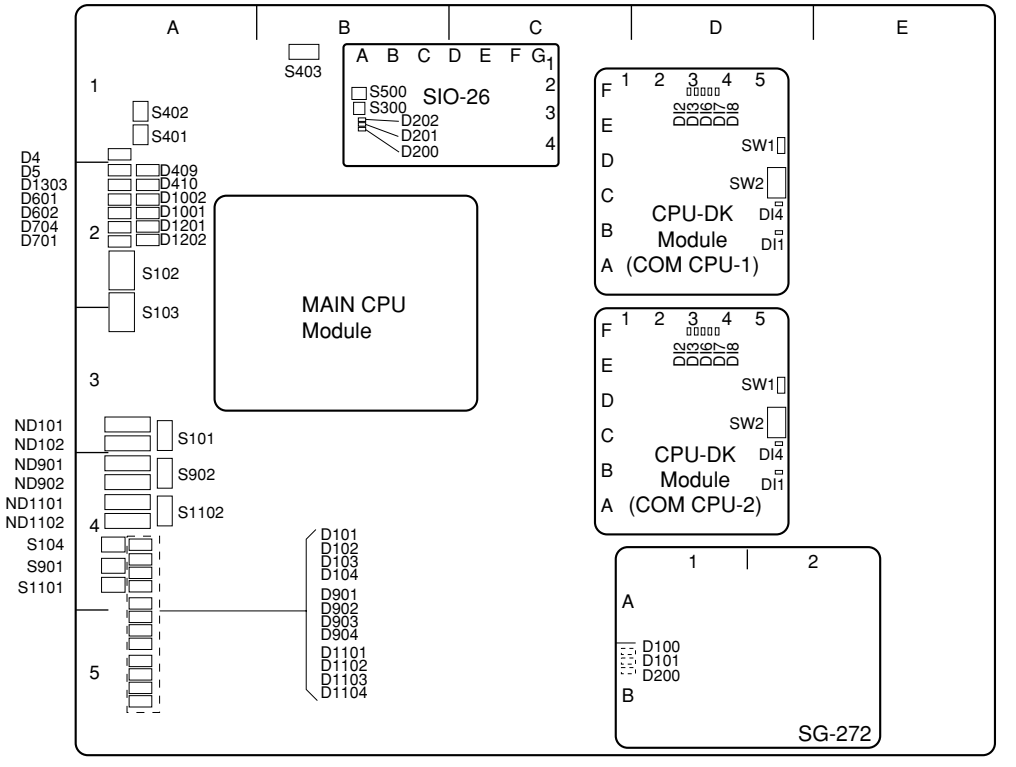
1-8-2. Checks on the Switch Setting the Number of Power Supply Units

Before turning on the power of the MVS-8000A/8000ASF, confirm that the switch S403 on the CA-54A board is set in the following position (default setting).

S403 (B-1)/CA-54A board : Switch setting the number of power supply units (DIP type)
Sets the number of the power units required for the MVS-8000A/8000ASF.

- MVS-8000A (Serial No. 10001 to 10010)
  S403-1 : OFF
  S403-2 : OFF
  S403-3 : ON
  S403-4 : OFF

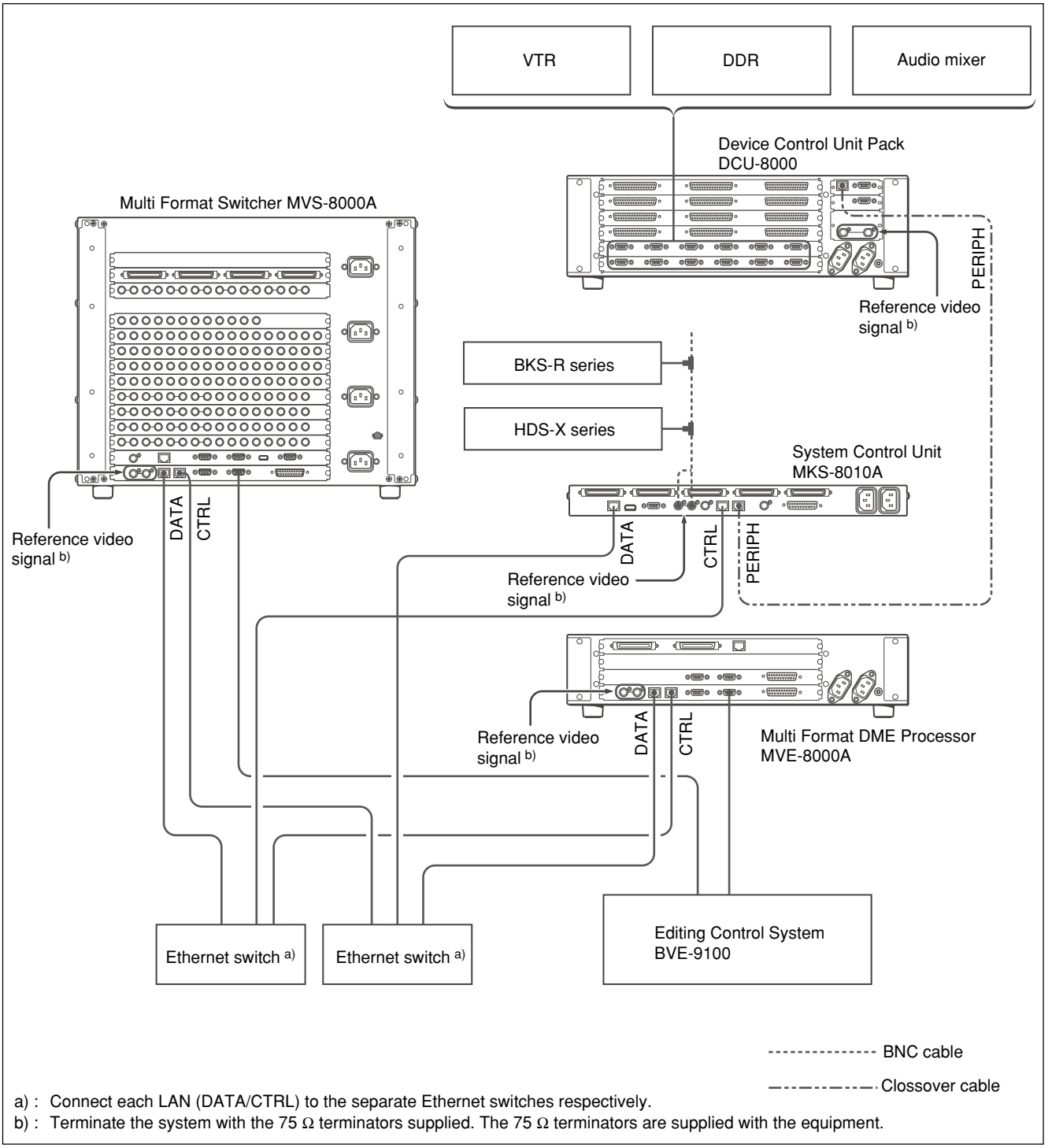
- MVS-8000A (Serial No. 10011 and Higher)
  MVS-8000ASF (Serial No. 10001 and Higher)
  S403-1 : ON
  S403-2 : ON
  S403-3 : OFF
  S403-4 : OFF



1-9. System Connection

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

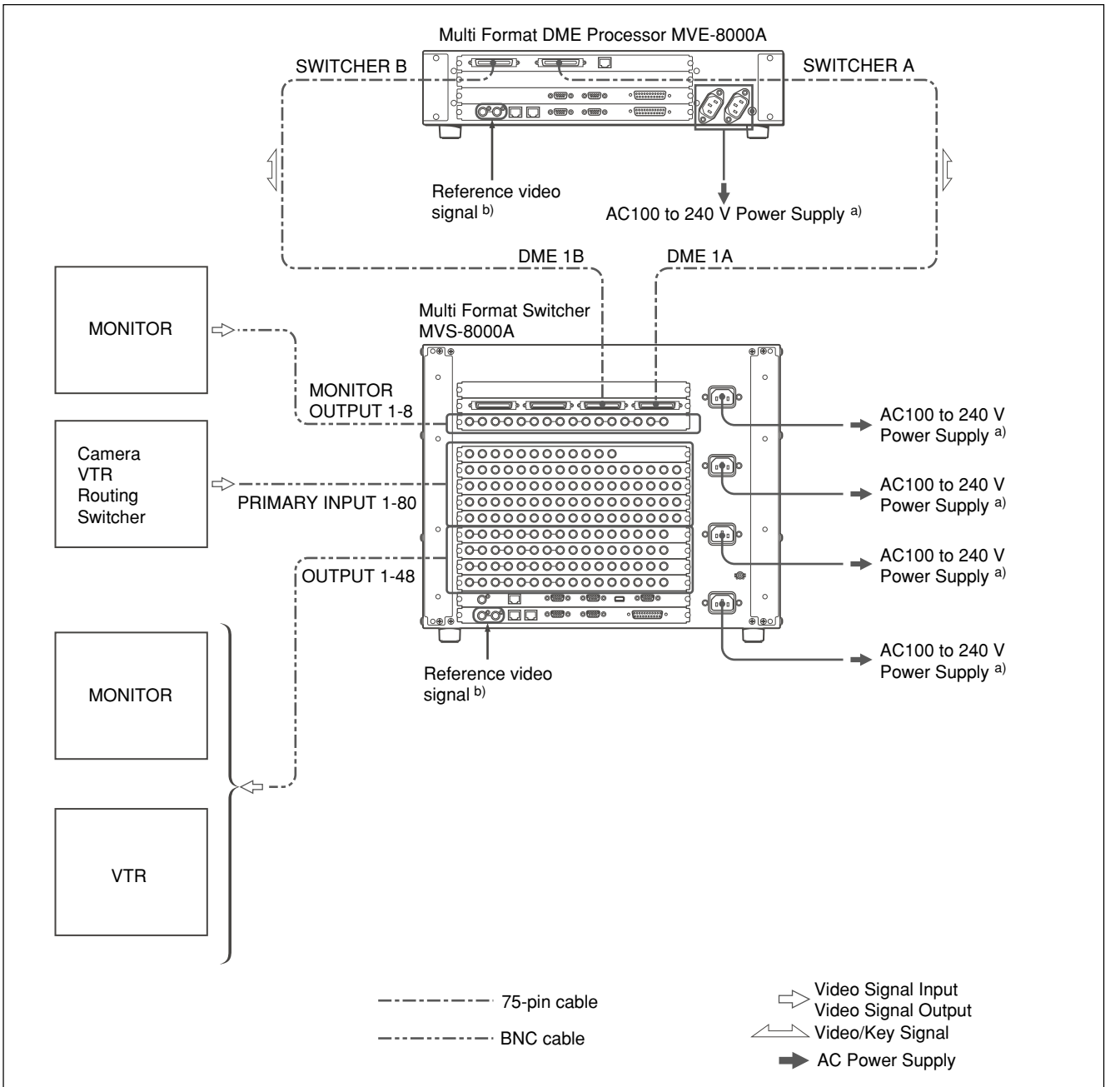
1. Connection example of the MVS-8000A system (The same type of configuration is possible with a MVS-8000ASF system.)



a) : Connect each LAN (DATA/CTRL) to the separate Ethernet switches respectively.
b) : Terminate the system with the 75 Ω terminators supplied. The 75 Ω terminators are supplied with the equipment.

2. Flow of Video Signals

The figure below shows the flow of video signals in a MVS-8000A system.
The flow of signals is the same in a MVS-8000ASF system

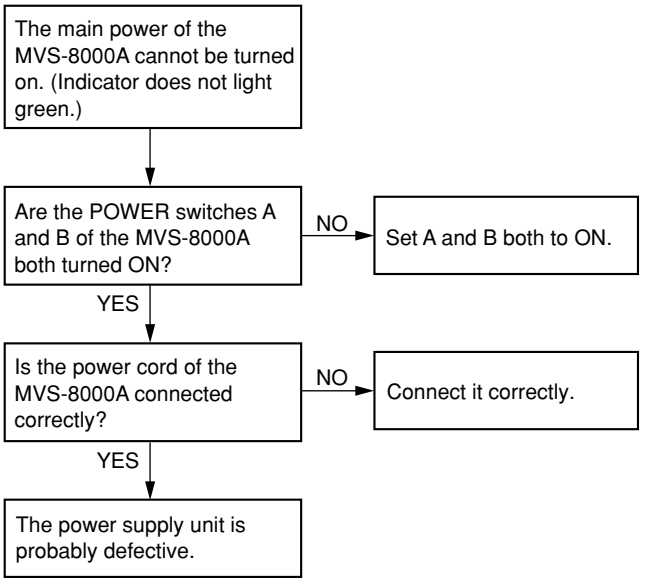


a) : For the AC power cord, refer to Section “1-2-2. Recommended Power Cord”.
b) : Terminate the system with the 75 Ω terminators supplied. The 75 Ω terminators are supplied with the equipment.

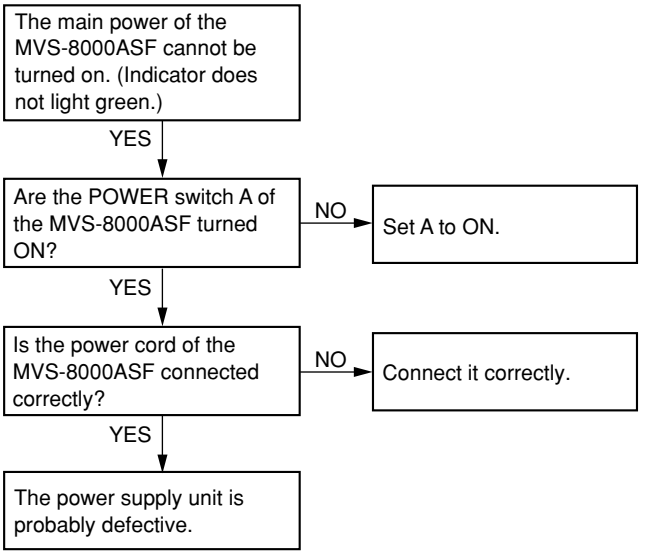
Section 2
Service Overview

2-1. Troubleshooting

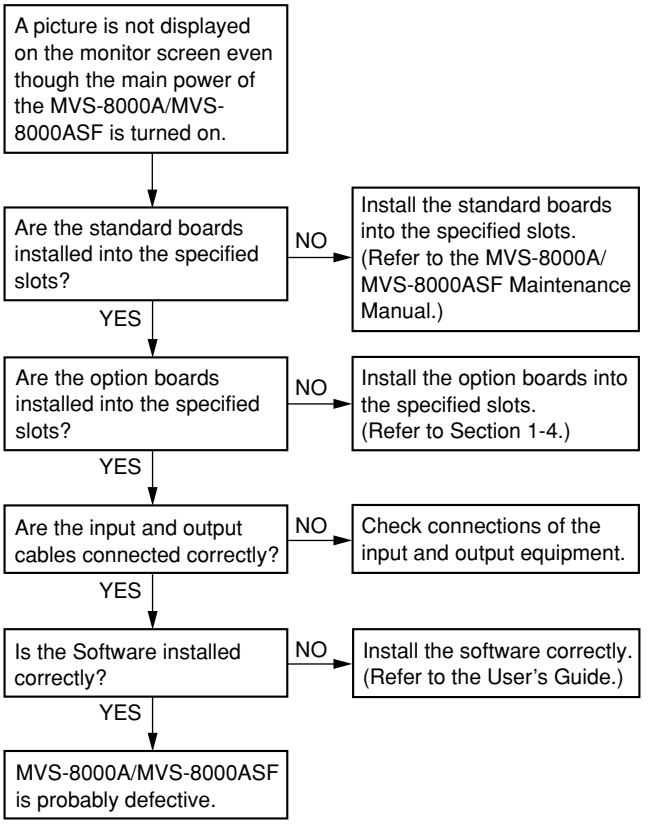
The main power of the MVS-8000A cannot be turned on. (Indicator does not light green.)



The main power of the MVS-8000ASF 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. Cleaning

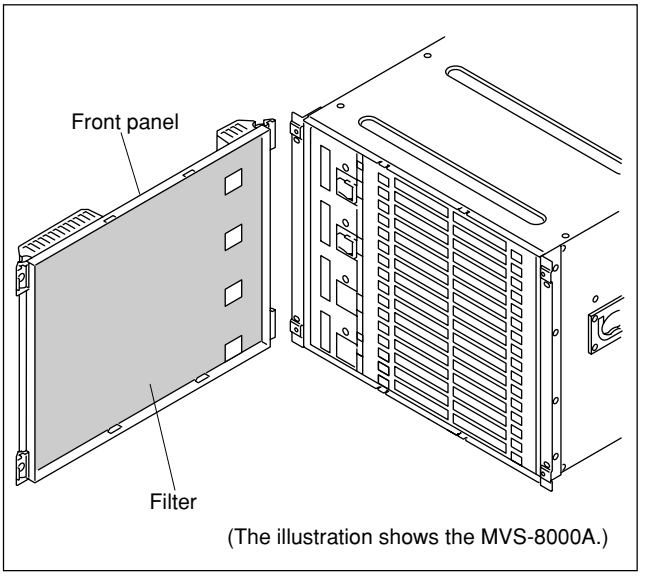
1. Front panel

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

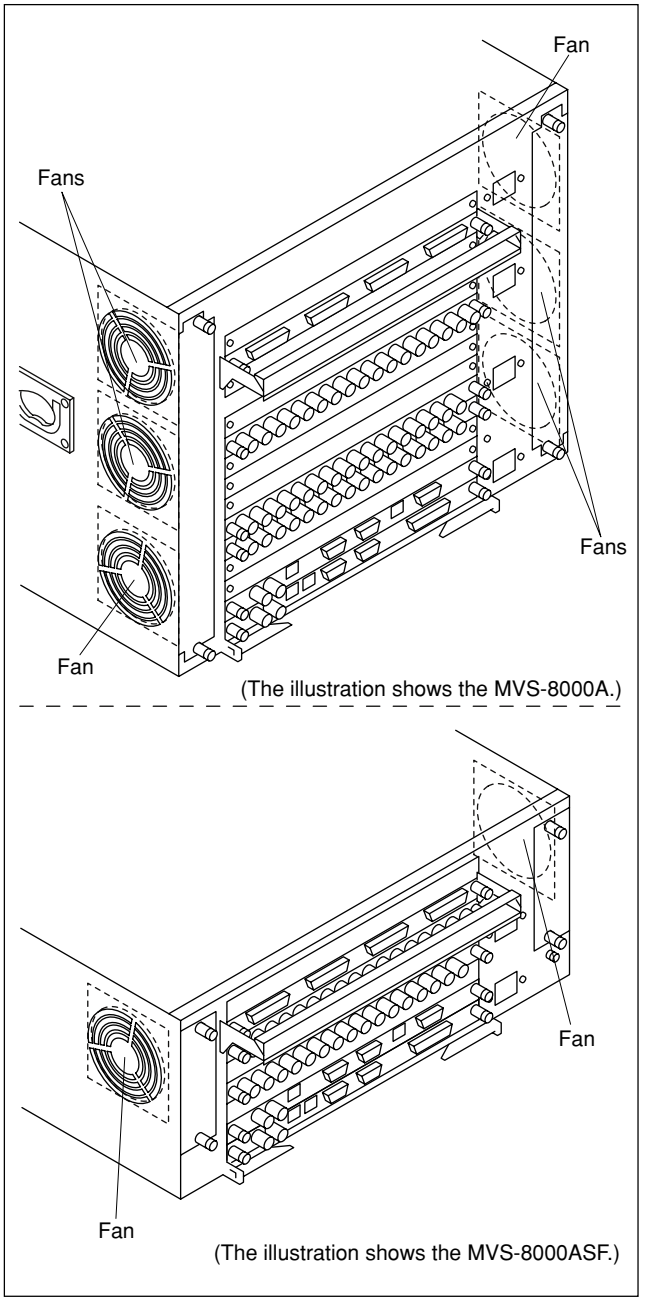
Cleaning the filter by washing in water is recommended when there is a heavy accumulation of dust.
Be sure to dry the filter completely after it has been washed.



(The illustration shows the MVS-8000A.)

2. Fan

MVS-8000A/8000ASF series 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-54A board in order to retain the data such as the resume data, snapshots, and effects in the MVS-8000A/8000ASF series machine. Leave the main power of the MVS-8000A/8000ASF 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-8000A-C (SY)
MVS8000AS-C (SY) E
3-854-123-02

Sony Corporation

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