SONY

DEVICE CONTROL UNIT PACK

DCU-8000

DEVICE CONTROL UNIT

MKS-8700

MKS-8701

MKS-8702

INSTALLATION MANUAL

2nd 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-8700	Serial No. 11001 and Higher
MKS-8701	Serial No. 10001 and Higher
MKS-8702	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 Device Control Unit Pack DCU-8000 and the optional boards.
This manual is intended for use by trained system and service engineers, and describes the information on installing the DCU-8000.

Related manuals

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

- **Operation Manual (Supplied with DCU-8000)**
  This manual describes the application and operation of DCU-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 %
Storage temperature :	−20 ˚C to +60 ˚C
Mass :	Approx. 17 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 is subject to vibration.
- Areas with strong electric or magnetic fields.
- Areas near heat sources.
- Areas subject to electrical noise.
- Areas subject to static electricity.

Ventilation

The inside of the DCU-8000 is cooled by a fan (both sides on the rear).
The power supply can be damaged if the exhaust vent (both sides on the 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 DCU-8000.

1-2. Power Supply

1-2-1. Power Specifications

A switching regulator is used for the power supply of this unit. A 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
Power frequency :	50/60 Hz
Current consumption :	1.4 to 0.8 A

Note

As the inrush current at turn-on is a maximum 20 A (at 100 V)/70 A (at 240 V), the capacity of the AC power must be commensurate with this source load.
If the capacity of the AC power is not adequately large, the AC power source breaker will operate or the unit will abnormally operate.

1-2-2. Recommended Power Cord

The DCU-8000 does not come with a power cord.
To get a power cord, please contact your local Sony Sales Office/Service Center.

WARNING

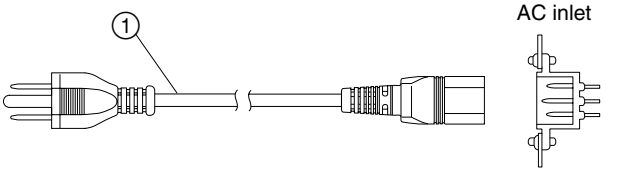
- Use the approved Power Cord (3-core mains lead)/ Appliance Connector/Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
- Use the Power Cord (3-core mains lead)/Appliance Connector/Plug conforming to the proper ratings (Voltage, Ampere).

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

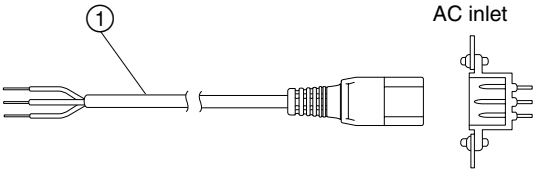
WARNING

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

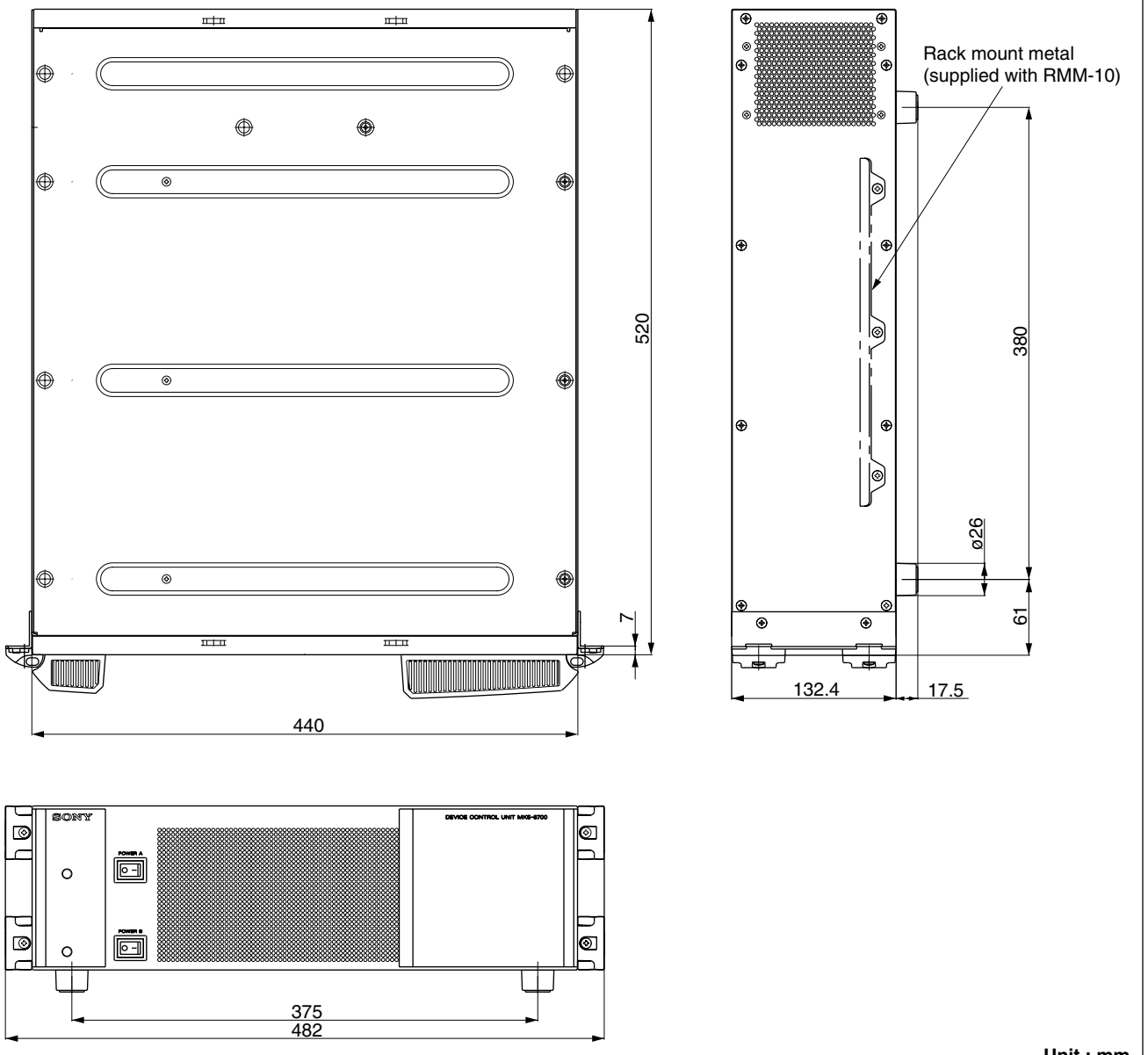
For customers in the U.S.A. and Canada
① Power cord, 125 V 10 A (2.4 m) : ⚠1-557-377-11



For customers in the all European countries
① Power cord, 250 V 10 A (2.4 m) : ⚠1-782-929-21



1-3. Installation Space (External dimensions)



1-4. Installing the Options

The DCU-8000 is shipped from the factory with the necessary options (refer to the following table) already installed in the MKS-8700, in accordance with the specified system configuration.

DCU-8000 Options

Model name		Structure	
		Plug-in board	Connector board
MKS-8701	Tally/GPI Output Board	RC-90 board	CN-2195 board
MKS-8702	Serial Interface Board	IF-848 board	CN-2194 board

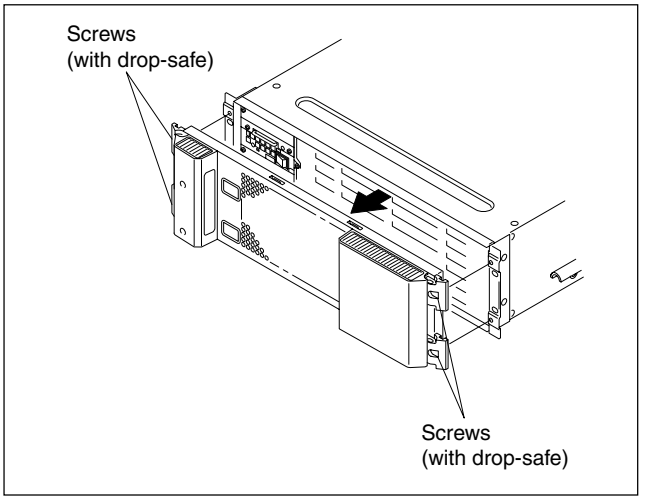
1-4-1. Installing the Plug-in Boards

Note

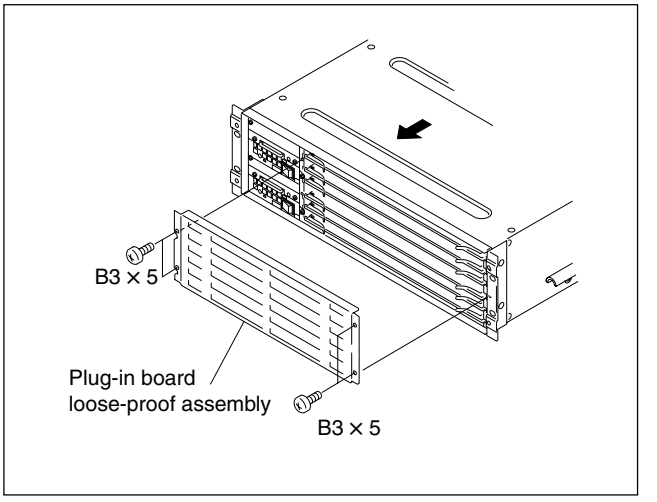
Be sure to turn off the POWER switch before starting installation work.
If installation work is started with the POWER switch left on, it may cause electrical shock or damage to printed circuit boards.

Installation

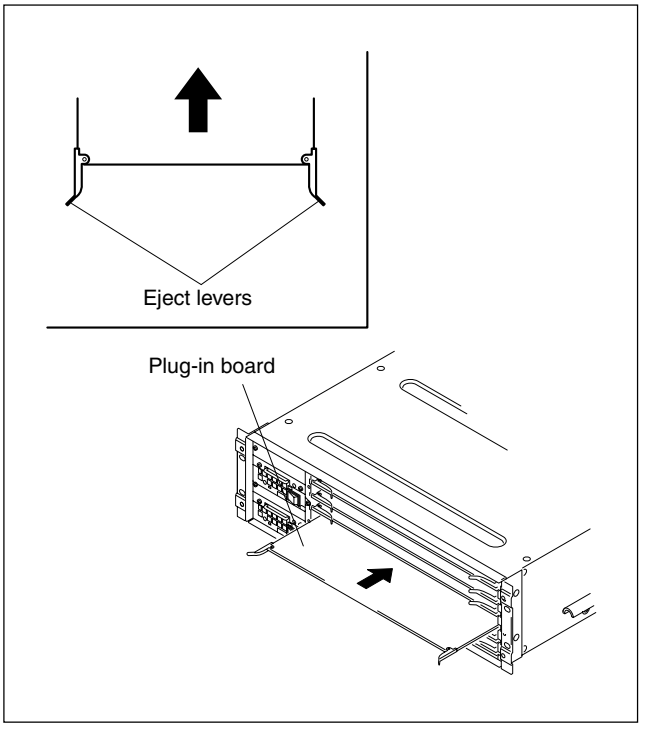
1. Turn off the main power of the MKS-8700 and disconnect the AC power cord from the wall outlet.
2. Loosen the four screws (with drop-safe) and remove the front panel in the direction of the arrow.



3. Remove the four screws (B3 × 5) and remove the plug-in board loose-proof assembly.

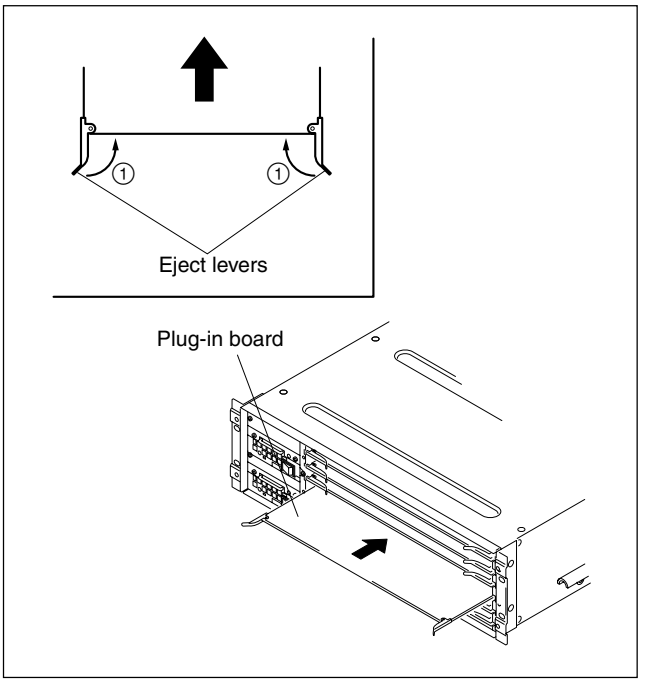


4. While the eject levers are kept open as shown in the illustration, insert the plug-in board into the board guide rails.



Name of option	Name of board	Slot on the front side
MKS-8701	RC-90	2, 3, 4, 5, 6
MKS-8702	IF-848	2, 3, 4, 5, 6

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

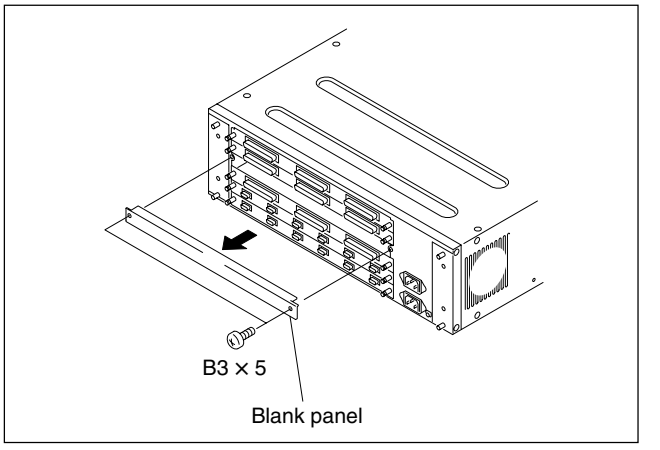


6. Attach the plug-in board loose-proof assembly and the front panel by reversing the installation steps of 2, 3.

1-4-2. Installing the Connector Board

Installation

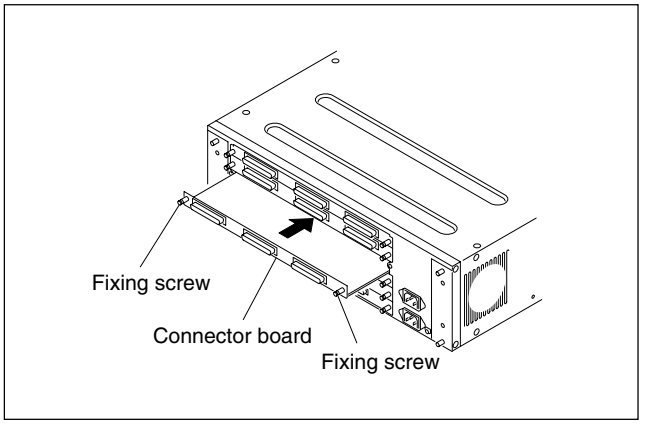
1. Remove the screw or the two installing screws from the slot into which the connector board is going to be installed. Then remove the blank panel or the connector board.



Note

Store the removed blank panel in a safe place.

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



Name of option	Name of board	Slot on the rear side
MKS-8701	CN-2195	Install the board into the slot in the rear that corresponds to the RC-90 board that is inserted in the slot in the front.
MKS-8702	CN-2194	Install the board into the slot in the rear that corresponds to the IF-848 board that is inserted in the slot in the front.

1-5. Rack Mounting

The DCU-8000 installs in a 19-inch standard rack.
To mount the DCU-8000 in a 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 correctly install in 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 bolts or others fixings. 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 that a ventilation fan is installed 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.

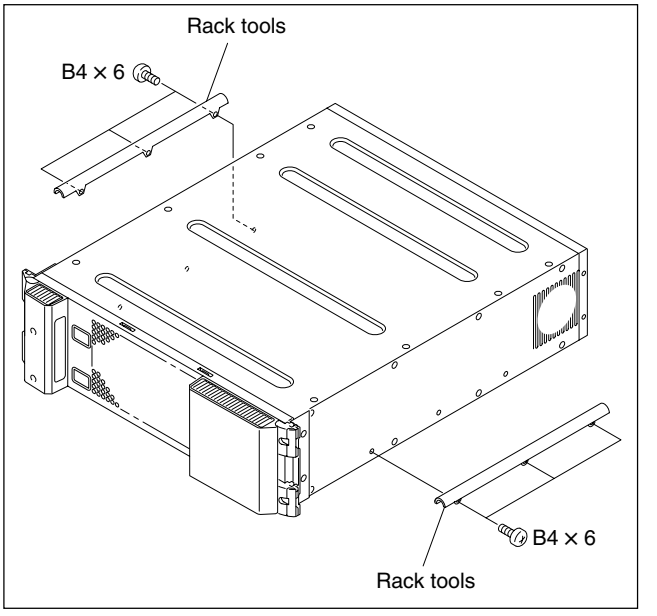
Note

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

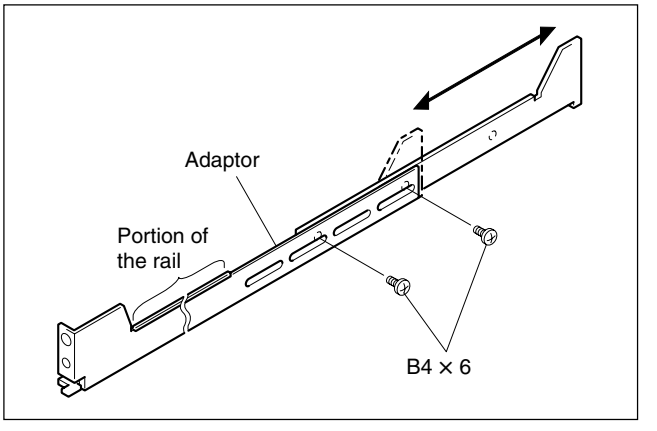
1. Attach the rack tool to the side of the equipment using the specified six screws.

   Note

   Use B4 × 6 screws.



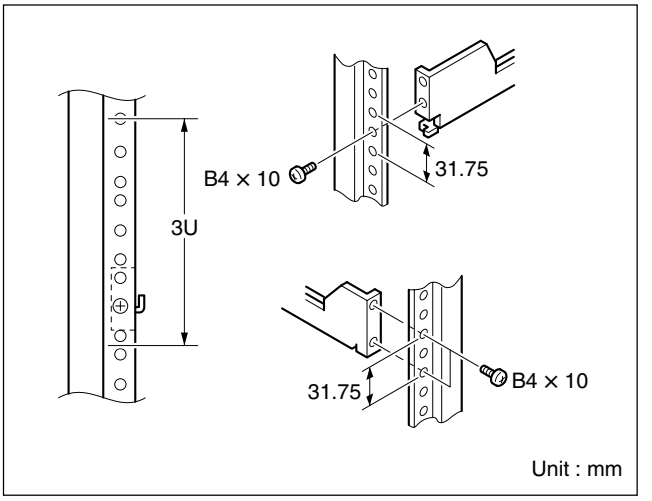
2. Loosen the screws on the rear of the right and left adaptors and adjust the length of the adaptor according to the depth of the rack.
   (The illustration below shows the left adaptor.)



Note

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

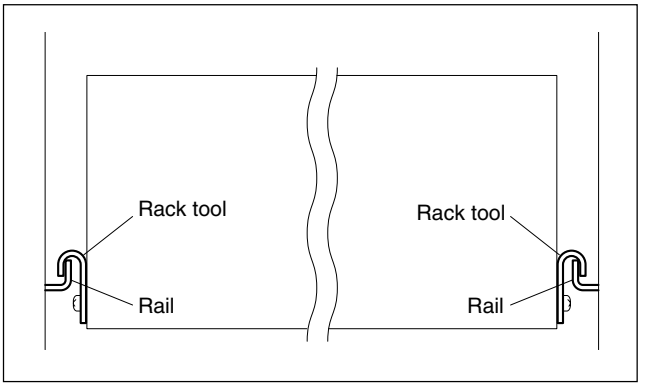
3. Attach the right and left adaptors to the rack completely using the specified six screws.
   (The illustration below shows the left adaptor.)



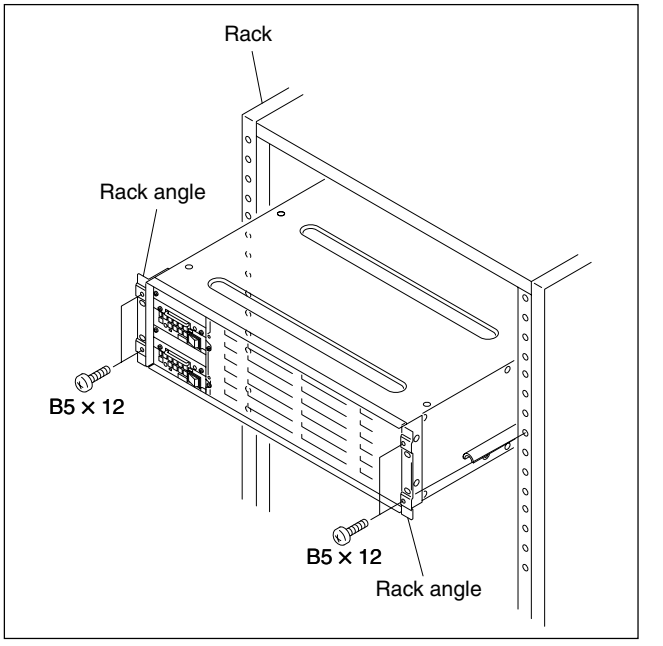
4. Tighten the screws (B4 × 6 : two screws each on the right and left) for adjusting the length of the adaptor completely (the screws that were loosened in step 2).
5. Align the groove of the rack tool at the side of the equipment with the rail, and slide the equipment to the rear.

Note

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



6. Remove the front panel. (Refer to Section 1-4-1)
7. Fix the rack angle in the rack using the specified screws.



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-8700	TALLY/GPI IN 1-34, 35-68, 69-102	D-sub 37-pin, Female	D-sub 37-pin, Male Connector 37-pin, Male Junction Shell 37-pin	 1-566-357-11 1-563-378-11
	SERIAL TALLY1, 2	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
	PERIPH	RJ-45 modular jack*2	–	–
	REF IN	BNC, 75 Ω	BNC, 75 Ω Belden 8281 coaxial cable	–
MKS-8701	TALLY/GPI OUT 1-18, 19-36, 37-54	D-sub 37-pin, Female	D-sub 37-pin, Male Connector 37-pin, Male Junction Shell 37-pin	 1-566-357-11 1-563-378-11
MKS-8702	REMOTE 1 to 6	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

*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

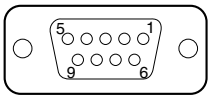
The input/output signals of the connectors at the rear panel are as follows.

Note

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

1-7-1. MKS-8700

SERIAL TALLY 1, 2 : RS-422A (D-sub 9-pin, Female)
<CONTROLLER> to Tally Interface Unit (∗1)

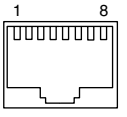


– EXT VIEW –

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

(∗1) : TALLY INTERFACE UNIT BKDS-6080 and others.

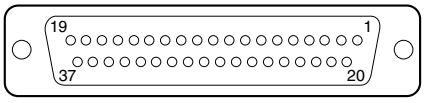
PERIPH : 100BASE-TX, RJ-45 (8-pin)



– 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

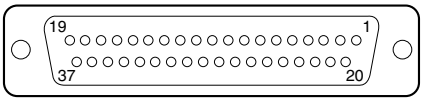
TALLY/GPI IN 1-34 : D-sub 37-pin, Female
INPUT × 34, TTL, 2 INPUT TTL/+12 V Switchable (∗2)



–EXT VIEW–

Pin No.	Signal Name	Function
1	TALLY/GPI IN 1	Tally/GPI inputs
2	TALLY/GPI IN 3	
3	TALLY/GPI IN 5	
4	TALLY/GPI IN 7	
5	TALLY/GPI IN 9	
6	TALLY/GPI IN 11	
7	TALLY/GPI IN 13	
8	TALLY/GPI IN 15	
9	TALLY/GPI IN 17	
10	TALLY/GPI IN 19	
11	TALLY/GPI IN 21	
12	TALLY/GPI IN 23	
13	TALLY/GPI IN 25	
14	TALLY/GPI IN 27	
15	TALLY/GPI IN 29	
16	TALLY/GPI IN 31	
17	TALLY/GPI IN 33 (∗2)	
18	GND	Ground
19	GND	Ground
20	TALLY/GPI IN 2	Tally/GPI inputs
21	TALLY/GPI IN 4	
22	TALLY/GPI IN 6	
23	TALLY/GPI IN 8	
24	TALLY/GPI IN 10	
25	TALLY/GPI IN 12	
26	TALLY/GPI IN 14	
27	TALLY/GPI IN 16	
28	TALLY/GPI IN 18	
29	TALLY/GPI IN 20	
30	TALLY/GPI IN 22	
31	TALLY/GPI IN 24	
32	TALLY/GPI IN 26	
33	TALLY/GPI IN 28	
34	TALLY/GPI IN 30	
35	TALLY/GPI IN 32	
36	TALLY/GPI IN 34 (∗2)	
37	GND	Ground

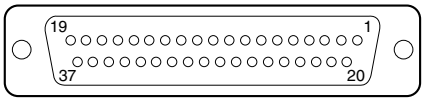
TALLY/GPI IN 35-68 : D-sub 37-pin, Female
INPUT × 34, TTL, 2 INPUT TTL/+12 V Switchable (∗2)



–EXT VIEW–

Pin No.	Signal Name	Function
1	TALLY/GPI IN 35	Tally/GPI inputs
2	TALLY/GPI IN 37	
3	TALLY/GPI IN 39	
4	TALLY/GPI IN 41	
5	TALLY/GPI IN 43	
6	TALLY/GPI IN 45	
7	TALLY/GPI IN 47	
8	TALLY/GPI IN 49	
9	TALLY/GPI IN 51	
10	TALLY/GPI IN 53	
11	TALLY/GPI IN 55	
12	TALLY/GPI IN 57	
13	TALLY/GPI IN 59	
14	TALLY/GPI IN 61	
15	TALLY/GPI IN 63	
16	TALLY/GPI IN 65	
17	TALLY/GPI IN 67 (∗2)	
18	GND	Ground
19	GND	Ground
20	TALLY/GPI IN 36	Tally/GPI inputs
21	TALLY/GPI IN 38	
22	TALLY/GPI IN 40	
23	TALLY/GPI IN 42	
24	TALLY/GPI IN 44	
25	TALLY/GPI IN 46	
26	TALLY/GPI IN 48	
27	TALLY/GPI IN 50	
28	TALLY/GPI IN 52	
29	TALLY/GPI IN 54	
30	TALLY/GPI IN 56	
31	TALLY/GPI IN 58	
32	TALLY/GPI IN 60	
33	TALLY/GPI IN 62	
34	TALLY/GPI IN 64	
35	TALLY/GPI IN 66	
36	TALLY/GPI IN 68 (∗2)	
37	GND	Ground

TALLY/GPI IN 69-102 : D-sub 37-pin, Female
INPUT × 34, TTL, 2 INPUT TTL/+12 V Switchable (∗2)

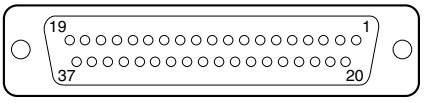


–EXT VIEW–

Pin No.	Signal Name	Function
1	TALLY/GPI IN 69	Tally/GPI inputs
2	TALLY/GPI IN 71	
3	TALLY/GPI IN 73	
4	TALLY/GPI IN 75	
5	TALLY/GPI IN 77	
6	TALLY/GPI IN 79	
7	TALLY/GPI IN 81	
8	TALLY/GPI IN 83	
9	TALLY/GPI IN 85	
10	TALLY/GPI IN 87	
11	TALLY/GPI IN 89	
12	TALLY/GPI IN 91	
13	TALLY/GPI IN 93	
14	TALLY/GPI IN 95	
15	TALLY/GPI IN 97	
16	TALLY/GPI IN 99	
17	TALLY/GPI IN 101 (∗2)	
18	GND	Ground
19	GND	Ground
20	TALLY/GPI IN 70	Tally/GPI inputs
21	TALLY/GPI IN 72	
22	TALLY/GPI IN 74	
23	TALLY/GPI IN 76	
24	TALLY/GPI IN 78	
25	TALLY/GPI IN 80	
26	TALLY/GPI IN 82	
27	TALLY/GPI IN 84	
28	TALLY/GPI IN 86	
29	TALLY/GPI IN 88	
30	TALLY/GPI IN 90	
31	TALLY/GPI IN 92	
32	TALLY/GPI IN 94	
33	TALLY/GPI IN 96	
34	TALLY/GPI IN 98	
35	TALLY/GPI IN 100	
36	TALLY/GPI IN 102 (∗2)	
37	GND	Ground

1-7-2. MKS-8701

TALLY/GPI OUT 1-18 : D-sub 37-pin, Female
OUTPUT × 18, relay contacts 30 V 0.1 A (∗3)



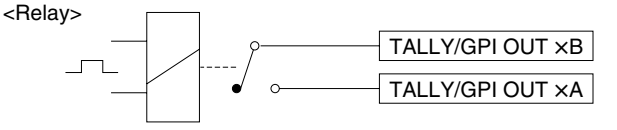
–EXT VIEW–

Pin No.	Signal Name	Function
1	TALLY/GPI OUT 1A	Tally/GPI outputs
2	TALLY/GPI OUT 2A	
3	TALLY/GPI OUT 3A	
4	TALLY/GPI OUT 4A	
5	TALLY/GPI OUT 5A	
6	TALLY/GPI OUT 6A	
7	TALLY/GPI OUT 7A	
8	TALLY/GPI OUT 8A	
9	TALLY/GPI OUT 9A	
10	TALLY/GPI OUT 10A	
11	TALLY/GPI OUT 11A	
12	TALLY/GPI OUT 12A	
13	TALLY/GPI OUT 13A	
14	TALLY/GPI OUT 14A	
15	TALLY/GPI OUT 15A	
16	TALLY/GPI OUT 16A	
17	TALLY/GPI OUT 17A	
18	TALLY/GPI OUT 18A	
19	GND	Ground
20	TALLY/GPI OUT 1B	Tally/GPI outputs
21	TALLY/GPI OUT 2B	
22	TALLY/GPI OUT 3B	
23	TALLY/GPI OUT 4B	
24	TALLY/GPI OUT 5B	
25	TALLY/GPI OUT 6B	
26	TALLY/GPI OUT 7B	
27	TALLY/GPI OUT 8B	
28	TALLY/GPI OUT 9B	
29	TALLY/GPI OUT 10B	
30	TALLY/GPI OUT 11B	Tally/GPI outputs
31	TALLY/GPI OUT 12B	
32	TALLY/GPI OUT 13B	
33	TALLY/GPI OUT 14B	
34	TALLY/GPI OUT 15B	
35	TALLY/GPI OUT 16B	
36	TALLY/GPI OUT 17B	
37	TALLY/GPI OUT 18B	

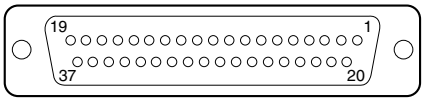
(∗3)

Note

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



TALLY/GPI OUT 19-36 : D-sub 37-pin, Female
OUTPUT × 18, relay contacts 30 V 0.1 A (∗3)



–EXT VIEW–

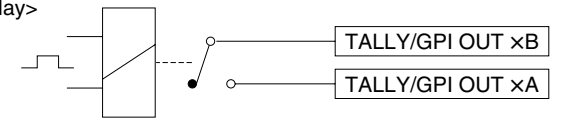
Pin No.	Signal Name	Function
1	TALLY/GPI OUT 19A	Tally/GPI outputs
2	TALLY/GPI OUT 20A	
3	TALLY/GPI OUT 21A	
4	TALLY/GPI OUT 22A	
5	TALLY/GPI OUT 23A	
6	TALLY/GPI OUT 24A	
7	TALLY/GPI OUT 25A	
8	TALLY/GPI OUT 26A	
9	TALLY/GPI OUT 27A	
10	TALLY/GPI OUT 28A	
11	TALLY/GPI OUT 29A	
12	TALLY/GPI OUT 30A	
13	TALLY/GPI OUT 31A	
14	TALLY/GPI OUT 32A	
15	TALLY/GPI OUT 33A	
16	TALLY/GPI OUT 34A	
17	TALLY/GPI OUT 35A	
18	TALLY/GPI OUT 36A	
19	GND	Ground
20	TALLY/GPI OUT 19B	Tally/GPI outputs
21	TALLY/GPI OUT 20B	
22	TALLY/GPI OUT 21B	
23	TALLY/GPI OUT 22B	
24	TALLY/GPI OUT 23B	
25	TALLY/GPI OUT 24B	
26	TALLY/GPI OUT 25B	
27	TALLY/GPI OUT 26B	
28	TALLY/GPI OUT 27B	
29	TALLY/GPI OUT 28B	
30	TALLY/GPI OUT 29B	Tally/GPI outputs
31	TALLY/GPI OUT 30B	
32	TALLY/GPI OUT 31B	
33	TALLY/GPI OUT 32B	
34	TALLY/GPI OUT 33B	
35	TALLY/GPI OUT 34B	
36	TALLY/GPI OUT 35B	
37	TALLY/GPI OUT 36B	

(∗3)

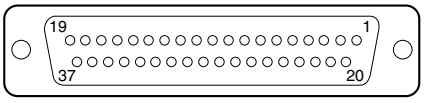
Note

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

<Relay>



TALLY/GPI OUT 37-54 : D-sub 37-pin, Female
OUTPUT × 18, relay contacts 30 V 0.1 A (∗3)



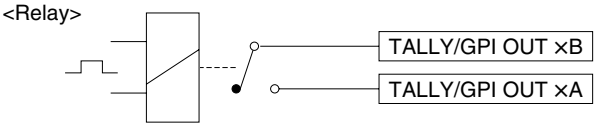
–EXT VIEW–

Pin No.	Signal Name	Function
1	TALLY/GPI OUT 37A	Tally/GPI outputs
2	TALLY/GPI OUT 38A	
3	TALLY/GPI OUT 39A	
4	TALLY/GPI OUT 40A	
5	TALLY/GPI OUT 41A	
6	TALLY/GPI OUT 42A	
7	TALLY/GPI OUT 43A	
8	TALLY/GPI OUT 44A	
9	TALLY/GPI OUT 45A	
10	TALLY/GPI OUT 46A	
11	TALLY/GPI OUT 47A	
12	TALLY/GPI OUT 48A	
13	TALLY/GPI OUT 49A	
14	TALLY/GPI OUT 50A	
15	TALLY/GPI OUT 51A	
16	TALLY/GPI OUT 52A	
17	TALLY/GPI OUT 53A	
18	TALLY/GPI OUT 54A	
19	GND	Ground
20	TALLY/GPI OUT 37B	Tally/GPI outputs
21	TALLY/GPI OUT 38B	
22	TALLY/GPI OUT 39B	
23	TALLY/GPI OUT 40B	
24	TALLY/GPI OUT 41B	
25	TALLY/GPI OUT 42B	
26	TALLY/GPI OUT 43B	
27	TALLY/GPI OUT 44B	
28	TALLY/GPI OUT 45B	
29	TALLY/GPI OUT 46B	
30	TALLY/GPI OUT 47B	Tally/GPI outputs
31	TALLY/GPI OUT 48B	
32	TALLY/GPI OUT 49B	
33	TALLY/GPI OUT 50B	
34	TALLY/GPI OUT 51B	
35	TALLY/GPI OUT 52B	
36	TALLY/GPI OUT 53B	
37	TALLY/GPI OUT 54B	

(∗3)

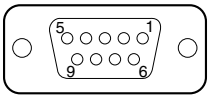
Note

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



1-7-3. MKS-8702

REMOTE1 to 6 : RS-422A (D-sub 9-pin, Female)
<CONTROLLER> to External Device



– EXT VIEW –

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

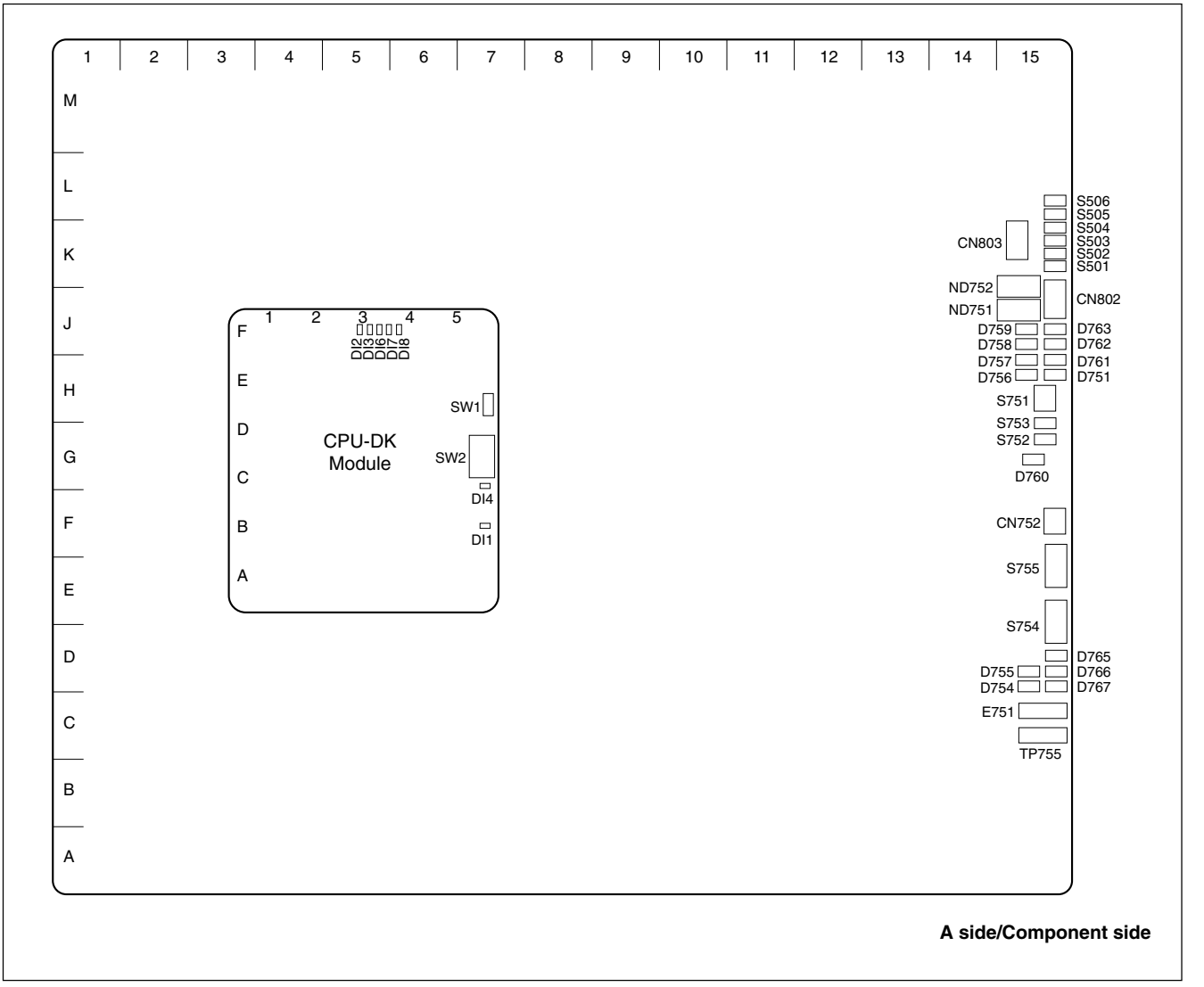
1-8. Checks on Completion of Installation

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-47 board



<LEDs>

D751 (H-15) : REF-OK status LED

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

D754 (D-15) : LAN status LED

LAN (IC151/CA-47 board) status indication.
Flashes while communication with the main panel is in progress.

D755 (D-15) : 100

LAN (IC151/CA-47 board) status indication
Lit while communication with the main panel is in progress at 100 Mb/s.

D756 (H-15) : Main CPU status LED
Main CPU status indication. Used only for production in the assembly factory.

D757 (H-15) : Main CPU status LED
Main CPU status indication. Used only for production in the assembly factory.

D758 (J-15) : Main CPU status LED
Main CPU status indication. Used only for production in the assembly factory.

D759 (J-15) : Main CPU status LED
Main CPU status indication. Used only for production in the assembly factory.

D760 (G-15) : RESET
Lit at reset.

D761 (H-15) : SIO0
Serial I/F (IC402/CA-47 board) status indication.
Not lit : During normal operation
Lit : When the system does not start up correctly
Flashing : When the memory has an abnormality

D762 (J-15) : CH0
Flashes while communication with the equipment that is connected by the serial I/F (IC402/CA-47 board) is in progress.

D763 (J-15) : CH1
Flashes while communication with the equipment that is connected by the serial I/F (IC402/CA-47 board) is in progress.

D765 (D-15) : +3.3 V
+3.3 V power supply status indication.
Lit when the +3.3 V power is supplied.

D766 (D-15) : +5 V
+5 V power supply status indication.
Lit when the +5 V power is supplied.

D767 (D-15) : +12 V
+12 V power supply status indication.
If this LED does not light on, the fuse may have blown.
Lit when the +12 V power is supplied.

ND751 (J-15) : Main CPU status LED
Main CPU status indication.

ND752 (K-15) : Main CPU status LED
Main CPU status indication.

<Switches>

S501 (K-15) : Tally/GPI IN MODE 33
Selects either TTL level or +12 V for Tally/GPI IN 33
The “V” position of the circuit board indication : 12 V
The “N” position of the circuit board indication : TTL level

S502 (K-15) : Tally/GPI IN MODE 34
Selects either TTL level or +12 V for Tally/GPI IN 34
The “V” position of the circuit board indication : 12 V
The “N” position of the circuit board indication : TTL level

S503 (K-15) : Tally/GPI IN MODE 67
Selects either TTL level or +12 V for Tally/GPI IN 67
The “V” position of the circuit board indication : 12 V
The “N” position of the circuit board indication : TTL level

S504 (K-15) : Tally/GPI IN MODE 68
Selects either TTL level or +12 V for Tally/GPI IN 68
The “V” position of the circuit board indication : 12 V
The “N” position of the circuit board indication : TTL level

S505 (L-15) : Tally/GPI IN MODE 101
Selects either TTL level or +12 V for Tally/GPI IN 101
The “V” position of the circuit board indication : 12 V
The “N” position of the circuit board indication : TTL level

S506 (L-15) : Tally/GPI IN MODE 102
Selects either TTL level or +12 V for Tally/GPI IN 102
The “V” position of the circuit board indication : 12 V
The “N” position of the circuit board indication : TTL level

S751 (H-15) : Modes setting switch for the main CPU
Reserved for future expansion. Used only for production in the assembly factory. Default setting when shipped from the factory is all OFF.

S752 (G-15) : System reset switch
Reset switch for the entire DCU-8000.

S753 (G-15) : Monitor setting switch for the main CPU
Reset switch that is used during maintenance of the main CPU from the TERMINAL pin.

S754 (D-15) : Group ID setting switch for LAN
Sets the network group ID.
This switch is used to set the PERIPH terminal.
Refer to System Setup Manual for details.

S755 (E-15) : Unit ID setting switch for LAN
Sets the unit ID within a network.
This switch is used to set the PERIPH terminal.
Refer to System Setup Manual for details.

<Connectors>

CN752 (F-15) : TERMINAL pin
This pin is connected to the main CPU control terminal and used during maintenance.
Used only for production in the assembly factory.

CN802 (J-15) : ISP common connector
Used only for production in the assembly factory. Used for program writing into the JTAG device with ISP.

CN803 (K-15) : JTAG2
Used only for production in the assembly factory.

<TEST terminals>

E751 (C-15) : GND pin
Used as GND when measuring of the each check terminals.

TP755 (C-15) : +12 V check terminal
+12 V measuring terminal.

<LEDs on the CPU DK module> (G-5)

DI1 (green) (B-5) : CD (Card Detect) status LED
Lit when the CPU-DK module is inserted correctly to the parent board.

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

DI3 (F-3) (green) : STATUS4 status LED
Used for maintenance purpose. Only the STATUS1 LED is lit in normal operation.

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

DI6 (F-3) (green) : STATUS3 status LED
Used for maintenance purpose. Only the STATUS1 LED is lit in normal operation.

DI7 (F-3) (green) : STATUS2 status LED
Used for maintenance purpose. Only the STATUS1 LED is lit in normal operation.

DI8 (F-4) (green) : STATUS1 status LED
Used for maintenance purpose. Only the STATUS1 LED is lit in normal operation.

<Switches on the CPU-DK module> (G-5)

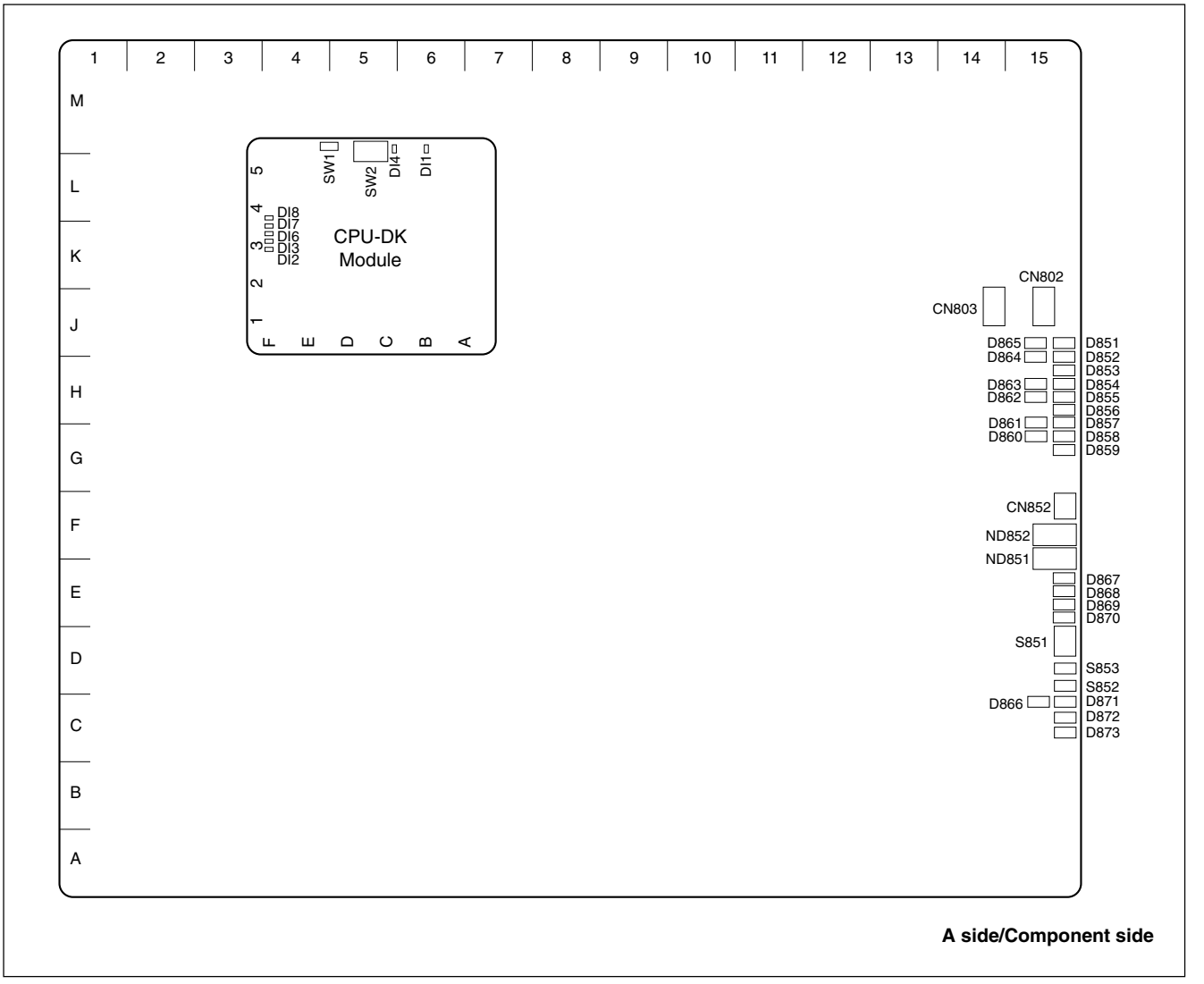
SW1 (E-5) : RESET switch
Pressing this switch resets the CPU-DK module.

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.

2. IF-848 board



<LEDs>

D851 (J-15) : CH5

Flashes while communication with the equipment that is connected by the serial I/F (IC402/IF-848 board) is in progress.

D852 (H-15) : CH4

Flashes while communication with the equipment that is connected by the serial I/F (IC402/IF-848 board) is in progress.

D853 (H-15) : SIO2

Serial I/F (IC402/IF-848 board) status indication.
Not lit : During normal operation
Lit : When the system does not start up correctly
Flashing : When the memory has an abnormality

D854 (H-15) : CH3

Flashes while communication with the equipment that is connected by the serial I/F (IC302/IF-848 board) is in progress.

D855 (H-15) : CH2

Flashes while the communication with the equipment that is connected by the serial I/F (IC302/IF-848 board) is in progress.

D856 (H-15) : SIO1

Serial I/F (IC302/IF-848 board) status indication.
Not lit : During normal operation
Lit : When the system does not start up correctly
Flashing : When the memory has an abnormality

D857 (H-15) : CH1
Flashes while communication with the equipment that is connected by the serial I/F (IC202/IF-848 board) is in progress.

D858 (G-15) : CH0
Flashes while communication with the equipment that is connected by the serial I/F (IC202/IF-848 board) is in progress.

D859 (G-15) : SIO0
Serial I/F (IC202/IF-848 board) status indication.
Not lit : During normal operation
Lit : When the system does not start up correctly
Flashing : When the memory has an abnormality

D860 (G-15) : ST1
Not used at present.

D861 (H-15) : ST2
Not used at present.

D862 (H-15) : ST3
Not used at present.

D863 (H-15) : ST4
Not used at present.

D864 (H-15) : ST5
Not used at present.

D865 (J-15) : ST6
Not used at present.

D866 (C-15) : RESET
Lit at reset.

D867 (E-15) : IF CPU status LED
IF CPU status indication.
Used only for production in the assembly factory.

D868 (E-15) : IF CPU status LED
IF CPU status indication.
Used only for production in the assembly factory.

D869 (E-15) : IF CPU status LED
IF CPU status indication.
Used only for production in the assembly factory.

D870 (E-15) : IF CPU status LED
IF CPU status indication.
Used only for production in the assembly factory.

D871 (C-15) : +5 V
+5 V power supply status indication.
Lit when the +5 V power is supplied.

D872 (C-15) : +3.3 V
+3.3 V power supply status indication.
Lit when the +3.3 V power is supplied.

D873 (C-15) : +12 V
+12 V power supply status indication.
If this LED does not light on, the fuse may have blown.
Lit when the +12 V power is supplied.

ND851 (E-15) : IF CPU status LED
IF CPU status indication.

ND852 (F-15) : IF CPU status LED
IF CPU status indication.

<Switches>

S851 (D-15) : Modes setting switch for the IF CPU
Reserved for future expansion. Used only for production in the assembly factory. Default setting when shipped from the factory is all OFF.

S852 (D-15) : IF CPU RESET switch
Reset switch for the entire IF-848 board.

S853 (D-15) : Monitor reset switch for the IF CPU
Reset switch that is used during maintenance of the IF CPU from the TERMINAL.

<Connectors>

CN802 (J-15) : ISP common connector
Used only for production in the assembly factory. Used for program writing into the JTAG device with ISP.

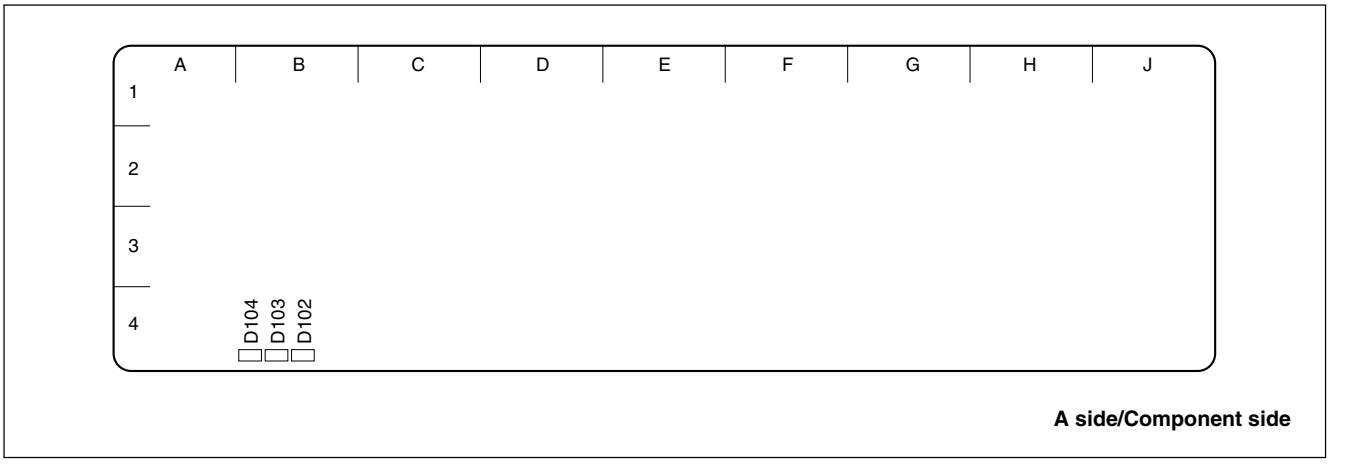
CN803 (J-14) : JTAG2
Used only for production in the assembly factory.

CN852 (F-15) : TERMINAL pin
This pin is connected to the CPU control terminal and used during maintenance. Used only for production in the assembly factory.

<LEDs on the CPU-DK module> (K-5)
Refer to <LEDs on the CPU-DK module> of “1. CA-47 board”.

<Switches on the CPU-DK module> (K-5)
Refer to <Switches on the CPU-DK module> of “1. CA-47 board”.

3. RC-90 board



<LEDs>

D102 (B-4) : +5 V
+5 V power supply status indication.
Lit while +5 V power is supplied.

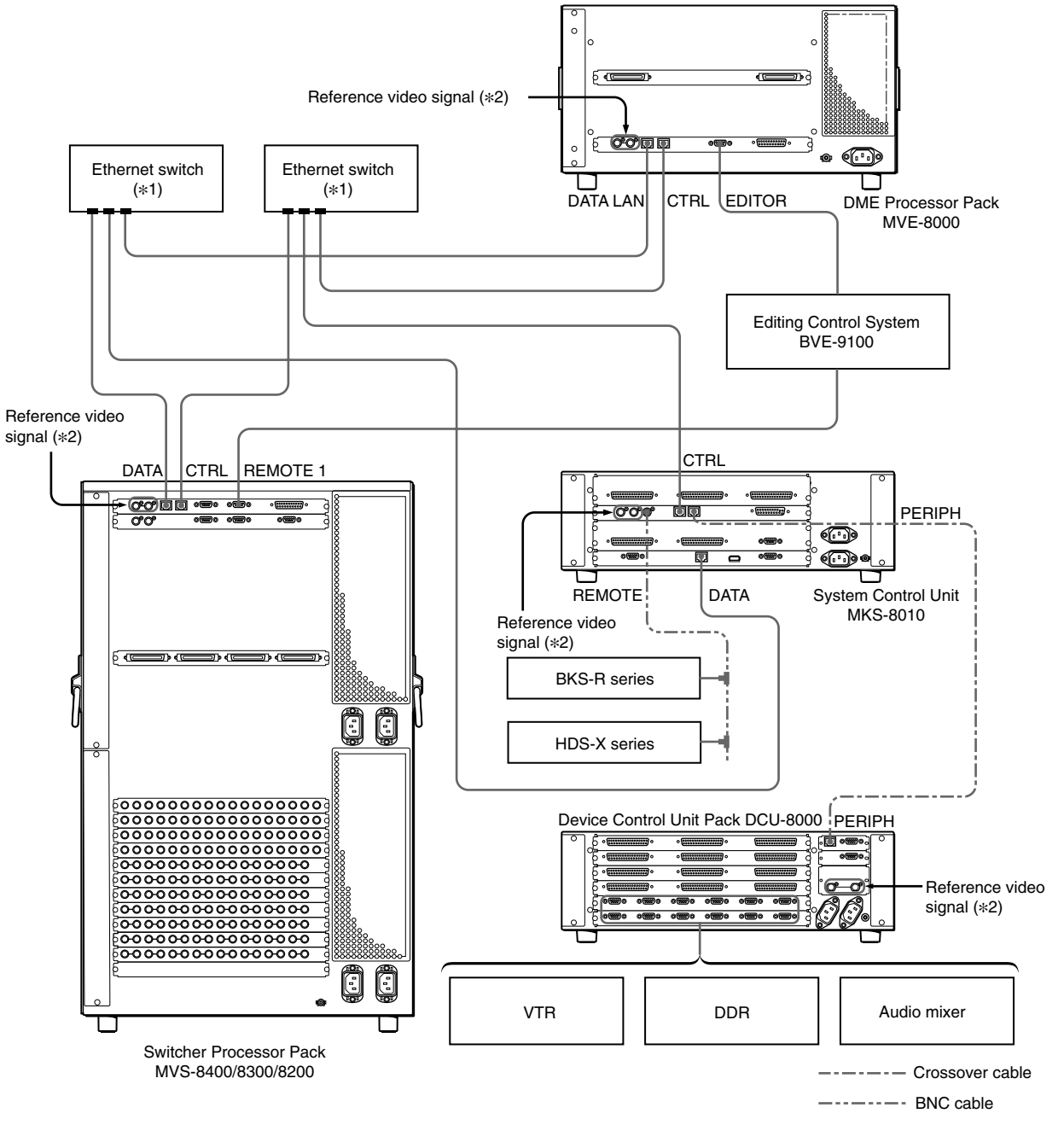
D103 (B-4) : +3.3 V
+3.3 V power supply status indication.
Lit when the +3.3 V power is supplied.

D104 (B-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.

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.

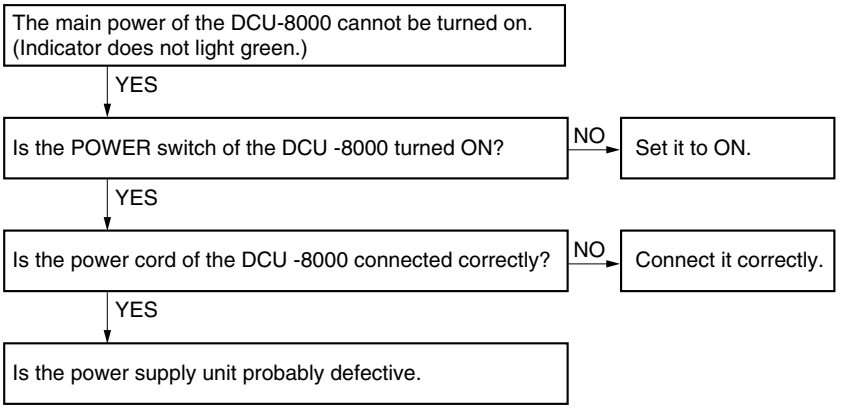
(∗2) : Terminate the system with the 75 Ω terminators supplied. The 75 Ω terminators are supplied with the equipment.

Section 2
Service Overview

2-1. Troubleshooting

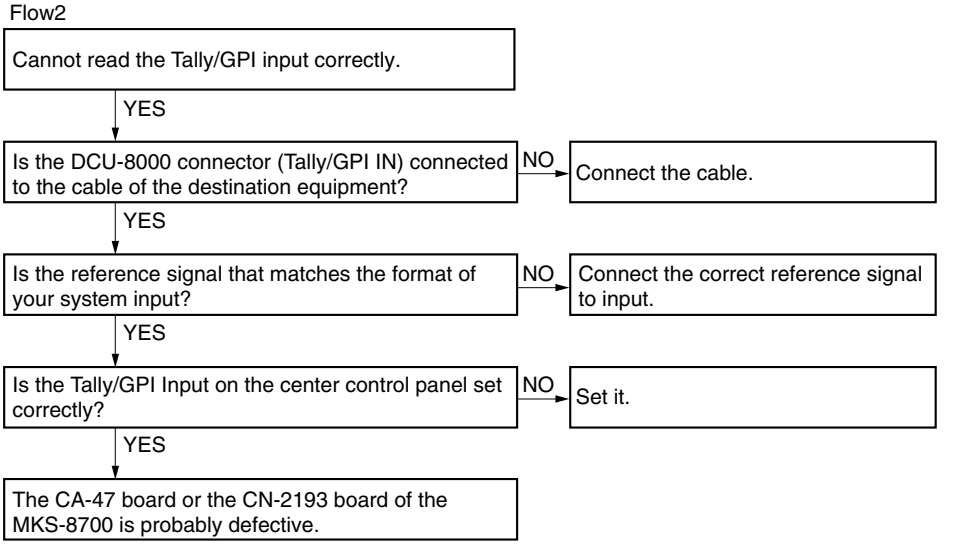
The main power cannot be turned on. (Indicator does not light green.)

Flow1



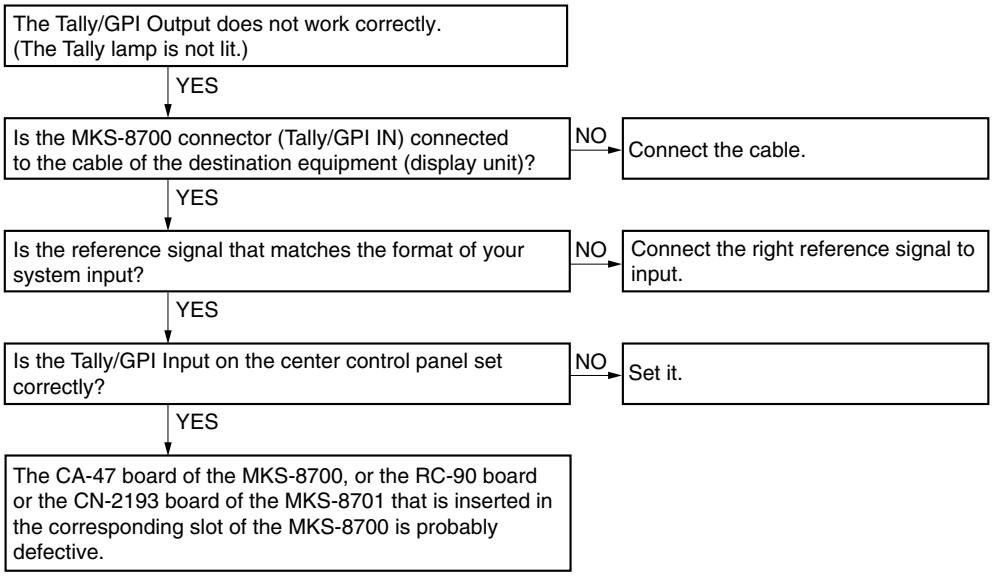
Cannot read the Tally/GPI input correctly.

Flow2



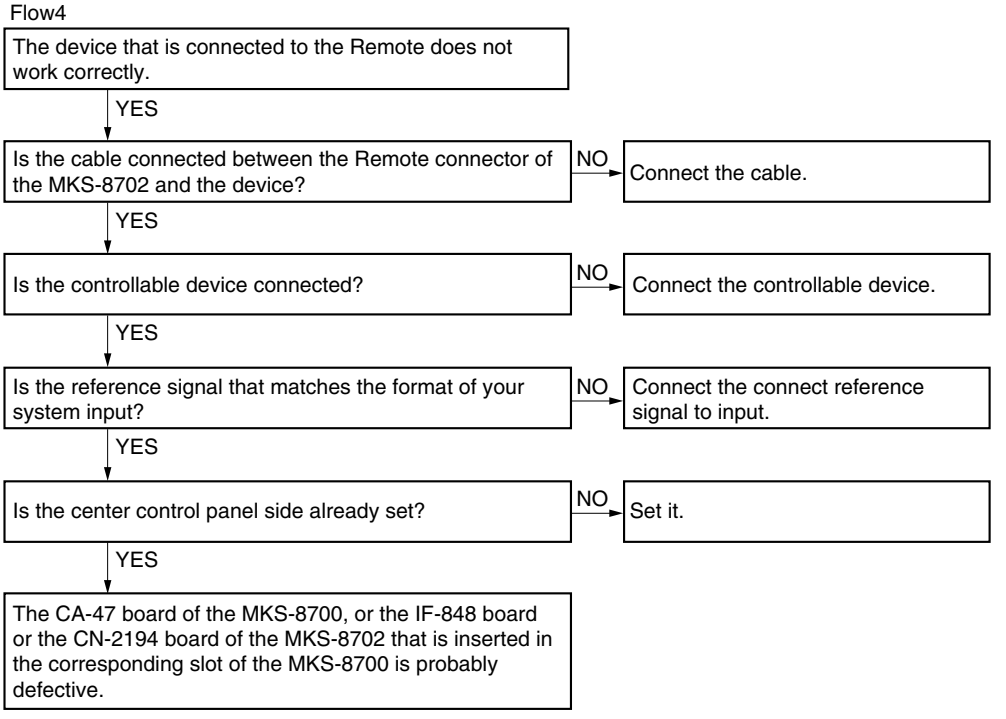
Tally/GPI Output does not work correctly.

Flow3



The device that is connected to Remote does not work correctly.

Flow4



2-2. Periodic Inspection and Maintenance

2-2-1. Cleaning

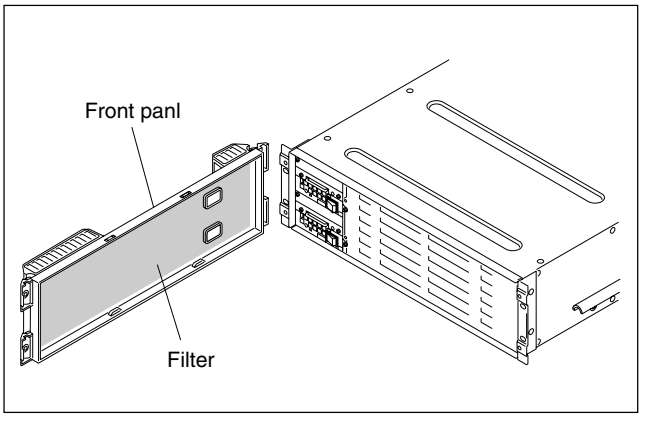
1. Front panel

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.

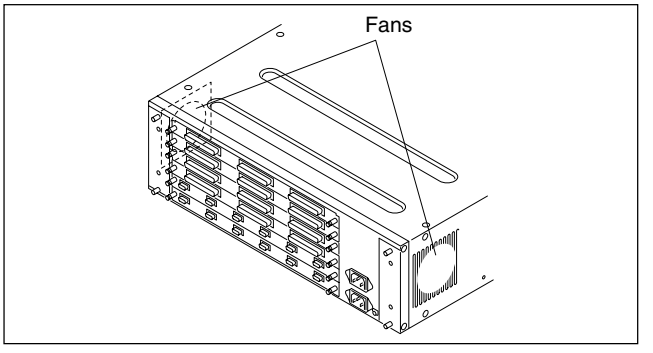
   Note

   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 is cleaned by water.



2. Fan

The inside of the DCU-8000 is cooled by a fan (both sides on the rear).
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 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.



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3-206-023-11

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B&P Company

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