SONY®

DME PROCESSOR PACK
MVE-8000

MULTI FORMAT DME PROCESSOR
MKS-8800

MKS-8810M

MKS-8820M

INSTALLATION MANUAL
1st Edition

⚠ 警告

このマニュアルは，サービス専用です。

お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，

人身事故につながることがあります。

危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

⚠ WARNING

This manual is intended for qualified service personnel only.

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

⚠ WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.

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

⚠ AVERTISSEMENT

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

MKS-8800	Serial No. 10001 and Higher
MKS-8810M	Serial No. 10001 and Higher
MKS-8820M	Serial No. 10001 and Higher

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

Purpose of this manual

This manual is the installation manual of DME Processor Pack MVE-8000 and the optional boards.

This manual is intended for use by trained system and service engineers, and describes the information on installing the MVE-8000.

Related manuals

The following manuals are prepared for MVE-8000 and the optional boards .

- **Operation Manual (Supplied with MVE-8000)**
  This manual describes the application and operation of MVE-8000.

- **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.

- **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, 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 :   Approx. 20 kg
(with all options installed)

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

Ventilation
The inside of the MVE-8000 is cooled by a fan (rear and sides).
The power supply can be damaged if the exhaust vent (rear) 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 back of the MVE-8000.

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 : Approx. 3.5 to 1.5 A
(with all option boards installed)

Note
As the inrush current at turn-on is the maximum 60 A (at 100 V)/60 A (at 230 V), the capacity of the AC power must be commensurate in it.
If the capacity of the AC power is not the adequately large, the breaker of the AC power at the supply side will operate or the unit will abnormally operate.

1-2-2. Recommended Power Cord

WARNING
- The power cord is not supplied with the MVE-8000.
  Be sure to use the power cord that is applicable to places in the area.
  To avoid a fire or an electric shock, be sure to use the designated power cord.
- Do not damage the power cord.
  Otherwise, a fire or electric shock may result.

For customers in the U.S.A. and Canada
① Power cord, 125 V 10 A (2.4 m) : ⚠ 1-557-377-11
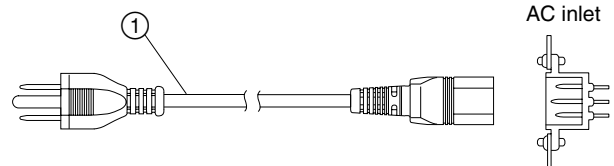
For customers in the all Europian countories
① Power cord, 250 V 10 A (2.4 m) : ⚠ 1-782-929-21
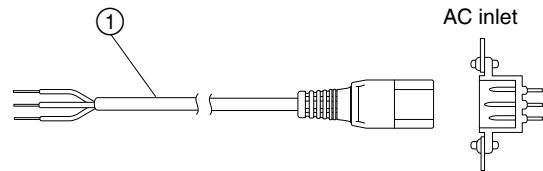
1-3. Installation Space (External dimensions)

Unit : mm
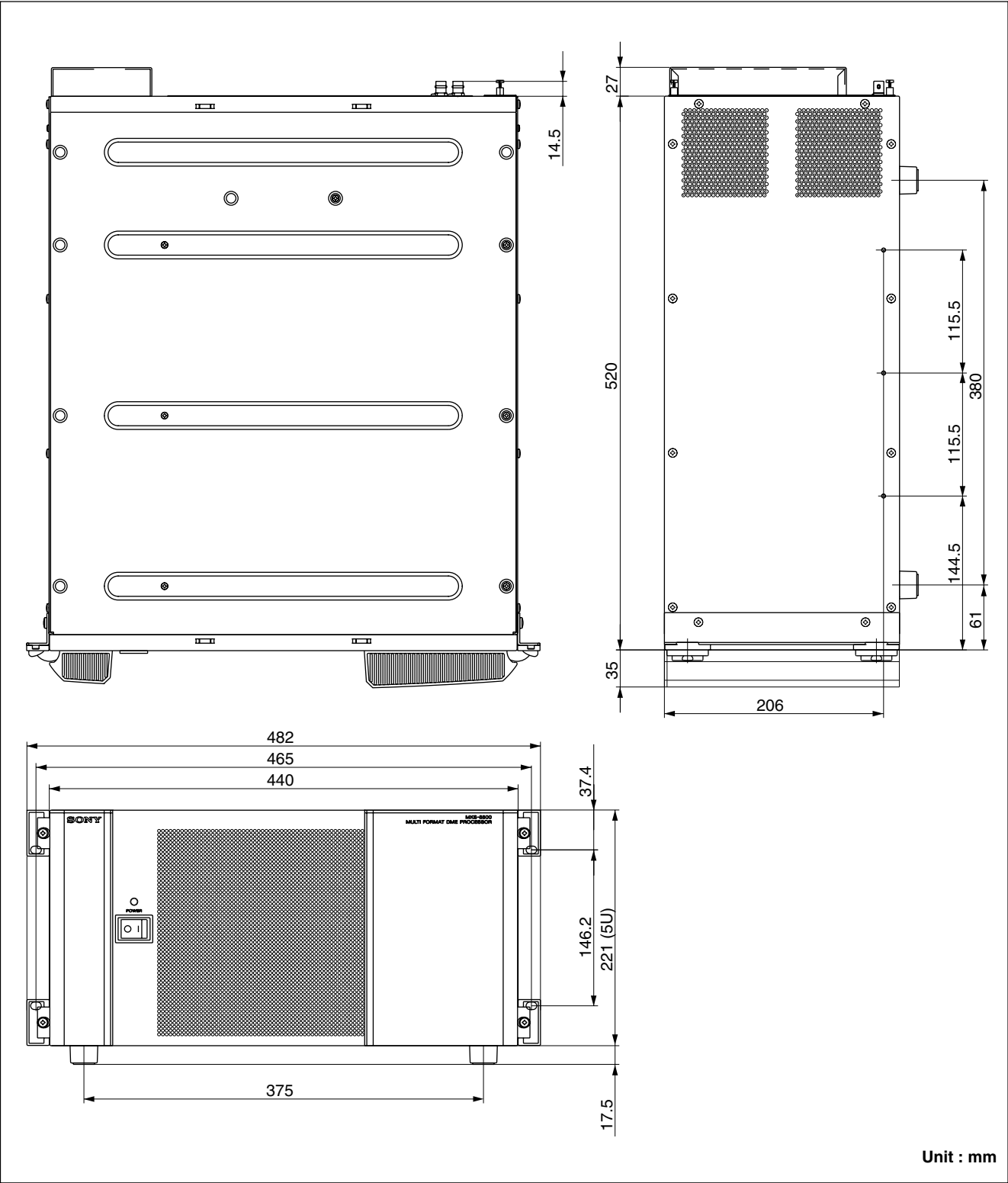
1-4. Installing the Options

The MVE-8000 is shipped from the factory after the necessary option boards (refer to the following table) are already installed in the MKS-8800 in accordance with the specified system configuration.

Options of the MVE-8000

Option	Function
MKS-8810M	Basic Effects Board
MKS-8820M	Input/Output Board

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

Note

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

Installation

1. Turn off the main power of the MKS-8800 and disconnect the AC power cord from the wall outlet.
2. Loosen the four screws (with drop-safe) and remove the front panel in the direction of the arrow.
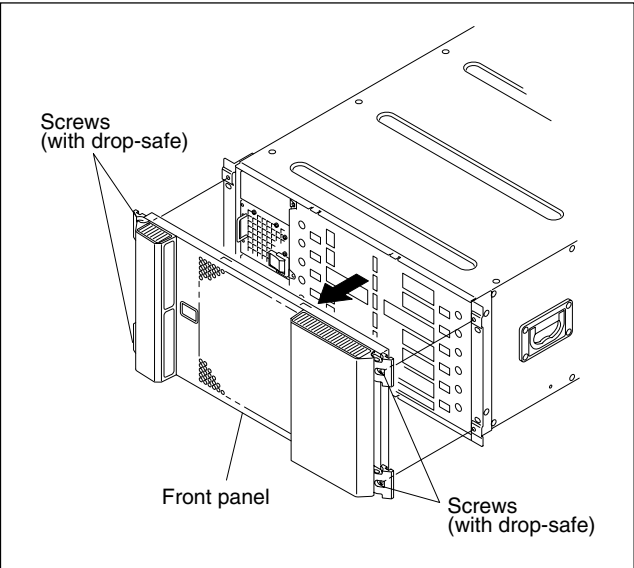
3. Remove the four screws (B3 × 5), remove the "plug-in board loose-proof assembly".
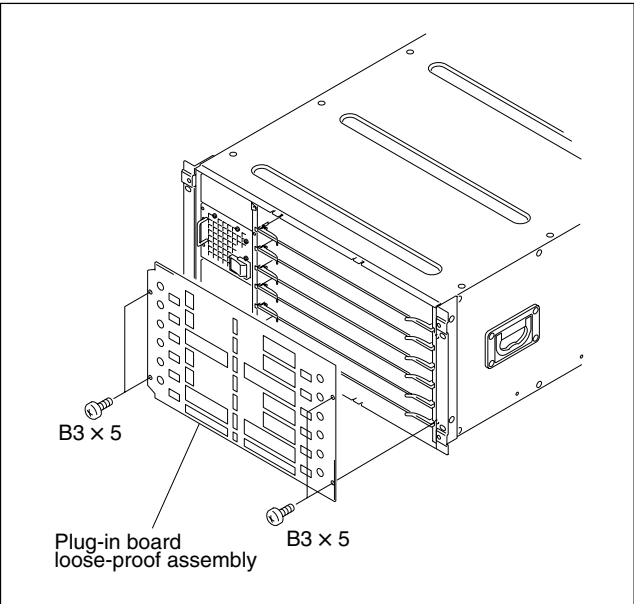
4. While the eject levers are kept open as shown in the illustration, insert the plug-in board into the board guide rails.
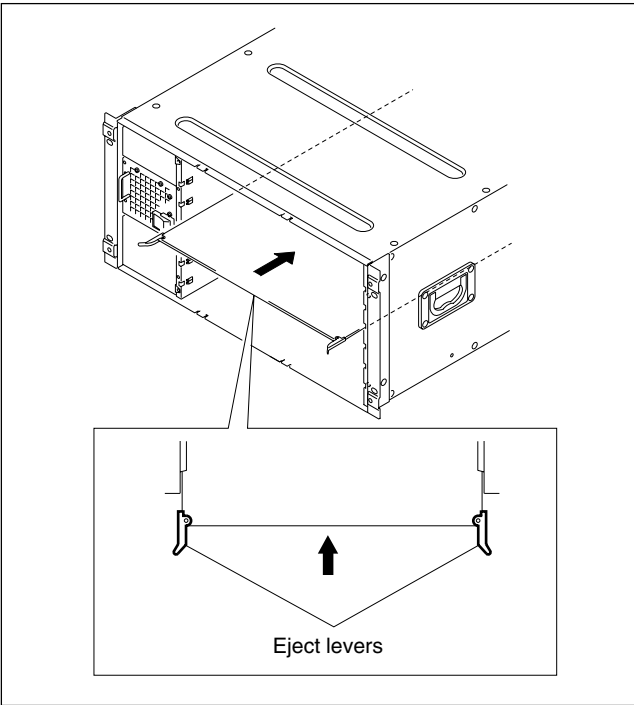
Name of option	Name of board	Slot on the front side
MKS-8810M	DVP-21 board*1	1, 2, 4, 5
MKS-8820M	VIF-26 board	3

*1 : The DVP-21 boards are assigned to the following channels in accordance with the slots to which the boards are inserted.

Slot	Channel
1	CH1
2	CH2
4	CH3
5	CH4

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

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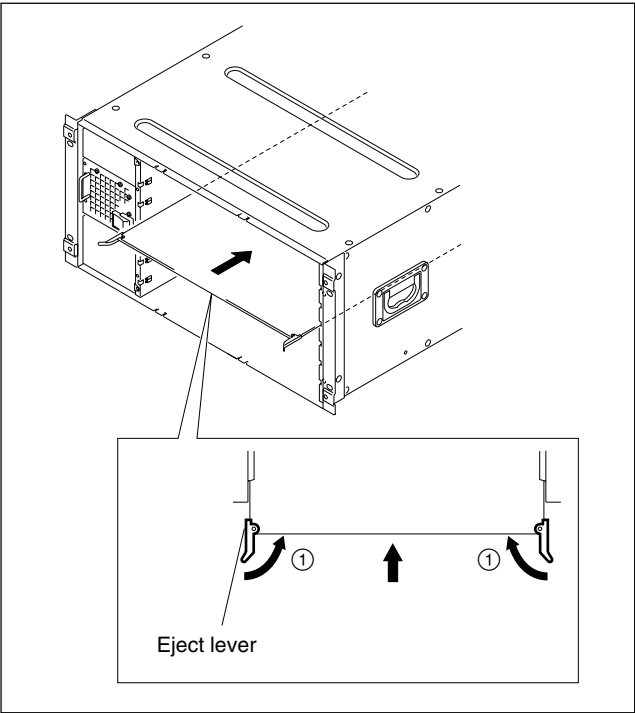
6. Attach the plug-in board loose-proof assembly and the front panel by reversing the installation steps 2, 3.

1-4-2. Installing the Connector Board

Installation

1. Remove the two screws or the two fixing screws. Remove the blank panel or the connector board.

B3 × 5

B3 × 5
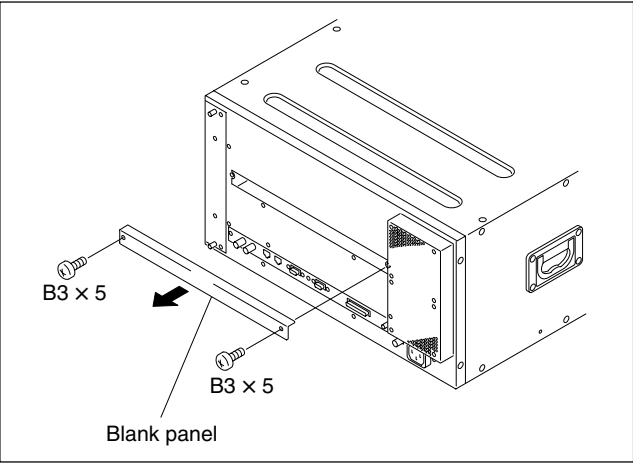
Blank panel

Note

Store the removed blank panel in a safe location.

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

Fixing screw

Fixing screw

Connector board
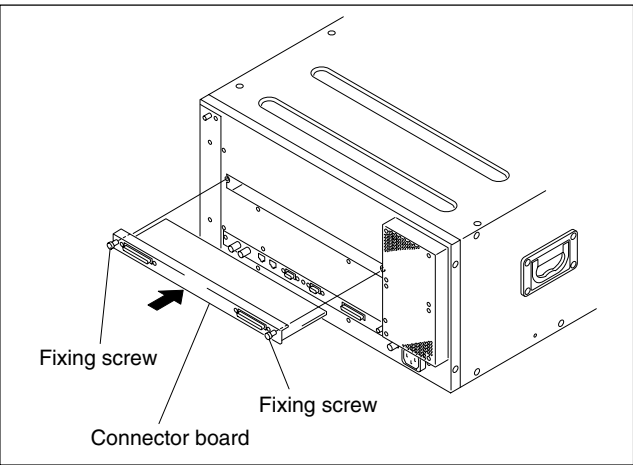
Name of option	Name of board	Slot on the rear side
MKS-8820M	CN-2153 board	Insert the plug-in board into the slot that corresponds to the slot in the front.

1-5. Rack Mounting

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

Specified rack mount kit : RMM-10

| Note |

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

Parts of the RMM-10

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

1. Precautions for rack mounting

| WARNING |

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

| CAUTION |

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

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

| Note |

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

2. Rack mounting procedure

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

| Note |

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

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

    | Note |

    Use B4 × 6 screws.
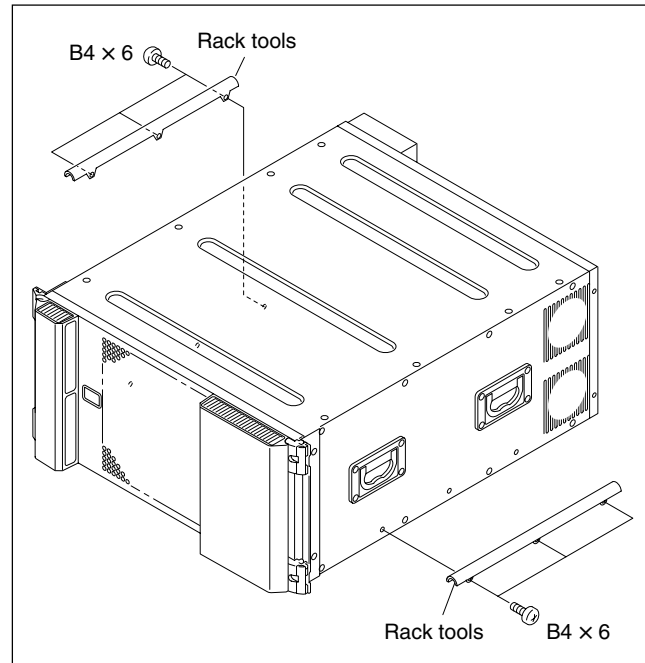
2. Loosen the screws on the rear of the right and left
    adaptors and adjust the length of the adaptor according
    to the depth of the rack.
    (The illustration below shows the left adaptor.)
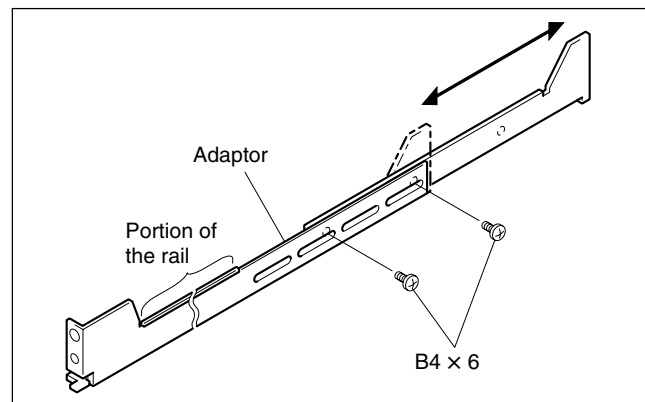
| Note |

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

MVE-8000 IM

3. Attach the right and left adaptors to the rack completely using the specified six screws.
   (The illustration below shows the left adaptor.)

B4 × 10

31.75

3U

31.75 B4 × 10

Unit : mm
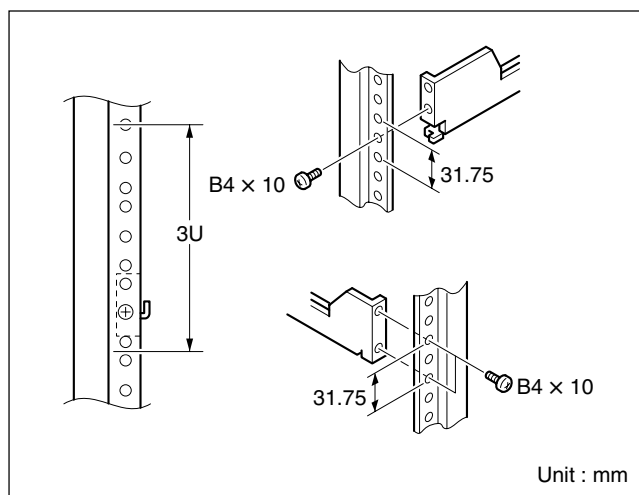
4. Tighten the screws (B4 × 6 : two screws each on the right and left) for adjusting the length of the adaptor completely (the screws that were loosened in step 2).

5. 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.

Rack tool   Rack tool

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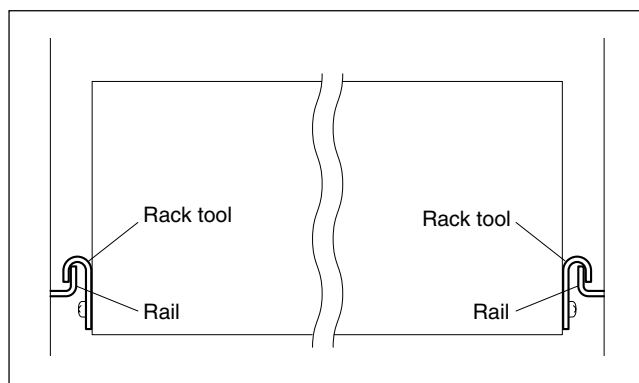
6. Remove the front panel. (Refer to Section 1-4-1.)

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

Rack

Rack angle

B5 × 12

B5 × 12

Rack angle
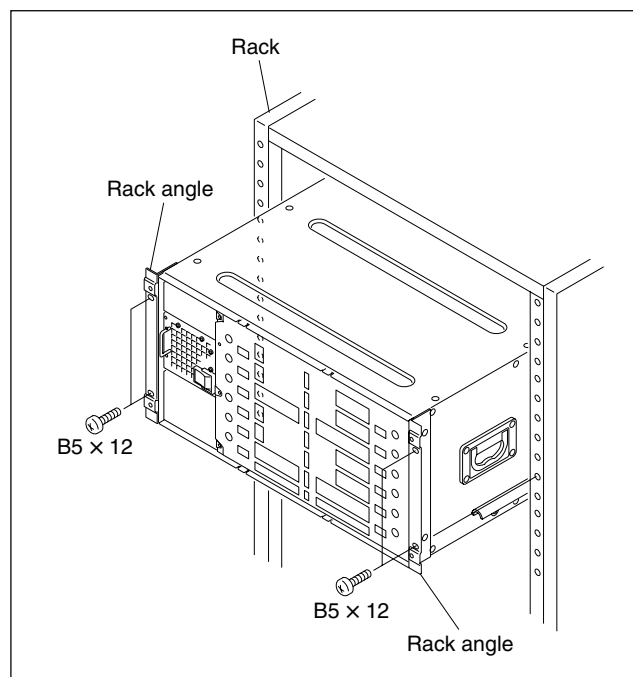
8. Attach the front panel to the equipment.

1-6. Matching Connectors and Cables

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

Model name	Panel indication	Connector name	Matching connector and cable	
			Name	**Sony part No.**
MKS-8800	REF IN	BNC, 75 Ω	BNC, 75 Ω Belden 8281 coaxial cable	
	EDITOR	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]	–	–
MKS-8820M	SWITCHER A, B	MDR 68-pin, Female	Dedicated cable (supplied with the unit)	–

∗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 Ethernet100BASE-TX standards.

1-7. Input/Output Signals of Connectors

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

Note

<CONTROLLER> indicates a controlling device.
<DEVICE> indicates a controlled device.

EDITOR : RS-422A (D-sub 9-pin, Female)
<DEVICE> (∗1)
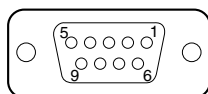
– EXT VIEW –

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

(∗1) : Editing control unit such as BVE-9100 (EDITOR)

DATA

CTRL : 100BASE-TX, RJ-45 (8-pin)
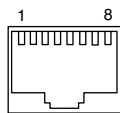
– EXT VIEW –

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

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
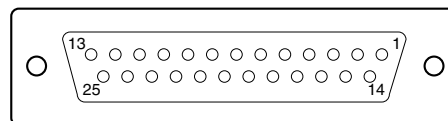
−EXT VIEW−

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

Note

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

(∗2) <Relay>

GPI OUT × B
GPI OUT × A
×;1-4   +V

(∗3) <Open collector output>

GPI OUT 5-8
GPI OUT COM
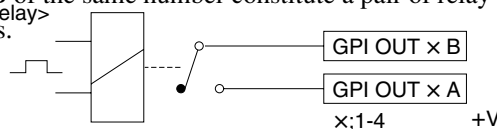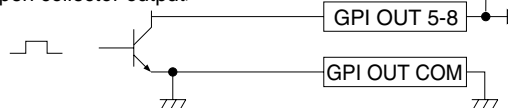
1-8. Checks on Completion of Installation

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

| Note |

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

1. CA-44CF board

A side/Component side

<LEDs>
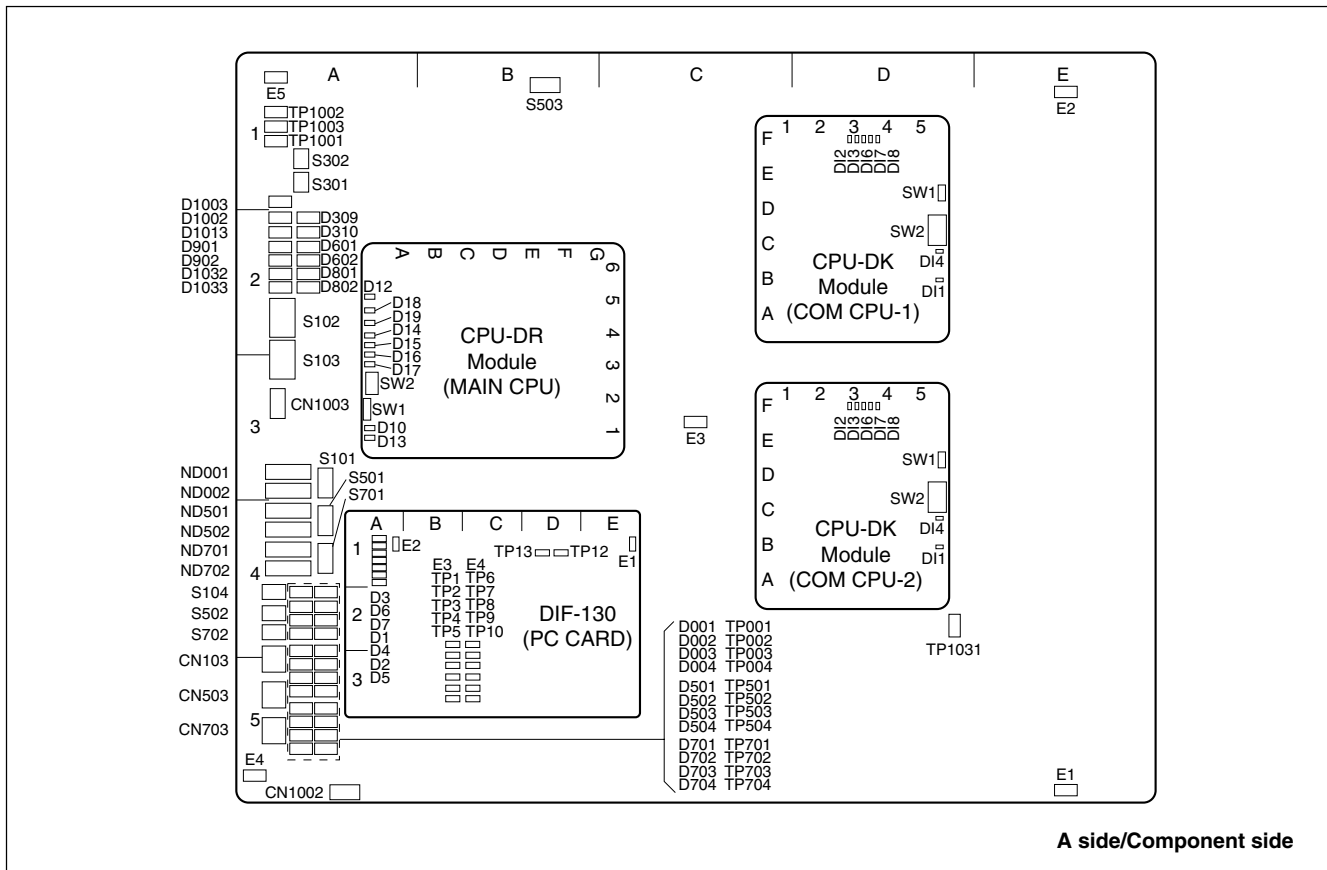
D001, D002, D003, D004 (A-4), ND001, ND002 (A-3) :
MAIN CPU status LED

Main CPU status indication.

D309 (A-2) : RESET status LED

System reset status indication.
Lights on when S301 is pressed or the power voltage decreases to +3.3 V.

D310 (A-2) : CPU RESET status LED

CA-44 board reset status indication.
Lights on when S302 is pressed or the power voltage decreases to +3.3 V.

D501 (A-4), D502, D503, D504 (A-5) :
COM CPU-1 status LED

COM CPU-1 status indication.

D601 (A-2) : COM1 ACT status LED

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

D602 (A-2) : COM1 100 status LED

COM CPU-1 Ethernet communication speed status indication.
Lights on : 100 Mbps
Lights off : 10 Mbps

D701, D702, D703, D704 (A-5) :
COM CPU-2 status LED

COM CPU-2 status indication.

D801 (A-2) : COM2 ACT status LED
COM CPU-2 Ethernet communication status indication.
Lights on while data send or receive is in progress.

D802 (A-2) : COM2 100 status LED
COM CPU-2 Ethernet communication speed status
indication.
Lights on : 100 Mbps
Lights off : 10 Mbps

D901 (A-2) : REF EXT status LED
REF IN signal presence/absence status indication.
Lights on when the REF signal is input to the REF IN
connector.
Lights off when the REF signal is not input to the REF IN
connector.

D902 (A-2) : PLL LOCK status LED
REF IN signal format status indication.
Lights off when the REF signal does not match with the
switcher format setup.

D1002 (A-2) : +3.3 V
+3.3 V power supply status indication.
Lights on when the +3.3 V power is supplied.

D1003 (A-1) : +12 V
+12 V power supply status indication.
Lights on when the +12 V power is supplied.
If this LED does not light on, fuse may have blown out.

D1013 (A-2) : +5 V
+5 V power supply status indication.
Lights on when the +5 V power is supplied.

D1032 (A-2) : SBUS TX status LED
S-BUS send status indication. Lights on while the data
send is in progress.

D1033 (A-2) : SBUS RX status LED
S-BUS receive status indication. Lights on while the data
receive is in progress.

ND501, ND502 (A-4) : COM CPU-1 status LED
COM CPU-1 status indication.

ND701, ND702 (A-4) : COM CPU-2 status LED
COM CPU-2 status indication.

<Switches>

S101 (A-3) : Mode setting switch for the main CPU
Sets the modes of the main CPU.

S102 (A-2) : Group ID setting switch for LAN
Sets the group ID for connecting LAN.

S103 (A-2) : Unit ID setting switch for LAN
Sets the unit ID for connecting LAN.

S104 (A-4) : Monitor reset switch for the main CPU
Pressing this switch resets the monitor of the main CPU.

S301 (A-1) : System reset switch
Pressing this switch activates the system reset and the
system re-starts.

S302 (A-1) : CA-CPU reset switch
Pressing this switch resets the CA-CPU.

**S501 (A-4) : Modes setting switch for the COM
          CPU-1**
Sets the modes of the COM CPU-1.

**S502 (A-4) : Monitor reset switch for the COM
          CPU-1**
Pressing this switch resets the monitor for the COM CPU-1.

**S503 (B-1) : Switch setting the number of the
          power supply units**
Default setting when shipped from the factory is all OFF.
Be sure to use this unit with this setting.

**S701 (A-4) : Modes setting switch for the COM
          CPU-2**
Sets the modes of the COM CPU-2.

**S702 (A-4) : Monitor reset switch for the COM
          CPU-2**
Pressing this switch resets the monitor for the COM CPU-2

<Connectors>

CN103 (A-4) : TERMINAL pin
This pin is connected to the main CPU control terminal
and used during maintenance. Conforms to RS-232C.

CN503 (A-5) : TERMINAL pin
This pin is connected to the COM CPU-1 control terminal
and used during maintenance. Conforms to RS-232C.

CN703 (A-5) : TERMINAL pin
This pin is connected to the COM CPU-2 control terminal
and used during maintenance. Conforms to RS-232C.

CN1002 (A-5) : TERMINAL pin
This pin is connected to the S-BUS CPU control terminal
and used during maintenance. Conforms to RS-232C.

CN1003 (A-3) : ISP common connector

Used only for production in the assembly factory. Used for program writing into the JTAG device with ISP.

<TEST terminals>

E1 (E-5), E2 (E-1), E3 (C-3), E4 (A-5), E5 (A-1) : GND terminal

Use this terminal as the earth point for measuring the respective check terminals.

TP001, TP002, TP003, TP004 (A-4) : Check terminal for the MAIN CPU status

Terminal to check the MAIN CPU status

TP501 (A-4), TP502, TP503, TP504 (A-5) : Check terminal for the COM CPU-1 status

Terminal to check the COM CPU-1 status

TP701, TP702, TP703, TP704 (A-5) : Check terminal for the COM CPU-2 status

Terminal to check the COM CPU-2 status

TP1001 (A-1) : +3.3 V check terminal

+3.3 V measuring terminal.

TP1002 (A-1) : +12 V check terminal

+12 V measuring terminal.

TP1003 (A-1) : +5 V check terminal

+5 V measuring terminal.

TP1031 (D-4) : SBUS RX check terminal

S-BUS reception line measuring terminal.

<LEDs on the CPU DR module> : Main CPU

D10 (green) (A-1) : RUN status LED

RUN status indication.
Lights on when the CPU-DR module starts operating.

D12 (green) (A-5) : CD (Card Detect) status LED

Lights on when the CPU-DR module is inserted correctly to the parent board.

D13 (green) (A-1) : +2.5 V

Indicates the statue of the +2.5 V power that is generated by the VCC (CORE) and supplied to the CPU-DR module. Lights on while the specified power is turned on.

D14, D15, D16, D17 (A-3) (green) : STATUS1 to STATUS4 status LED

Used for maintenance purpose. Only the STATUS1 LED lights on in normal operation.

D18 (green) (A-5): +3.3 V

Indicates the statue of the VCC (I/O) power that is supplied to the CPU-DR module. Lights on while the specified power is turned on.

D19 (green) (A-4) : CORE status LED

Indicates the statue of the VCC (CORE) power that is supplied to the CPU-DR module. Lights on while the specified power is turned on.

<Switches on the CPU-DR module> : Main CPU

SW1 (A-2) : 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.
Default setting when shipped from the factory is all OFF.

<LEDs on the CPU DK Module> : COM CPU-1 : COM CPU-2

DI1 (green) (B-5) : CD (Card Detect) status LED

Lights on when the CPU-DK module is inserted correctly to the parent board.

DI2 (green) (F-3) : RUN status LED

Lights on when the CPU-DK module starts operating.

DI3 (F-3), DI6 (F-3), DI7 (F-3), DI8 (F-4) (green) : STATUS1 to STATUS4 status LED

Used for maintenance purpose. Only the STATUS1 LED lights on in normal operation.

DI4 (green) (C-5) : +3.3 V

Indicates the statue of the VCC (CORE) and VCC (I/O) powers that are supplied to the CPU-DK module.
Lights on while the specified powers are turned on.

<Switches on the CPU-DK module> : COM CPU-1
: COM CPU-2

SW1 (E-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 DIF-130 board> : PC card

D1 (A-1) : DETECT A
Lights when the socket "A" is inserted correctly.

D2 (A-1) : DETECT B
Lights when the socket "B" is inserted correctly.

D3 (A-1) : +3.3 V
+3.3 V power supply status indication.
Lights when +3.3 V power is supplied.

D4 (A-1) : ACTI A
Lights when the socket "A" is active.

D5 (A-1) : ACTIVE B
Lights when the socket "B" is active.

D6 (A-1) : CD (Card Detect) status LED
Lights when the DIF-130 board is inserted to the mother
board correctly.

D7 (A-1) : GPO status LED
GPO status indication.

< Test terminal on the DIF-130 board > : PC card

E1 (E-1), E2 (A-1), E3 (B-2), E4 (C-2) : GND terminal
Use this terminal as the earth point for measuring the
respective check terminals.

TP1 (B-3) : RST# signal check terminal
RST # signal measuring terminal.

TP2 (B-3) : CLK signal check terminal
CLK signal measuring terminal.

TP3 (B-3) : FRAME signal check terminal
FRAME signal measuring terminal.

TP4 (B-3) : IRDY signal check terminal
IRDY signal measuring terminal.

TP5 (B-3) : TRDY signal check terminal
TRDY signal measuring terminal.

TP6 (C-3) : DEVSEL signal check terminal
DEVSEL signal measuring terminal.

TP7 (C-3) : STOP signal check terminal
STOP signal measuring terminal.

TP8 (C-3) : LOCK signal check terminal
LOCK signal measuring terminal.

TP9 (C-3) : PERR signal check terminal
PERR signal measuring terminal.

TP10 (C-3) : SERR signal check terminal
SERR signal measuring terminal.

TP12 (D-1) : INT signal check terminal
INT signal measuring terminal.

TP13 (D-1) : CBE3 signal check terminal
CBE3 signal measuring terminal.

2. VIF-26 board

	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R

1

2

3   TP3   TP2
     E10   E8   E5

4   ND100
D1
D2   ND101
D4
5   CN101
     CN102
6   S3000
     CN50

7   D3002
     D3001   E6
     D3000
     D50   E2
8   E9
S1   E7
S100   CPU-DR Module

9
     D12
     D18
10   D19
     D14
     D15
     D16
     D17
11   SW2
     SW1   E4   TP200
12   D10
     D13   TP203
                                              TP204   E1
13   TP201
                                              TP202

A side/Component side

<LEDs>

D1 (A-4) : +1.8 V
+1.8 V power supply status indication.
Lights on when the +1.8 V power is supplied.

D2 (A-5) : +3.3 V
+3.3 V power supply status indication.
Lights on when the +3.3 V power is supplied.

D4 (A-5) : +12 V
+12 V power supply status indication.
Lights on when the +12 V power is supplied.
If this LED does not light, fuse may have blown out.

D50 (A-8) : SELF CONFIG status LED
VIF-26 board SELF CONFIG status indication
Lights on : Not configured yet.
Lights off : Configuration is completed.

D3000 (A-8) : RCB CONFIG status LED
RCB configuration status indication
Lights on : Not configured yet.
Lights off : Configuration is completed.

D3001 (A-8) : DLKD status LED
DLKD status indication.
Lights when the DLL of the FPGA is locked. If this LED does not light, the FPGA may be defective.

D3002 (A-7) : SYSTEM status LED
SYSTEM status indication.
Lights when configuration is complete and FPGE reset is also complete. If the LED does not light, the FPGA may be defective.

ND100 (A-4), ND101 (A-5) : STATUS LED
VIF-26 board CPU status indication.

<Switches>

S1 (A-8) : SETUP switch
Used for maintenance purpose.

S100 (A-9) : CPU CONFIG switch
Used for maintenance purpose.

S3000 (B-6) : Circuit board recognition switch
Used for maintenance purpose.

<Connectors>

CN50 (A-6) : ISP common connector
Used only for production in the assembly factory. Used for program writing into the JTAG device with ISP.

CN101 (A-5) : USB terminal
Used for debugging.

CN102 (A-6) : TERMINAL pin
This pin is connected to the sub CPU control terminal and used during maintenance. Conforms to RS-232C.

<TEST terminals>

E1 (P-13), E2 (N-8), E4 (K-12), E5 (L-4), E6 (J-7), E7 (C-8), E8 (D-3), E9 (A-8), E10 (B-3) : GND terminal
Use this terminal as the earth point for measuring the respective check terminals.

TP2 (E-3) : +1.8 V check terminal
+1.8 V measuring terminal.

TP3 (B-3) : +3.3 V check terminal
+3.3 V measuring terminal.

TP200 (N-12) : CK (clock for video signal) terminal
Use this terminal to check the clock for video signal.

TP201 (M-13) : CKX (control timing) signal check terminal
Use this terminal to check the CKX signal supplied from mother board.

TP202 (M-13) : FD signal check terminal
Use this terminal to check the FD signal supplied from mother board.

TP203 (M-12) : VD (vertical sync) signal check terminal
Use this terminal to check the VD signal supplied from mother board.

TP204 (M-13) : HD (horizontal sync) signal check terminal
Use this terminal to check the HD signal supplied from mother board.

<LEDs on the CPU DR module> (C-11)
Refer to <LED on the CPU DR module> in Section "1. CA-44CF Board".

<Switches on the CPU DR module> (C-11)
Refer to <Switches on the CPU DR module> in Section "1. CA-44CF Board".

3. DVP-21 board

A side/Component side

<LEDs>
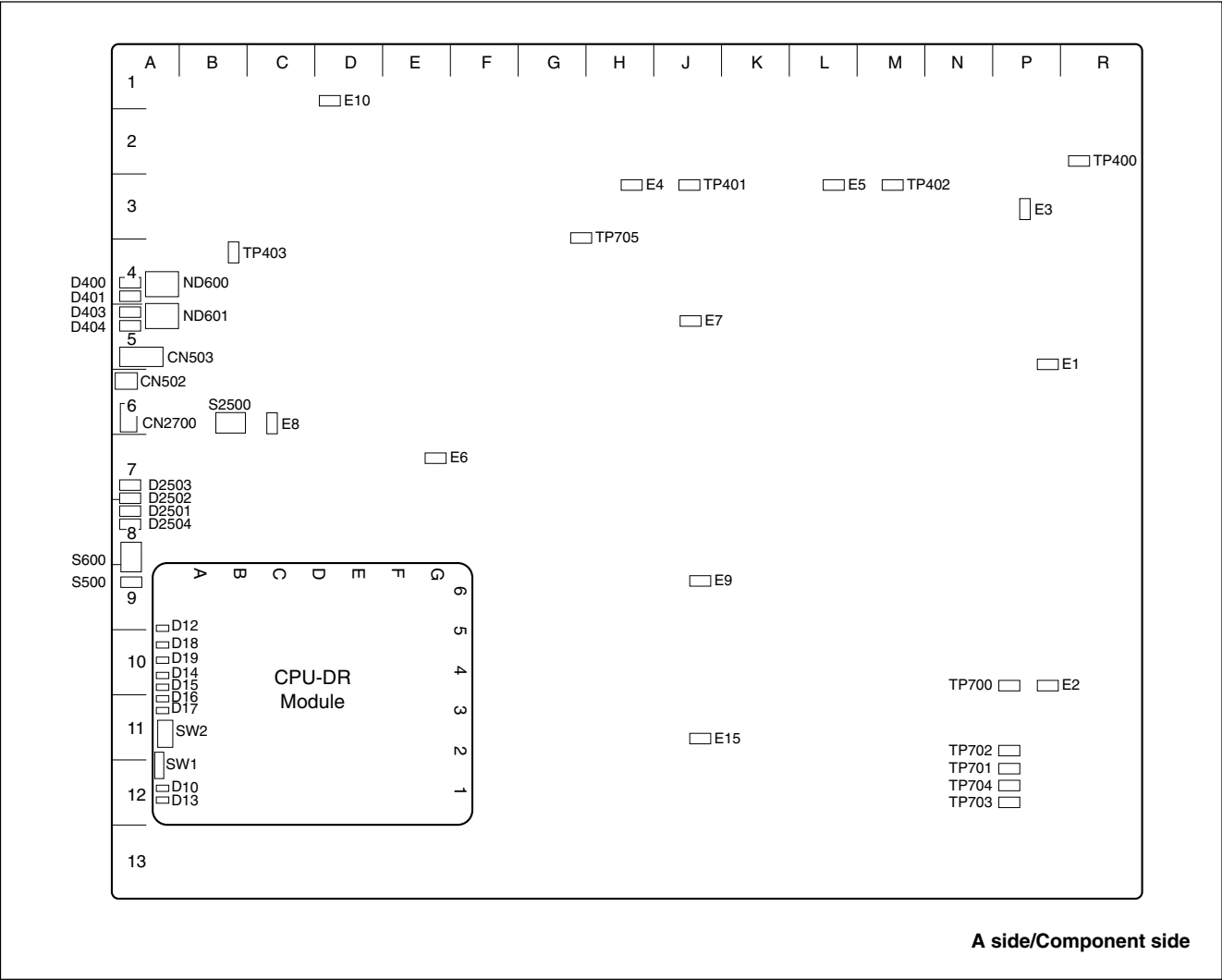
D400, 401 (A-4) : +1.8 V

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

D403 (A-5) : +3.3 V

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

D404 (A-5) : +12 V

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

D2501 (A-8) : RCB CONFIG status LED

RCB configuration status indication
Lights on : During configuration.
Lights off : Not configured yet.

D2502 (A-7) : DLKD status LED

DLKD status indication.
Lights when the DLL of the FPGA is locked. If this LED
does not light, the FPGA may be defective.

D2503 (A-7) : SYSTEM status LED

SYSTEM status indication.
Lights when configuration is complete and FPGE reset is
also complete. If the LED does not light, the FPGA may be
defective.

D2504 (A-8) : SELF CONFIG status LED

DVP-21 board SELF CONFIG status indication
Lights on : Not configured yet.
Lights off : Configuration is completed.

ND600 (A-4), ND601 (A-5) : STATUS LED

DVP-21 board CPU status indication.

<Switches>

S500 (A-9) : CPU CONFIG switch
Used for maintenance purpose.

S600 (A-8) : SETUP switch
Used for maintenance purpose.

S2500 (B-6) : Circuit board recognition switch
Used for maintenance purpose.

<Connectors>

CN502 (A-6) : TERMINAL pin
This pin is connected to the sub CPU control terminal and used during maintenance. Conforms to RS-232C.

CN503 (A-5) : USB terminal
Used for maintenance purpose.

CN2700 (A-6) : ISP common connector
Used only for production in the assembly factory. Used for program writing into the JTAG device with ISP.

<TEST terminals>

E1 (P-5), E2 (P-10), E3 (P-3), E4 (H-3), E5 (L-3), E6 (E-7), E7 (J-5), E8 (C-6), E9 (J-9), E10 (D-1), E15 (J-11) : GND terminal
Use this terminal as the earth point for measuring the respective check terminals.

TP400 (R-2) : +12 V check terminal
+12 V measuring terminal.

TP401 (J-3), TP402 (M-3) : +1.8 V check terminal
+1.8 V measuring terminal.

TP403 (B-4) : +3.3 V check terminal
+3.3 V measuring terminal.

TP700 (P-10) : CK (clock for video signal) terminal
Used when checking the clock for video signal.

TP701 (P-12) : CKX (control timing) signal check terminal
Used when checking the CKX signal supplied from the mother board.

TP702 (P-11) : FD signal check terminal
Used when checking the FD signal supplied from the mother board.

TP703 (P-12) : VD (vertical sync) signal check terminal
Used when checking the VD signal supplied from the mother board.

TP704 (P-12) : HD (horizontal sync) signal check terminal
Used when checking the HD signal supplied from the mother board.

TP705 (G-3) : IMCK signal check terminal
Used when checking the IMCK signal supplied from the mother board.

<LEDs on the CPU DR module> (C-11)
Refer to <LED on the CPU DR module> in Section "1. CA-44CF Board".

<Switches on the CPU DR module> (C-11)
Refer to <Switches on the CPU DR module> in Section "1. CA-44CF Board".

1-9.   System Connection

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

Connection example

(∗1) : Connect each LAN (CTRL, DATA) to the separate Ethernet switches respectively.
However, a single Ethernet switch can be used for connecting each LAN.
For information about Ethernet switches that can be used in an MVS system, contact your local Sony Sales Office/Service Center.
For detailed information about setting up the Ethernet switch, refer to the documentation supplied with the switch.
(∗2) : Terminate the system with the 75 Ω terminator supplied. The 75 Ω terminator is supplied with the equipment.

2. Flow of Video Signals

DME Processor Pack
MVE-8000

SWITCHER B   SWITCHER A

Reference video signal (∗3)   AC100 to 240 V Power Supply (∗1)

Reference video signal (∗3)

DME 1B   DME 1A

AC100 to 240 V Power Supply (∗2)

AC100 to 240 V Power Supply (∗2)

Camera
VTR
Routing Switcher

PRIMARY INPUTS
1 to 68

MONITOR

OUTPUTS 1 to 48

VTR

MONITOR OUTPUTS
1 to 8

MONITOR

Switcher Processor Pack
MVS-8400/8300/8200

AC100 to 240 V Power Supply (∗2)

AC100 to 240 V Power Supply (∗2)

– – – – – 75-pin Cable   ⇨ Video Signal Input
                                     Video Signal output

⟺ Video/Key Signal

➡ AC Power Supply

(∗1) : For the AC power cord, refer to "Optional Items" of the "DME Processor Pack MVE-8000" Operation
       Manual.
(∗2) : For the AC power cord, refer to "Optional Items" of the "Multi-Format Switcher Processor MVS-8000"
       Operation Manual.
(∗3) : Terminate the system with the 75 Ω terminator supplied with this unit.

Section 2
Service Overview

2-1. Troubleshooting

The main power cannot be turned on. (Indicator does not light in green.)

Flow1

```
┌─────────────────────────────────────────┐
│ The main power of the MKS-8800 cannot be │
│ turned on.                               │
│ (Indicator does not light in green.)     │
└─────────────────────────────────────────┘
          │ YES
          ▼
┌─────────────────────────────────────────┐   NO   ┌──────────────┐
│ The POWER switch of the MKS-8800 is      │──────▶ │ Set it to ON.│
│ turned ON?                               │        └──────────────┘
└─────────────────────────────────────────┘
          │ YES
          ▼
┌─────────────────────────────────────────┐   NO   ┌──────────────────────┐
│ The power cord of the MKS-8800 is        │──────▶ │ Connect it correctly.│
│ connected correctly?                     │        └──────────────────────┘
└─────────────────────────────────────────┘
          │ YES
          ▼
┌─────────────────────────────────────────┐
│ The power supply unit is suspected as    │
│ defective.                               │
└─────────────────────────────────────────┘
```

The monitor picture is not displayed correctly

Flow2

```
┌─────────────────────────────────────────┐
│ The monitor picture is not displayed     │
│ correctly even though the main power of  │
│ the MKS-8800 is turned on.               │
└─────────────────────────────────────────┘
          │ YES
          ▼
┌─────────────────────────────────────────┐  NO  ┌─────────────────────────────────────────┐
│ The plug-in boards are inserted into the │────▶ │ Insert the plug-in boards into the right │
│ right slots respectively?                │      │ slots respectively.                      │
│                                          │      │ (Refer to the MVE-8000 Maintenance       │
│                                          │      │ Manual.)                                 │
└─────────────────────────────────────────┘      └─────────────────────────────────────────┘
          │ YES
          ▼
┌─────────────────────────────────────────┐  NO  ┌─────────────────────────────────────────┐
│ The option boards are inserted into the  │────▶ │ Insert the option boards into the right  │
│ right slots respectively?                │      │ slots respectively.                      │
│                                          │      │ (Refer to Section 1-4.)                  │
└─────────────────────────────────────────┘      └─────────────────────────────────────────┘
          │ YES
          ▼
┌─────────────────────────────────────────┐  NO  ┌─────────────────────────────────────────┐
│ The input and output cables are          │────▶ │ Connect the input and output cables and  │
│ connected correctly?                     │      │ equipment correctly.                     │
└─────────────────────────────────────────┘      └─────────────────────────────────────────┘
          │ YES
          ▼
┌─────────────────────────────────────────┐  NO  ┌─────────────────────────────────────────┐
│ The software is installed correctly?     │────▶ │ Install the software correctly.          │
└─────────────────────────────────────────┘      └─────────────────────────────────────────┘
          │ YES
          ▼
┌─────────────────────────────────────────┐  NO  ┌─────────────────────────────────────────┐
│ The system is set in the Factory Set     │────▶ │ Start up the system in the Factory Set   │
│ mode?                                    │      │ mode and check to see.                   │
└─────────────────────────────────────────┘      └─────────────────────────────────────────┘
          │ YES
          ▼
┌─────────────────────────────────────────┐
│ The MKS-8800 is suspected as defective.  │
└─────────────────────────────────────────┘
```
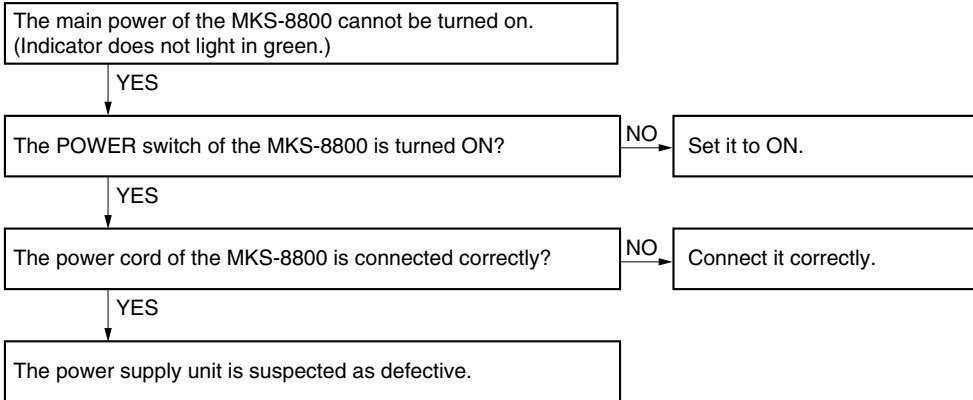
2-2. Periodic Inspection and Maintenance
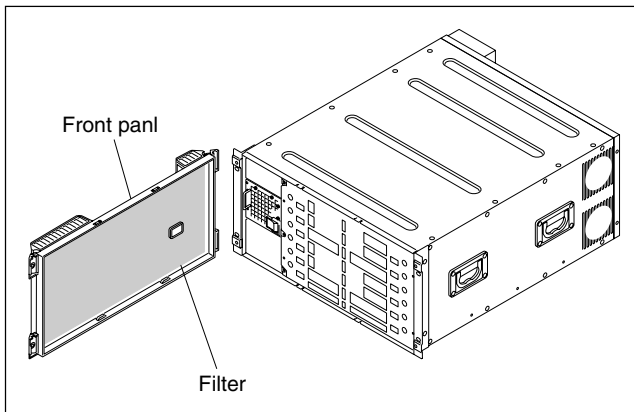
2-2-1. Cleaning

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 of the filter by water is recommended when dust is heavily accumulated.
   Be sure to dry it up completely when the filter is cleaned by water.
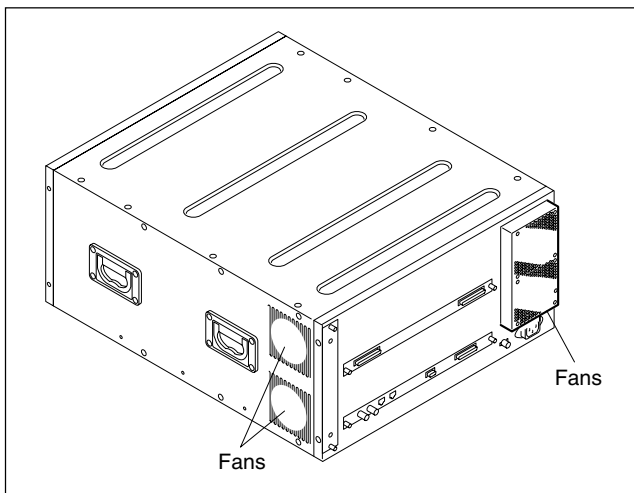

2. Fan
If dust is accumulated in the intake of the fan, air is prevented from flowing smoothly that result in rise of temperature inside the machine. It may result in adverse effects on performance and life of the machine.
Cleaning of the fan every month is recommended.
Contact your local Sony Sales Office/Service Center for cleaning the fan.

2-3. About Data Backup Capacitor

A large capacitor is installed on the CA-44CF board in order to backup the memory storing the setup and other data in the MKS-8800. Leave the main power of the MKS-8800 turned on for about an hour or longer in order to charge the large capacitor. The data can be backed up for about a week when the capacitor is fully charged under the normal operating temperature.

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