SONY

INTEGRATED CONTROL PANEL

ICP-X7000

MKS-X7011
MKS-X7017
MKS-X7018
MKS-X7019
MKS-X7020
MKS-X7021
MKS-X7023
MKS-X7024
MKS-X7026
MKS-X7031TB
MKS-X7032
MKS-X7033
MKS-X7035
MKS-X7075
MKS-X2700
MKS-X7700
MKS-X7701
MKS-X7702
MKS-X7040
MKS-X7041
MKS-X7042
PWS-100SC1
PWS-110SC1
BZPS-7020
BZPS-7021
BZPS-7030
BZPS-7031
BZPS-7700

HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

INSTALLATION MANUAL
1st Edition (Revised 7)

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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.

ICP-X7000 (SY)	
ICP-X7000 (CN)	
MKS-X7011 (SY)	Serial No. 10001 and Higher
MKS-X7017 (SY)	Serial No. 10001 and Higher
MKS-X7018 (SY)	Serial No. 10001 and Higher
MKS-X7019 (SY)	Serial No. 10001 and Higher
MKS-X7020 (SY)	Serial No. 10001 and Higher
MKS-X7021 (SY)	Serial No. 10001 and Higher
MKS-X7023 (SY)	Serial No. 10001 and Higher
MKS-X7024 (SY)	Serial No. 10001 and Higher
MKS-X7026 (SY)	Serial No. 10001 and Higher
MKS-X7031TB (SY)	Serial No. 10001 and Higher
MKS-X7032 (SY)	Serial No. 10001 and Higher
MKS-X7033 (SY)	Serial No. 10001 and Higher
MKS-X7035 (SY)	Serial No. 10001 and Higher
MKS-X7075 (SY)	Serial No. 10001 and Higher
MKS-X2700 (SY)	Serial No. 10001 and Higher
MKS-X2700 (CN)	Serial No. 50001 and Higher
MKS-X7700 (SY)	Serial No. 10001 and Higher
MKS-X7700 (CN)	Serial No. 50001 and Higher
MKS-X7701 (SY)	Serial No. 10001 and Higher
MKS-X7702 (SY)	Serial No. 10001 and Higher
MKS-X7040 (WW)	Serial No. 10001 and Higher
MKS-X7041 (WW)	Serial No. 10001 and Higher
MKS-X7042 (WW)	Serial No. 10001 and Higher
PWS-100SC1 (SY)	Serial No. 140001 and Higher
PWS-100SC1 (CN)	Serial No. 540001 and Higher
PWS-110SC1 (SY)	Serial No. 110001 and Higher
PWS-110SC1 (CN)	Serial No. 510001 and Higher

For MKS-X2700/MKS-X7700/PWS-100SC1/PWS-110SC1
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.

For MKS-X2700/MKS-X7700/PWS-100SC1/PWS-110SC1

When installing the installation space must be secured in consideration of the ventilation and service operation.
- Do not block the ventilation slots at the left side and right side panels, and vents of the fans.
- Leave a space around the unit for ventilation.
- When the unit is installed on the desk or the like, keep the following space for service operation.

MKS-X2700
Right, Left: 4 cm or more
Rear: 10 cm or more
MKS-X7700
Right, Left: 4 cm or more
Rear: 10 cm or more
PWS-100SC1
Right, Left: 4 cm or more
Rear: 10 cm or more
PWS-110SC1
Right, Left: 4 cm or more
Rear: 10 cm or more

設置時には，通気やサービス性を考慮して設置スペースを確保してください。
- **ファンの排気部や通気孔（左側面および右側面）をふさがない。**
- **通気のために，セット周辺に空間をあける。**
- **作業エリアの確保や，サービス性を考慮し，机上などの平面に設置する場合は，以下の空間を確保してください。**

MKS-X2700
左右両側面：4 cm **以上**
後面： 10 cm **以上**
MKS-X7700
左右両側面：4 cm **以上**
後面： 10 cm **以上**
PWS-100SC1
左右両側面：4 cm **以上**
後面： 10 cm **以上**
PWS-110SC1
左右両側面：4 cm **以上**
後面： 10 cm **以上**

For MKS-X2700/MKS-X7700/PWS-100SC1/PWS-110SC1

安全のために，周辺機器を接続する際は，過大電圧を持つ可能性があるコネクターを以下のポートに接続しないでください。
: MKS-X2700: MVS，UTIL コネクター
: MKS-X7700: MVS，UTIL コネクター
: PWS-100SC1: LAN コネクター
: PWS-110SC1: LAN コネクター
上記のポートについては本書の指示に従ってください。

For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to the following ports.
: MKS-X2700: MVS, UTIL connectors
: MKS-X7700: MVS, UTIL connectors
: PWS-100SC1: LAN connector
: PWS-110SC1: LAN connector
Follow the instructions for the above ports.

For ICP-X7000/MKS-X7011/MKS-X7075/PWS-100SC1/PWS-110SC1

警告

本機は電源スイッチを備えていません。
万一，異常が起きた際に，お客様が電源を切ることができるように，設置の際には，機器近くの固定配線内に専用遮断装置を設けるか，機器使用中に，容易に抜き差しできるコンセントに電源プラグを接続してください。

WARNING
This unit has no power switch.
When installing the unit, incorporate a readily accessible disconnect device in the fixed wiring, or connect the power cord to a socket-outlet which must be provided near the unit and easily accessible, so that the user can turn off the power in case a fault should occur.

WARNUNG
Dieses Gerät hat keinen Netzschalter.
Beim Einbau des Geräts ist daher im Festkabel ein leicht zugänglicher Unterbrecher einzufügen, oder das Netzkabel muß mit einer in der Nähe des Geräts befindlichen, leicht zugänglichen Wandsteckdose verbunden werden, damit sich bei einer Funktionsstörung die Stromversorgung zum Gerät jederzeit unterbrechen läßt.

For MKS-X2700/MKS-X7700/PWS-100SC1/PWS-110SC1

For kundene i Norge

Dette utstyret kan kobles til et IT-strømfordelingssystem.

For ICP-X7000/MKS-X7011/MKS-X7075

CAUTION for LAN port
For safety reason, do not connect the LAN port to any network devices that might have excessive voltage.
The LAN port of this unit is to be connected only to the devices whose power feeding meets the requirements for SELV (Safety Extra Low Voltage) and complies with Limited Power Source according to IEC 60950-1.

For ICP-X7000/MKS-X7011/MKS-X7075

CAUTION
These products are to be connected only to PoE networks without routing to the outside plant.

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Manual Structure

Purpose of this manual

This manual is the installation manual of Integrated Control Panel Pack ICP-X7000 and the optional units, MKS-X2700 and MKS-X7700 and optional units, and Switcher Control Station PWS-100SC1/PWS-110SC1.
This manual is intended for use by trained system and service engineers, and describes the information on installing the ICP-X7000.

Related manuals

The following manuals are prepared for ICP-X7000 and the optional boards and units.

- **Operation Manual (Supplied with ICP-X7000)**
  This manual describes the overview, system connection example and specifications of options of ICP-X7000.

- **Operation Manual (Supplied with PWS-100SC1/PWS-110SC1)**
  This manual describes the application and operation of PWS-100SC1/PWS-110SC1.

- **User's Guide (Supplied with ICP-X7000)**
  This manual describes the application and operation of ICP-X7000.

- **Service Manual (Available on request)**
  This manual describes service overview, error messages, periodic maintenance and inspection, replacement of main parts, and etc. of the unit to provide information required for block-level service.
  If this manual is required, please contact your local Sony Sales Office/Service Center.

- **Factory Service Manual (Available on request)**
  Parts list, circuit diagram, and board layouts of the unit are included to provide information required for part-level service.
  If this manual is required, please contact your local Sony Sales Office/Service Center.

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Other system names and product names written in this manual are usually registered trademarks or trademarks of respective development manufacturers.

Contents

This manual is organized by following section.

Section 1 Installation

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

Section 2 Installing the Options

This section describes the installation of option.

Section 3 Service Overview

This section describes the troubleshooting and periodic inspection and maintenance.

Section 1
Installation

1-1. Operating Environment (Common)

Operation 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
ICP-X7000 (4ME): Approx. 39.0 kg
ICP-X7000 (3ME): Approx. 30.0 kg
ICP-X7000 (2ME): Approx. 22.0 kg
MKS-X7075: Approx. 2.0 kg
MKS-X7011: Approx. 2.5 kg
MKS-X2700: Approx. 8.0 kg
MKS-X7700: Approx. 15.0 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 where is subject to electrical noise.
- Areas subject to static electricity

Ventilation

The inside of the MKS-X2700/MKS-X7700 is cooled by a fan (side on the rear).
The power supply can be damaged if the exhaust vent (side on the rear) and air intake (front panel) are blocked or the fan is stopped.

1-2. Power Supply

1-2-1. Power Specifications

1. MKS-X2700/MKS-X7700

Power requirements: AC 100V to 240 V ±10 %
Power frequency: 50/60 Hz
Current consumption:
MKS-X2700: Maximum 0.5 A
MKS-X7700: Maximum 1.0 A

Note

As the inrush current flows at turn-on, the capacity of the AC power source must be commensurate with this load. If the capacity of the AC power is not adequately large, the AC power source breaker will operate or the unit will abnormally operate.

Inrush current:
MKS-X2700: Maximum 85 A (at peak)/20 A r.m.s (AC 240 V)
MKS-X7700: Maximum 90 A (at peak)/20 A r.m.s (AC 240 V)

2. ICP-X7000, MKS-X7075, MKS-X7011

ICP-X7000, MKS-X7075, and MKS-X7011 operate with power supplied from the PoE HUB or the supplied AC adaptor. Both of these power supplies can be operated as redundant power supply.
With respect to the model name of recommended PoE HUB, contact your local Sony Sales Office/Service Center.

AC adaptor power: AC100 V to 240 V 50/60Hz

Current consumption:
ICP-X7000 (per row): Maximum 0.3 A
MKS-X7075: Maximum 0.2 A
MKS-X7011: Maximum 0.3 A

Inrush current:
ICP-X7000 (per row): 70 A (at peak), 10 A r.m.s. (AC 240 V)
MKS-X7075: 70 A (at peak), 10 A r.m.s. (AC 240 V)
MKS-X7011: 70 A (at peak), 10 A r.m.s. (AC240 V)

1-2-2. Recommended Power Cord

This unit does not come with a power cord.
To get a power cord, please contact your local Sony Sales Office/Service Center.

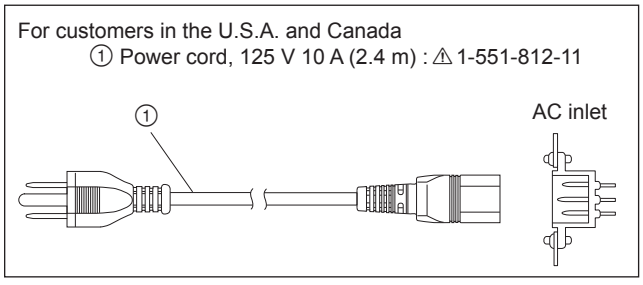
WARNING

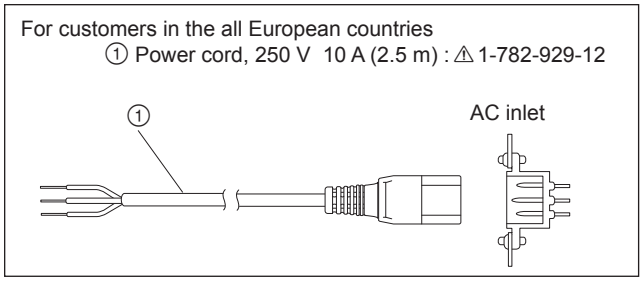
- Use the approved Power Cord (3-core mains lead)/Appliance Connector/Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
- Use the Power Cord (3-core mains lead)/Appliance Connector/Plug conforming to the proper ratings (Voltage, Ampere).
  If you have questions on the use of the above Power Cord/Appliance Connector/Plug, please contact your local Sony Sales Office/Service Center.

WARNING

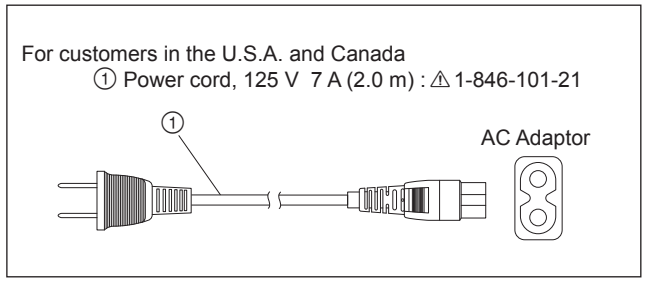
- Never use an injured power cord.
- Plugging the power cord in the AC inlet, push as far as it will go.

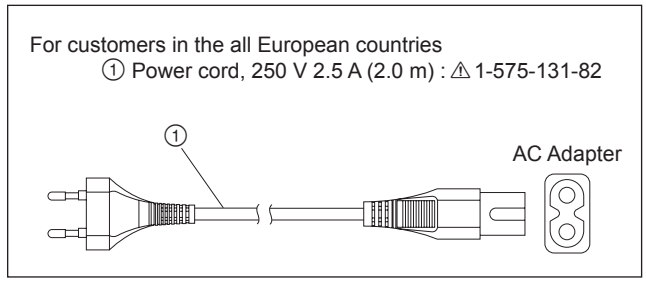
Specified power cord
For MKS-X2700/MKS-X7700





For ICP-X7000,MKS-X7075, MKS-X7011
(For AC adaptor)



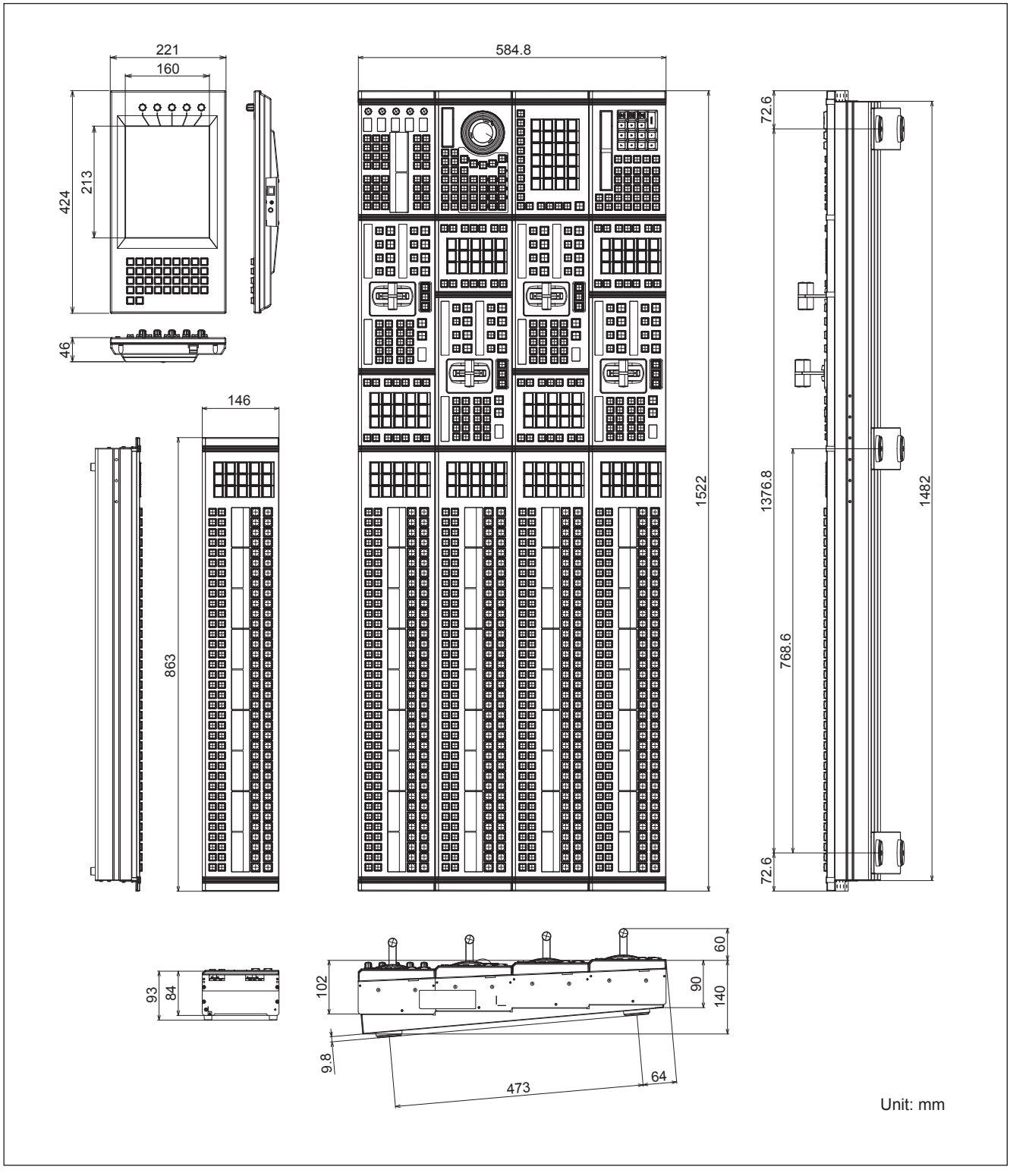


1-3. Installation Space

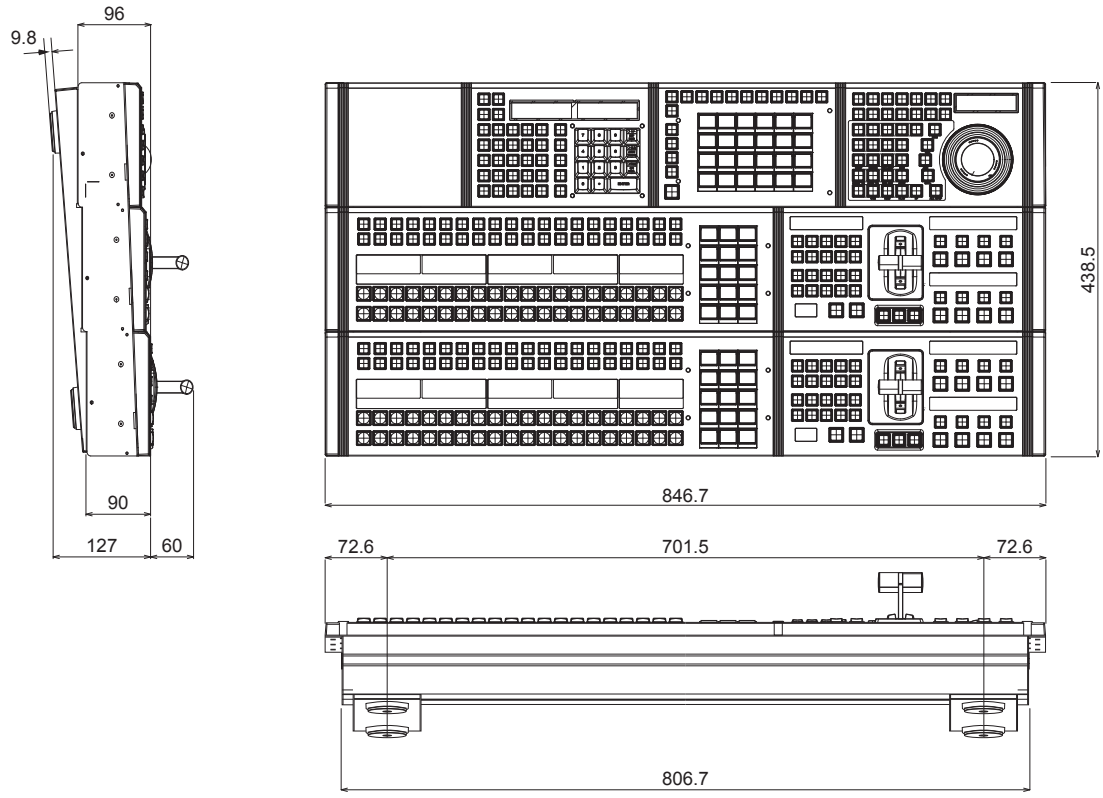
1-3-1. External Dimensions

Main panel/AUX panel*/Menu panel

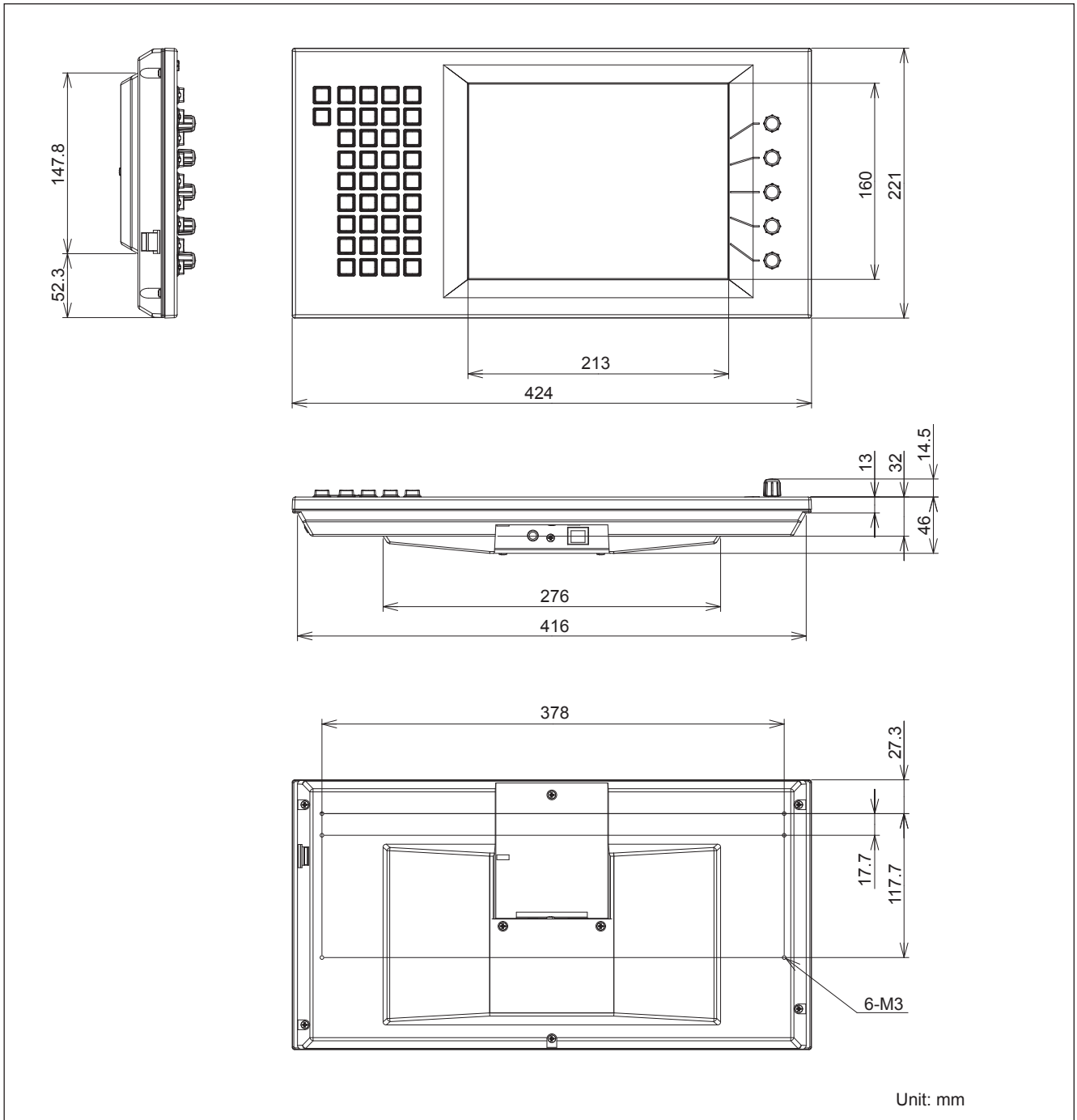
* A configuration using MKS-X7017/X7018/X7019 independently is called “AUX panel” in this manual.



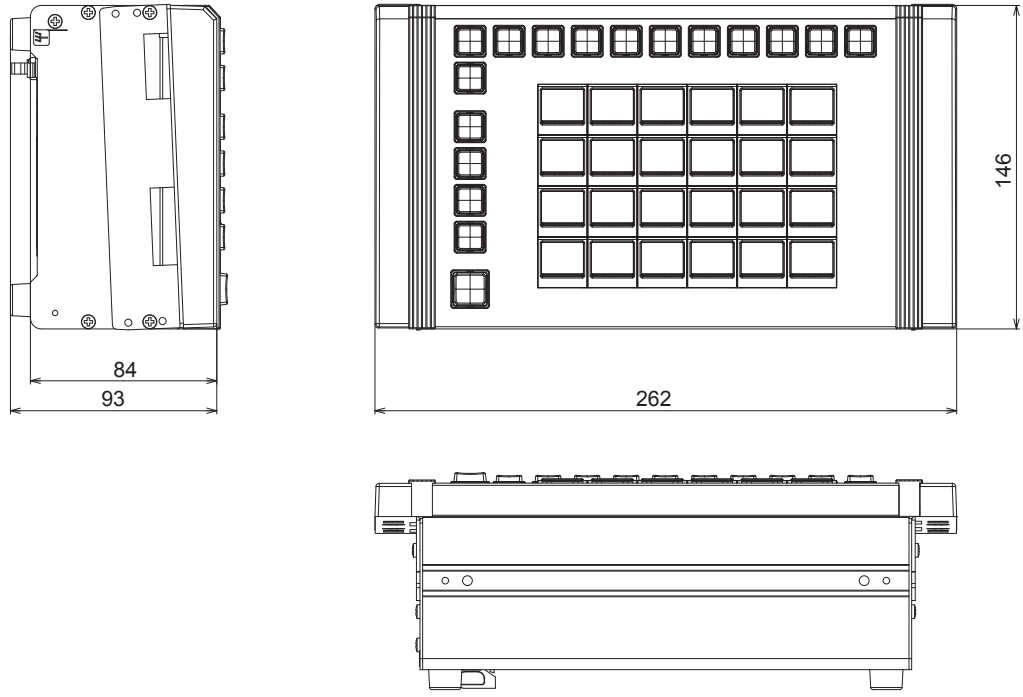
Main panel (COMPACT, triple-row)



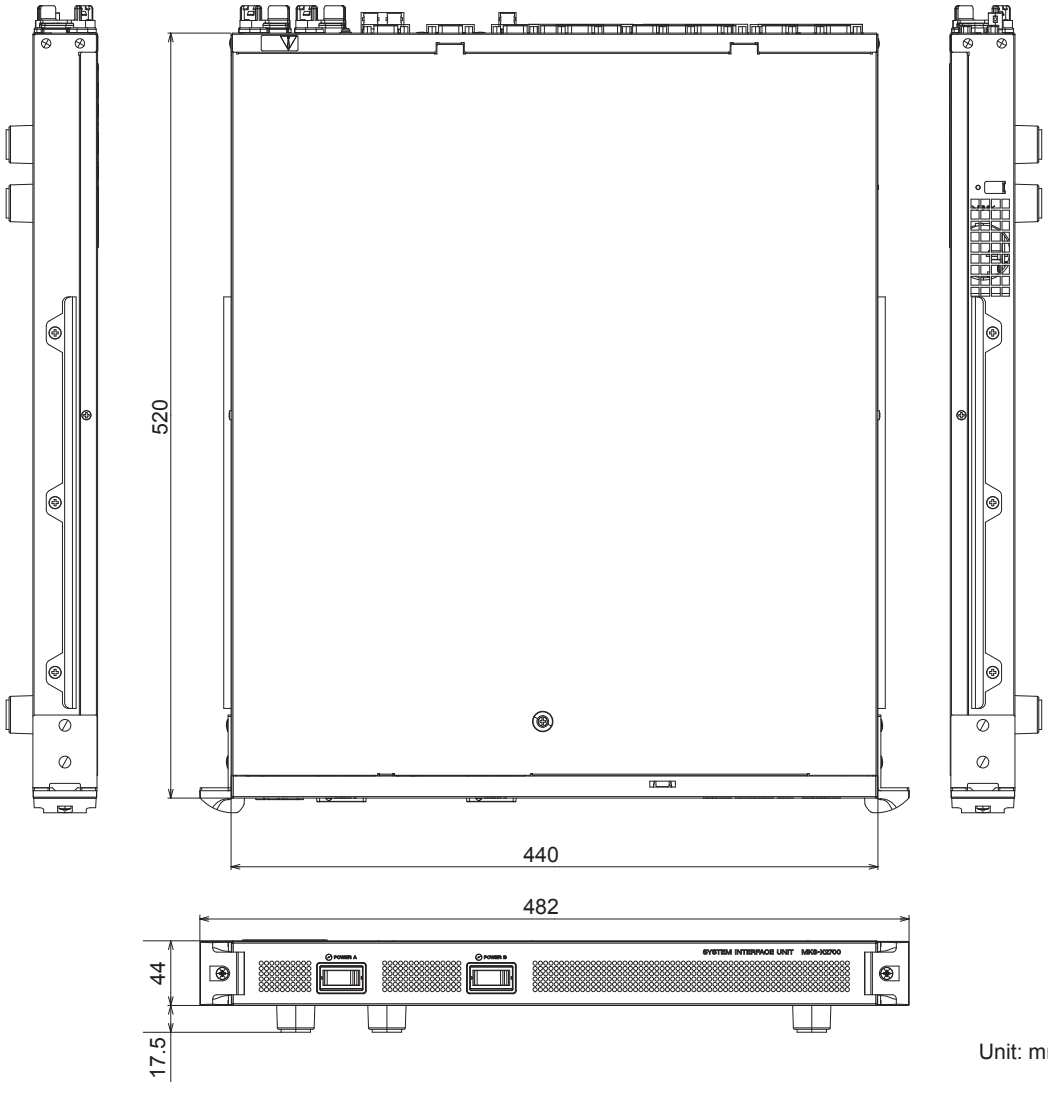
Menu panel (MKS-X7011) detailed dimensions



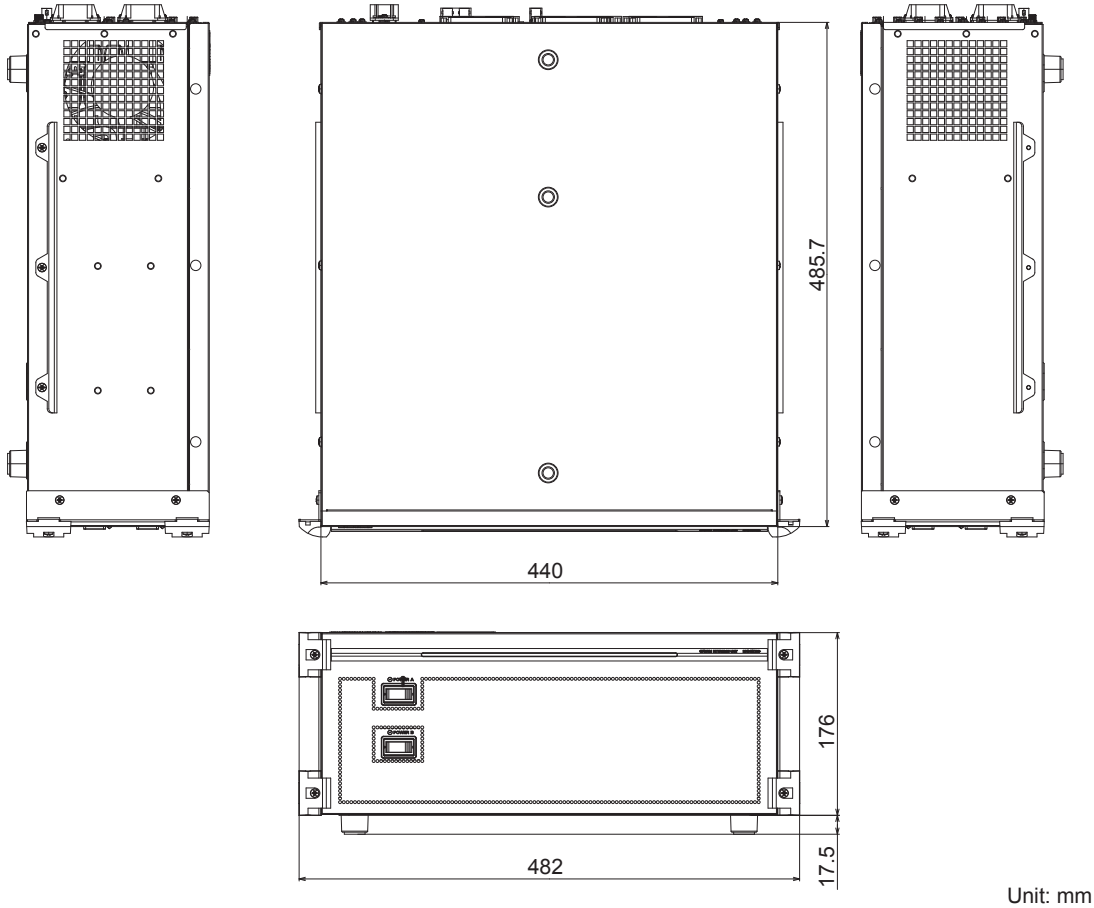
Extension adaptor (MKS-X7075)



System interface unit (MKS-X2700)



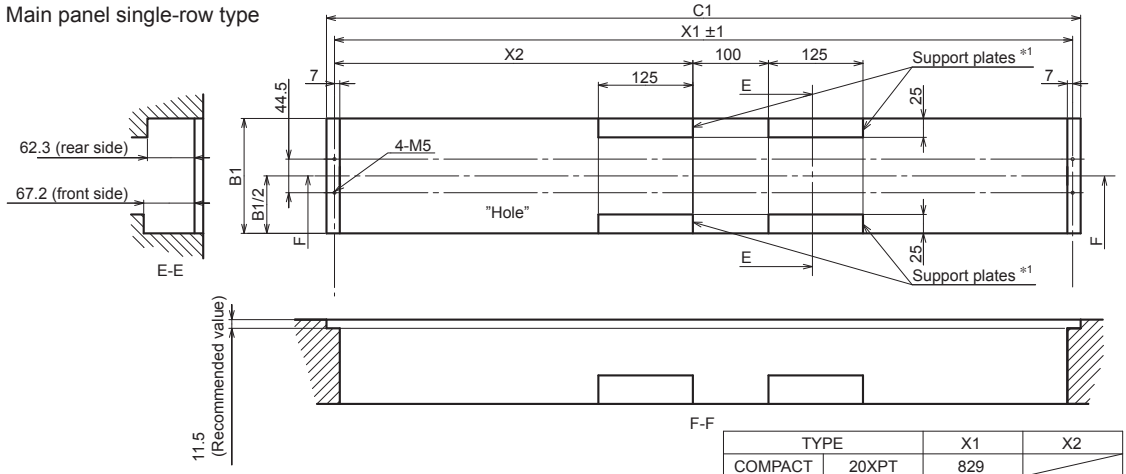
System interface unit (MKS-X7700)



1-3-2. Installation Space

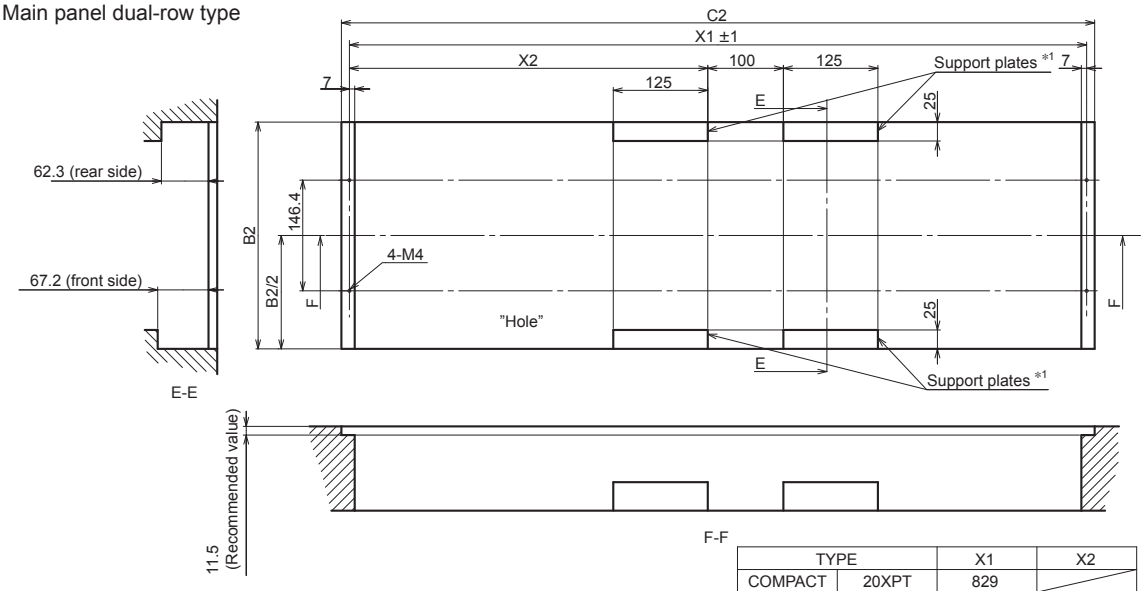
- When using the main panel or the AUX panel to be fit in the adjustment console, drill holes in the adjustment console with dimensions shown below.
- For dimensions B1, B2, B3, B4, B5, C1, and C2 in the figure below, refer to “Detailed dimensions of main panel/AUX panel” in Section 1-3-3 below.
- COMPACT: A panel consisting of a module (row: 20XPT, width: 284 mm) or two modules (row: 20XPT, width: 137 mm)
  NARROW: A panel consisting of a module (row: XPT, width: 137 mm) and a module (row: XPT, width: 284 mm)
  STANDARD: A panel consisting of a module (row: XPT, width: 137 mm), a module (row: XPT, width: 210.5 mm), and a module (row: XPT, width: 284 mm)
- With respect to curve-shaped installation method, contact your local Sony Sales Office/Service Center.

Main panel single-row type



TYPE		X1	X2
COMPACT	20XPT	829	
NARROW	36XPT	1284	783
	28XPT	1130	623
	20XPT	975	474
STANDARD	36XPT	1504	783
	28XPT	1349	623
	20XPT	1195	474

Main panel dual-row type



TYPE		X1	X2
COMPACT	20XPT	829	
NARROW	36XPT	1284	783
	28XPT	1130	623
	20XPT	975	474
STANDARD	36XPT	1504	783
	28XPT	1349	623
	20XPT	1195	474

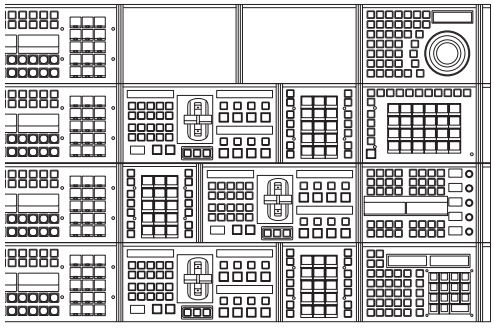
*1: The COMPACT type does not require the support plates.

Unit: mm

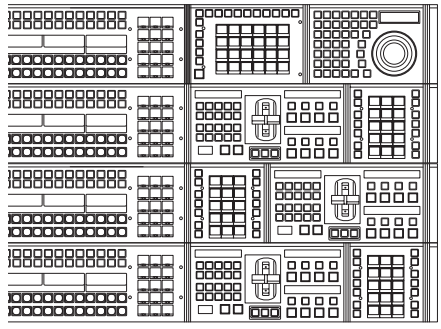
Main panel size and combination of modules example

(Module Size: 137mm/210.5mm/284mm)

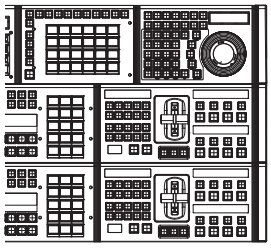
STANDARD



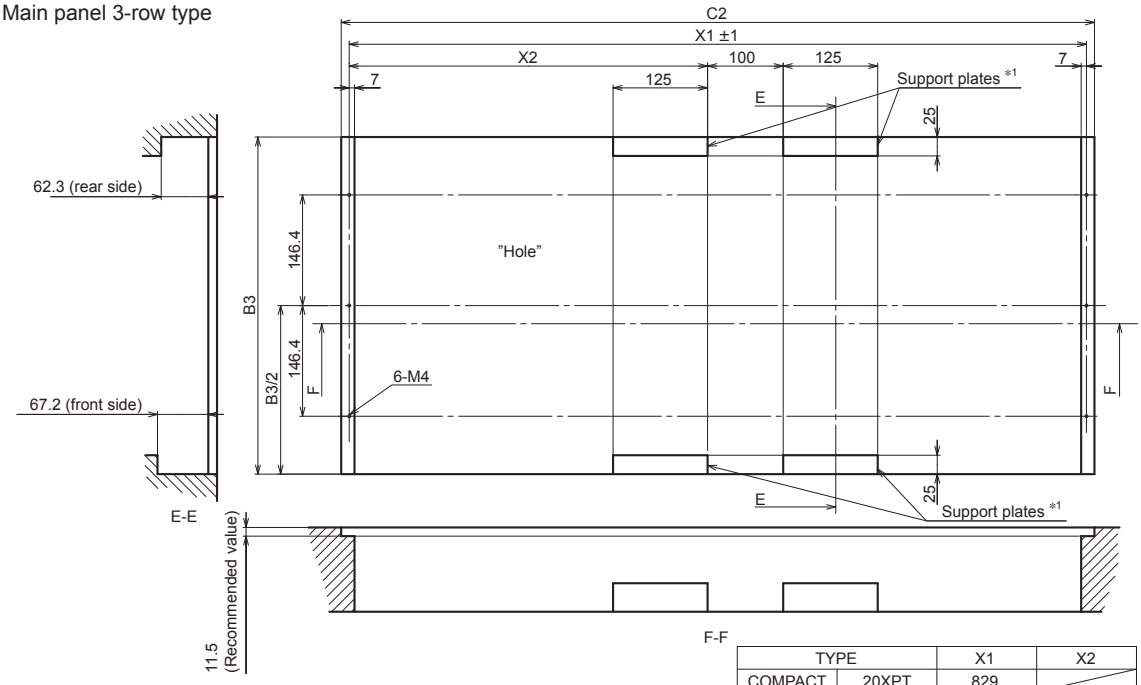
NARROW



COMPACT

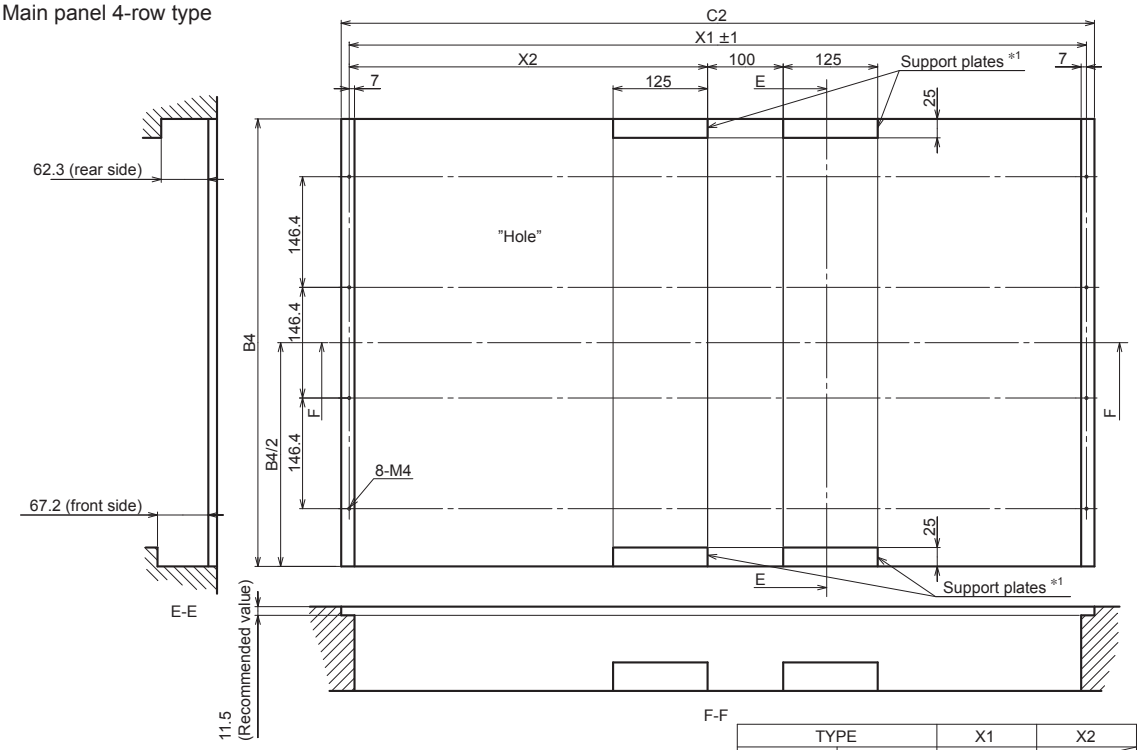


Main panel 3-row type



TYPE		X1	X2
COMPACT	20XPT	829	
NARROW	36XPT	1284	783
	28XPT	1130	623
	20XPT	975	474
STANDARD	36XPT	1504	783
	28XPT	1349	623
	20XPT	1195	474

Main panel 4-row type

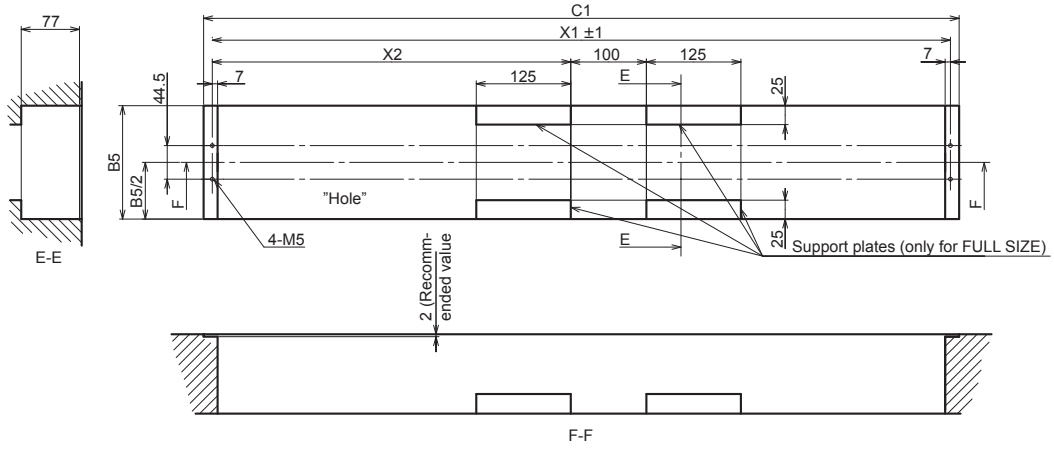


TYPE		X1	X2
COMPACT	20XPT	829	
NARROW	36XPT	1284	783
	28XPT	1130	623
	20XPT	975	474
STANDARD	36XPT	1504	783
	28XPT	1349	623
	20XPT	1195	474

*1: The COMPACT type does not require the support plates.

Unit: mm

AUX panel



TYPE		X1		X2
		SHORT SIZE	FULL SIZE	FULL SIZE
NARROW	36XPT	845.7	1285	783
	28XPT	691.3	1131	628
	20XPT	536.9	976	474
STANDARD	36XPT	845.7	1505	783
	28XPT	691.3	1351	628
	20XPT	536.9	1196	474

Unit: mm

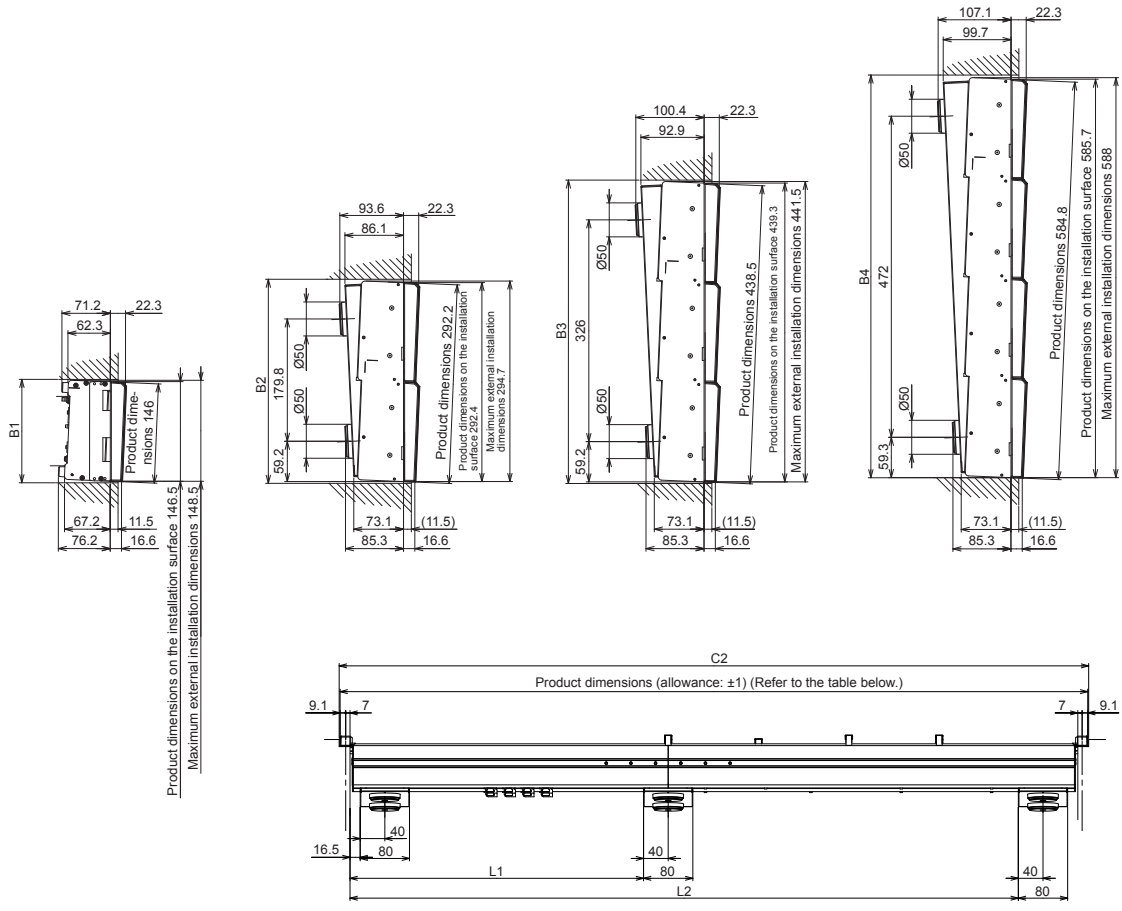
∗ SHORT SIZE: A panel consisting of only MKS-X7017/X7018/X7019
∗ FULL SIZE: A panel consisting of a combination of MKS-X7017/X7018/X7019 and the following model MKS-X7020/X7021/X7023/X7024/X7026/X7031TB/X7032/X7033/X7035, etc.

1-3-3. Detailed Dimensions

Detailed dimensions of main panel/AUX panel

Determine appropriate values for dimensions B1, B2, B3, B4, B5, C1, and C2 in the figures below, considering product dimensions, product dimensions on the mounting surface, and maximum external dimensions for installation so that the clearance between panel and adjustment console is not too large.

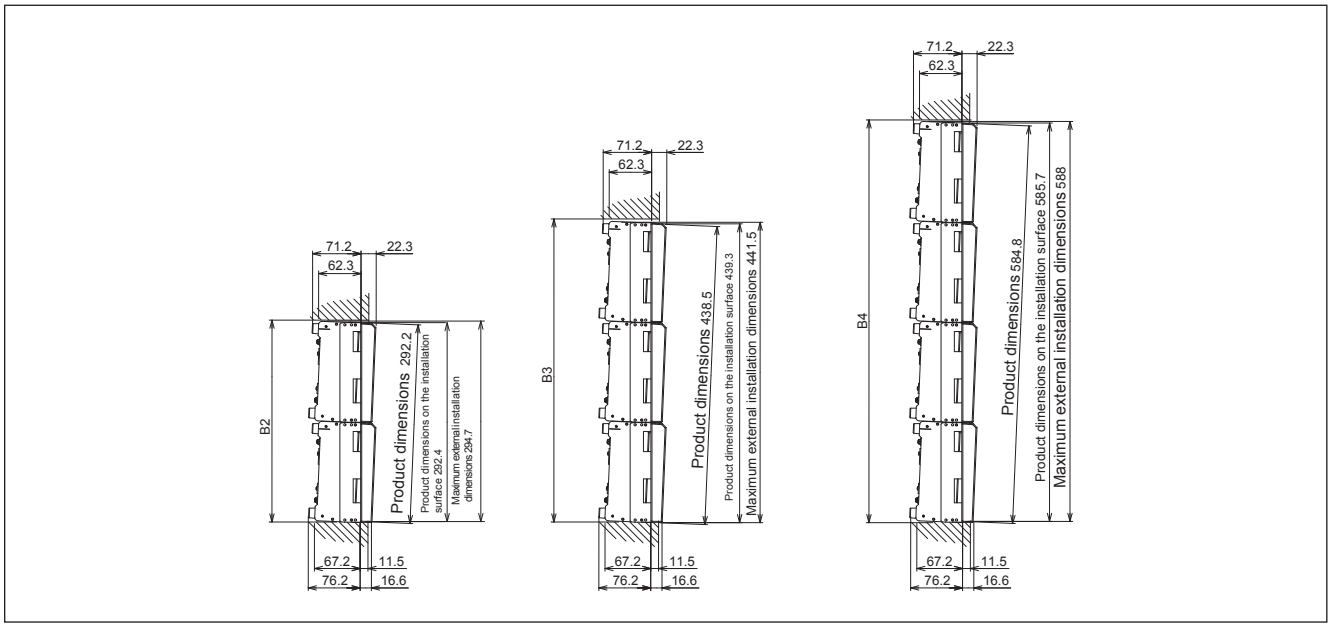
Main panel (Integrally configuration)



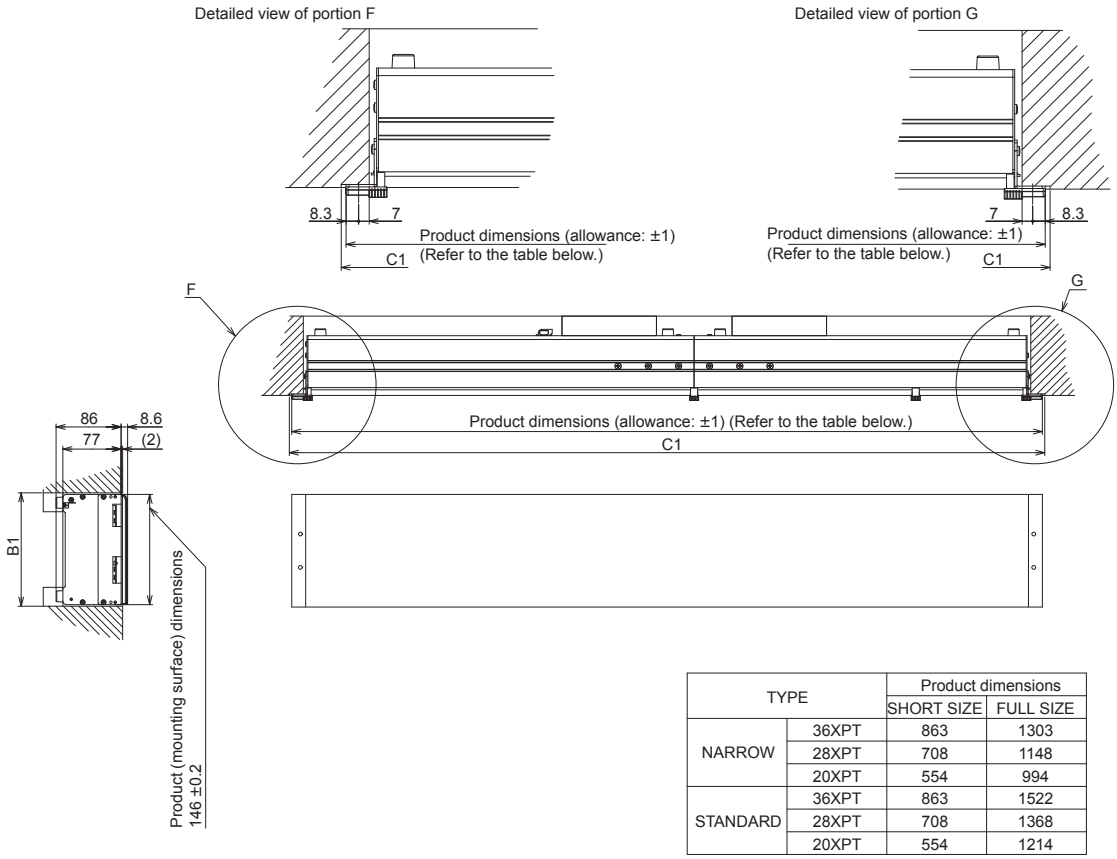
TYPE		L1	L2	Product dimensions
COMPACT	20XPT		718	847
NARROW	36XPT	785.1	1174	1303
	28XPT	630.7	1019	1148
	20XPT	476.3	864.6	994
STANDARD	36XPT	785.1	1393	1522
	28XPT	630.7	1239	1368
	20XPT	476.3	1085	1214

Unit: mm

Main panel (Divisionally configuration)



AUX panel

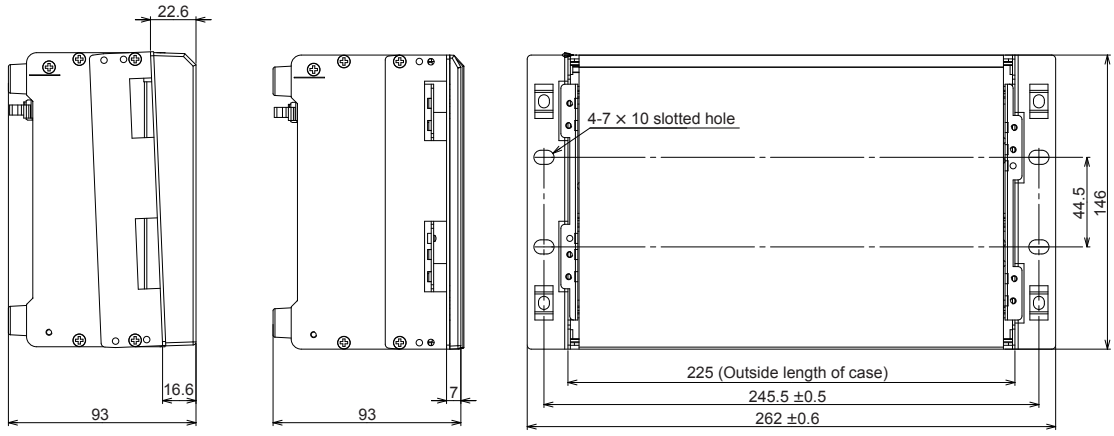


TYPE		Product dimensions	
		SHORT SIZE	FULL SIZE
NARROW	36XPT	863	1303
	28XPT	708	1148
	20XPT	554	994
STANDARD	36XPT	863	1522
	28XPT	708	1368
	20XPT	554	1214

Unit: mm

∗ SHORT SIZE: A panel consisting of only MKS-X7017/X7018/X7019
∗ FULL SIZE: A panel consisting of a combination of MKS-X7017/X7018/X7019 and the following model MKS-X7020/X7021/X7023/X7024/X7026/X7031TB/X7032/X7033/X7035, etc.

Extension adaptor (MKS-X7075)



(When side cap is used) (When supplied panel cover is used)

Unit: mm

1-4. Installing the Main Panel

Note

At least three persons are required to install the main panel to the adjustment console.
Perform the following procedure to install the main panel.

Prepare the following screws and washers.

For 4-row type (4ME or 3ME AUX BUS integrated type)
- Screw (B4 × 6): 8 pcs

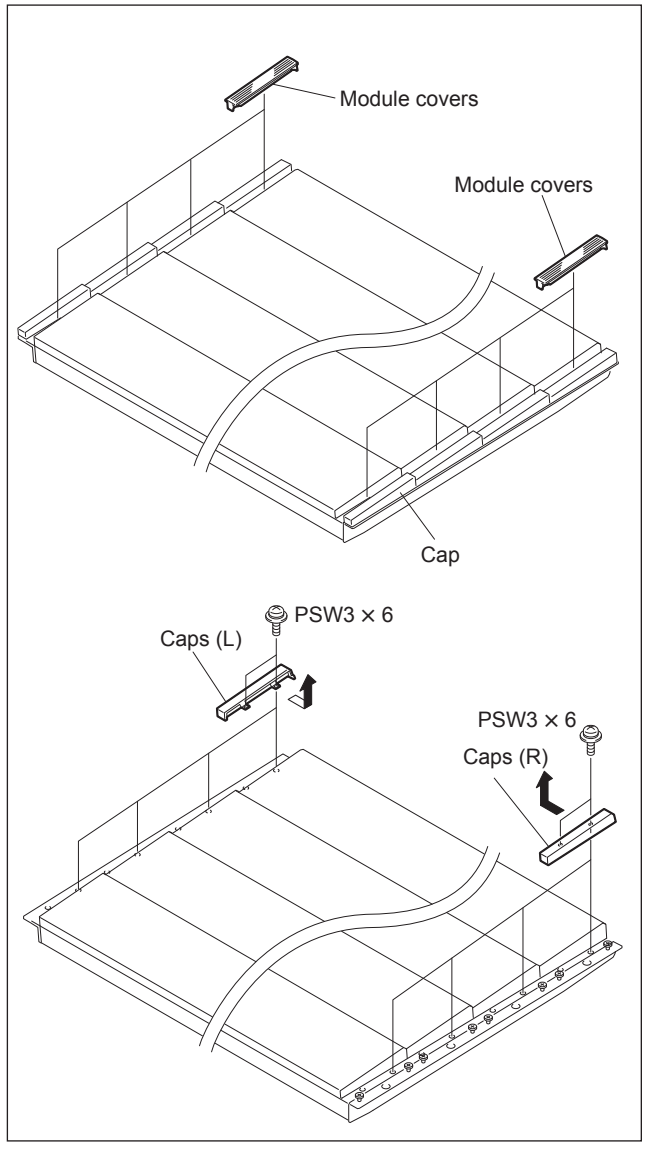
For 3-row type (3ME AUX BUS separate type or 2ME AUX BUS integrated type)
- Screw (B4 × 6): 6 pcs

For dual-row type (2ME AUX BUS separate type or 1ME AUX BUS integrated type)
- Screw (B4 × 6): 4 pcs

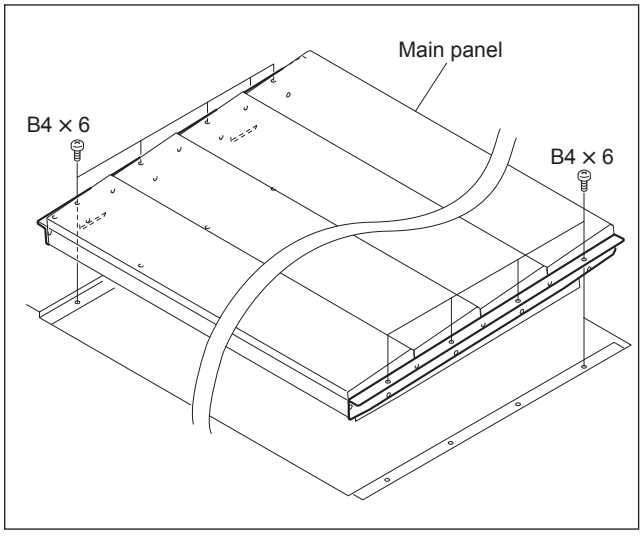
For single-row type (1ME AUX BUS separate type or 1ME)
- Screw (B5 × 8): 4 pcs
- M5 washer (Sony part number: 7-688-005-11): 4 pcs

For ME separate types (2ME to 4ME separate types or 1ME to 3ME AUX BUS separate types)
- Screw (B5 × 8): 4 pcs (per column)
- M5 washer (Sony part number: 7-688-005-11): 4 pcs (per column)

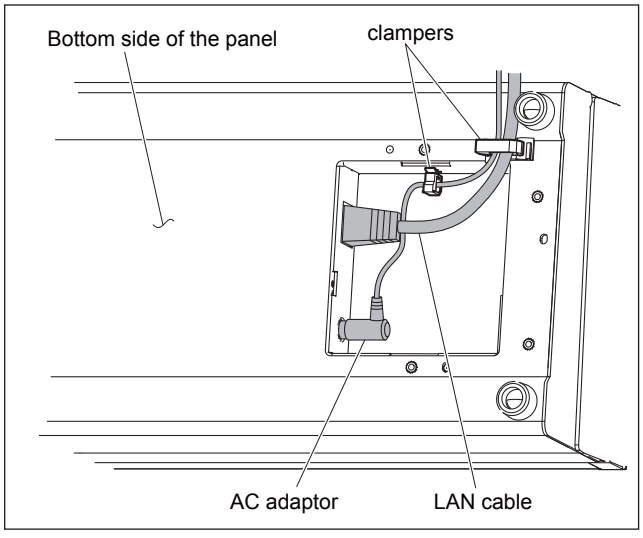
1. Remove the right and left module covers.
2. Remove the screws and detach the caps (L) and caps (R) in the direction of arrows.



3. Lift the main panel with two or more persons, and then place it on the adjustment console while supporting the main panel with another person.
4. Secure the main panel to the adjustment console with screws. (This figure shows 4-row type.)



5. Install the right module cover, left module cover, cap (L), and cap (R) by reversing steps 1 and 2.
6. Connect the AC adaptor and LAN cable, and clamp them with two clampers, after installing the main panel.



1-5. Installing the AUX Panel

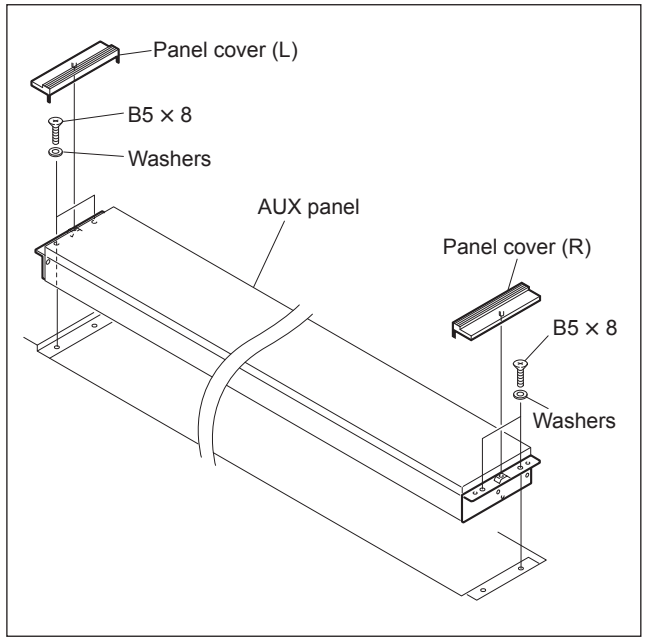
Note

At least two persons are required to install the AUX panel to the adjustment console.
Perform the following procedure to install the AUX panel.

Prepare the following screws and washers.

- Screw (B5 × 8): 4 screws
- M5 washer (Sony part number: 7-688-005-11): 4 washers

1. Detach the panel cover (L) and the panel cover (R) of the AUX panel.
2. Lift the AUX panel with two or more persons, and then place it on the adjustment console.
3. Secure the AUX panel to the adjustment console with screws and washers.
4. Attach the panel cover (L) and the panel cover (R).



5. Connect the AC adaptor and LAN cable, and clamp them with two clampers, after installing the AUX panel. (Refer to step 6 of Section 1-4)

1-6. Installing the Extension Adaptor

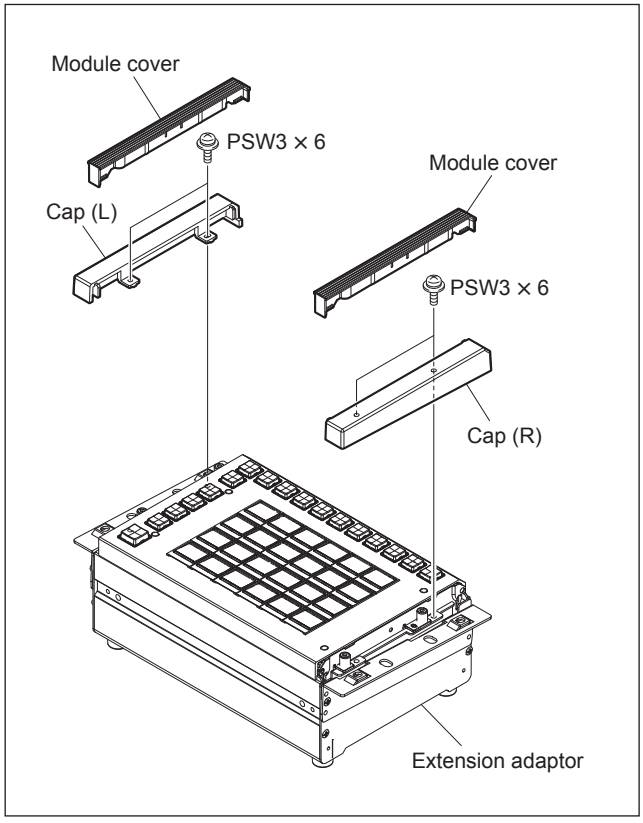
Tip

- The panel is tilted when the extension adaptor (MKS-X7075) is shipped as in the case of main panel.
  To install the panel on a level with the adjustment console, change the tab rack tool installation position.
- Extension adaptors can be used in connection. For how to couple extension adaptors, contact your local Sony Sales Office/Service Center.

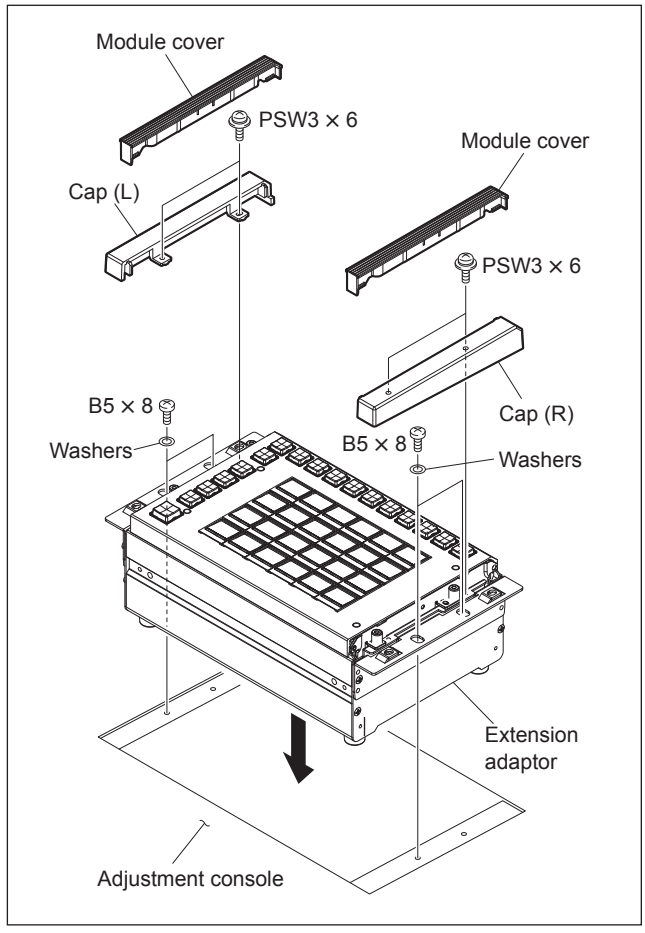
Prepare the following screws and washers.

- Screw (B5 × 8): 4 pcs
- M5 washer (Sony part number: 7-688-005-11): 4 pcs

1. Remove the right and left module covers.
2. Remove the four screws (PSW3 × 6) to detach the cap (L) and cap (R).



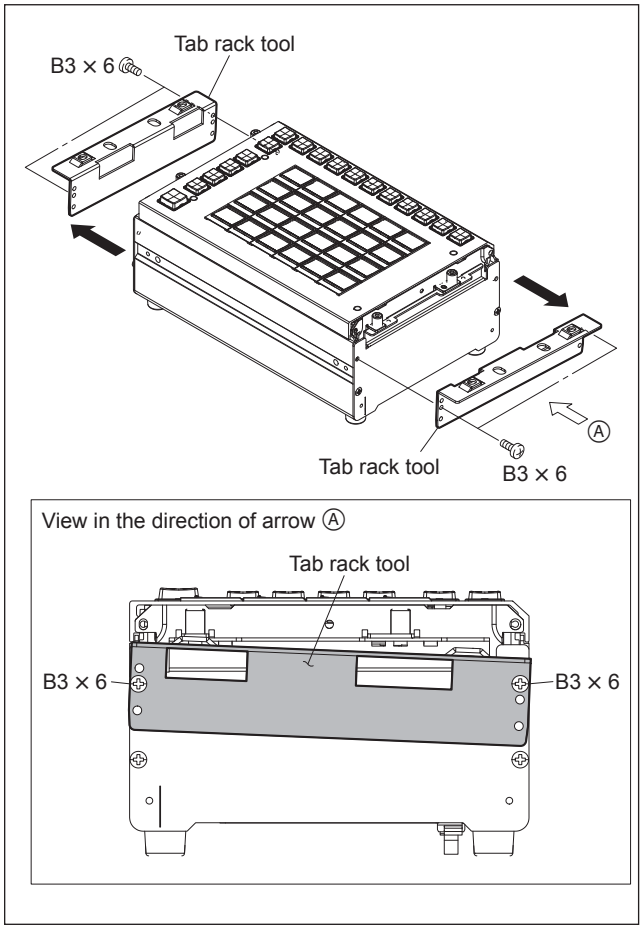
3. Place the extension adaptor on the adjustment console.
4. Secure the extension adaptor to the adjustment console with screws and washers.
5. Install the cap (L) and cap (R) with four screws.
6. Attach the module covers.



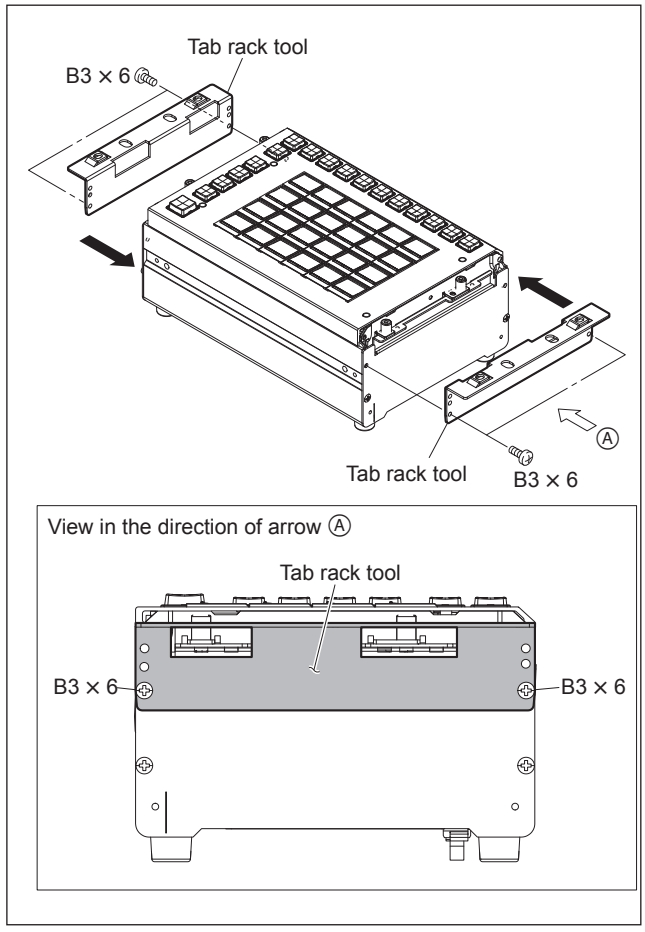
7. Connect the AC adaptor and LAN cable, and clamp them with two clampers, after installing the extension adaptor.

To make the panel horizontal

1. Remove the right and left module covers, cap (L), and cap (R). (Refer to steps 1 and 2 in this section.)
2. Remove the four screws to detach the tab rack tool.



3. Set the tab rack tool at the position shown in the figure, and then install it with four screws.



4. Install the extension adaptor. (Refer to steps 3 to 6 in this section.)
5. Connect the AC adaptor and LAN cable, and clamp them with two clampers, after installing the extension adaptor. (Refer to step 6 of Section 1-4)

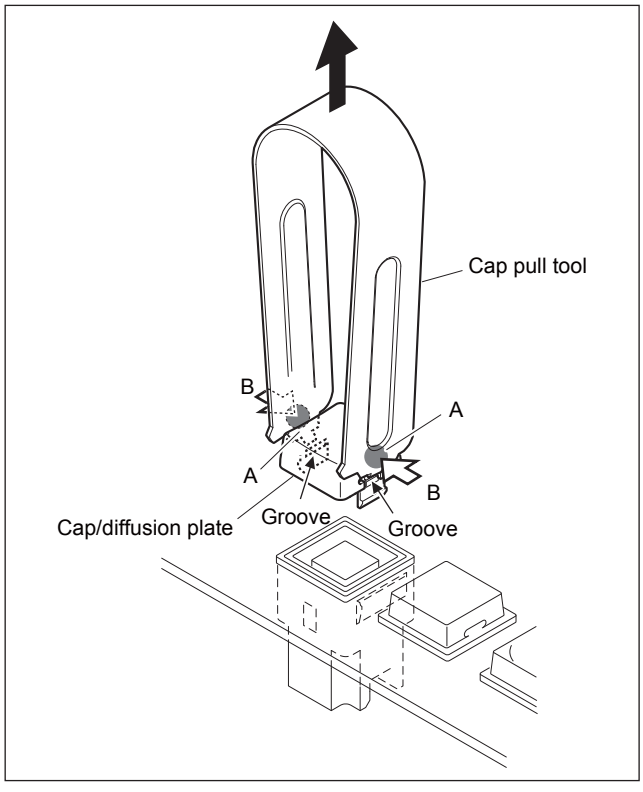
1-7. Removing and Installing Cap/Diffusion Plate

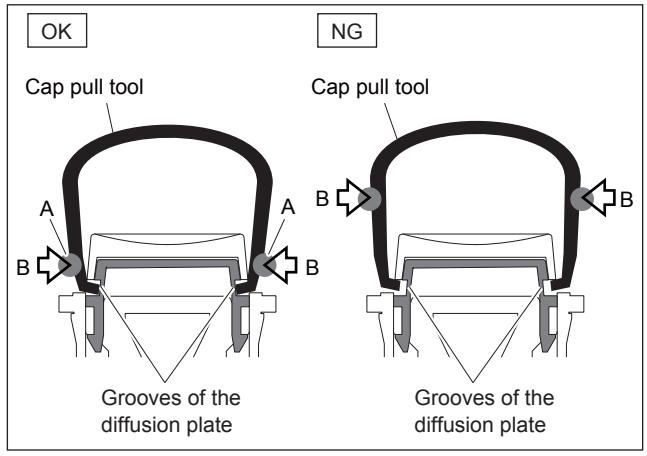
1-7-1. Removing and Installing Cap/Diffusion Plate of Switch without Switch Guard

1. Hook the supplied Cap pull tool to the two grooves of the cap/diffusion plate.
2. Hold and push portion A (two locations) near the end of the Cap pull tool in the direction of arrow B, and pull out the cap/diffusion plate.

Note

If you hold above portion A (two locations) near the end of the Cap pull tool, the tip of the Cap pull tool does not reach the groove of the diffusion plate and the cap/diffusion plate may not be pulled out.





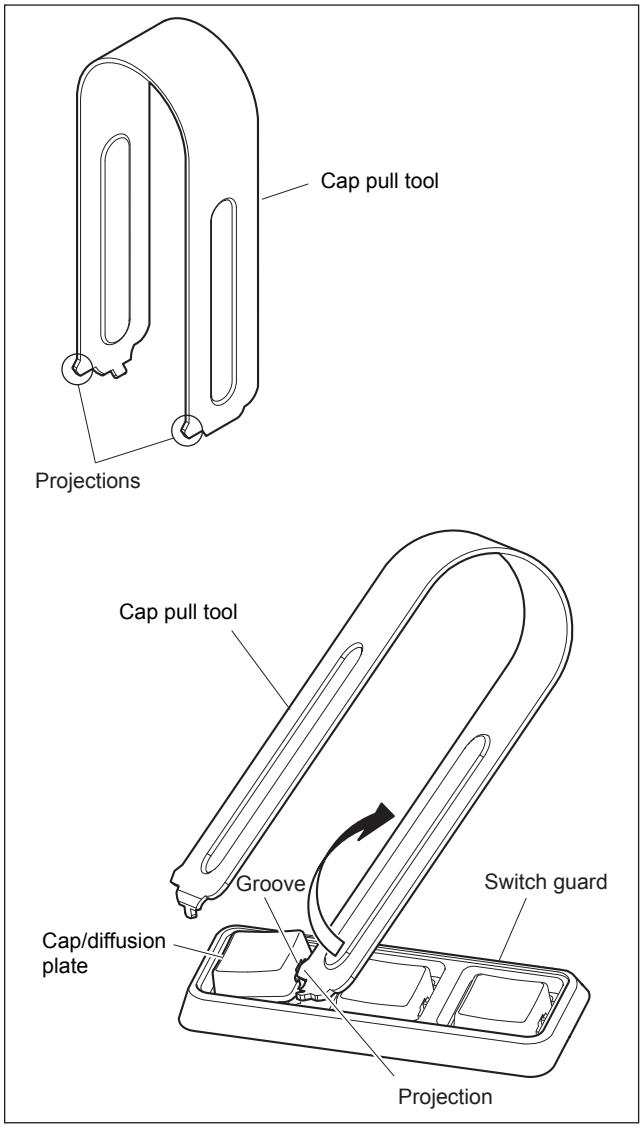
3. Install the removed parts by reversing the steps of removal.

1-7-2. Removing and Installing Cap/Diffusion Plate of Switch with Switch Guard

1. Insert the projection of the supplied Cap pull tool into the groove of the cap/diffusion plate.
2. Turn the Cap pull tool in the direction of arrow and lift one side of the cap/diffusion plate to remove it.

Note

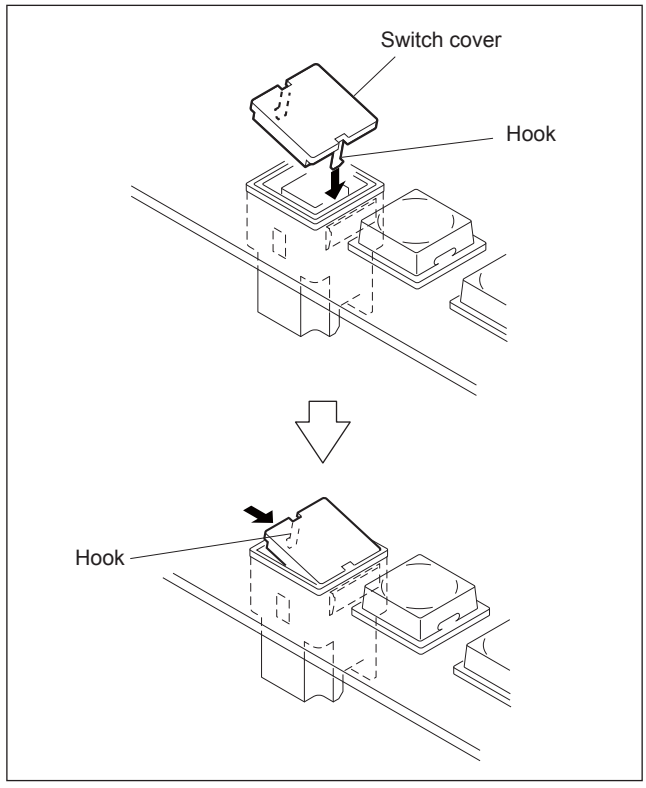
Carefully insert the projections of the tool into the groove of the cap/diffusion plate so as not to damage the switch guard by the projections.



1-8. Removing and Installing Switch Cover

The supplied switch cover can be installed at the location from which the cap/diffusion plate was removed.

1. Remove the cap/diffusion plate according to "1-7. Removing and Installing Cap/Diffusion Plate."
2. Insert one hook on the switch cover paying attention to the orientation of the groove.
3. After the hook has been fully inserted, push the other hook in the arrow direction and insert it.
4. Push switch cover until a snap is heard.

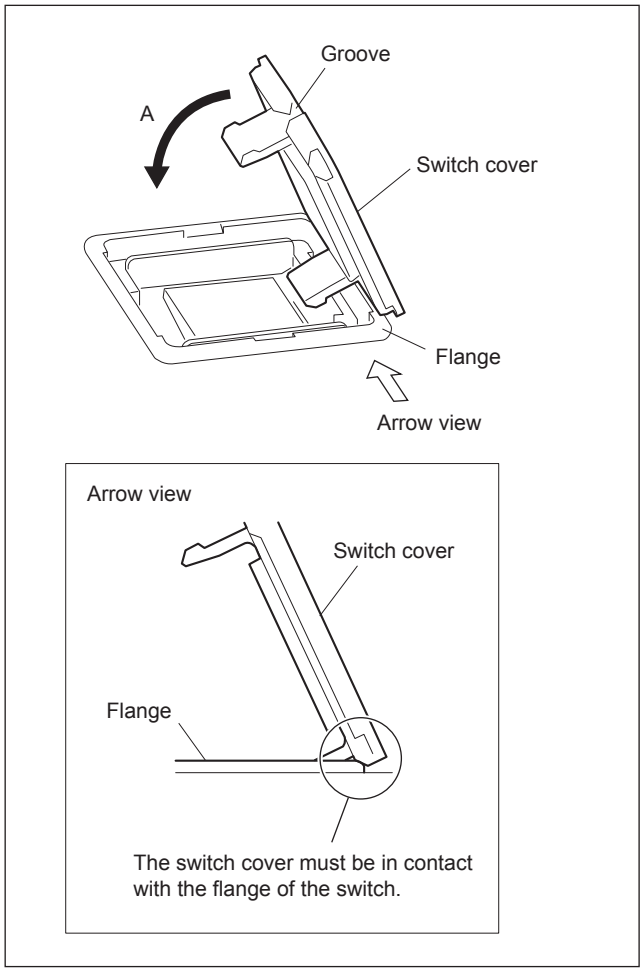


Tip

If the switch cover cannot be installed easily by using steps 2 to 4, perform the following procedure.

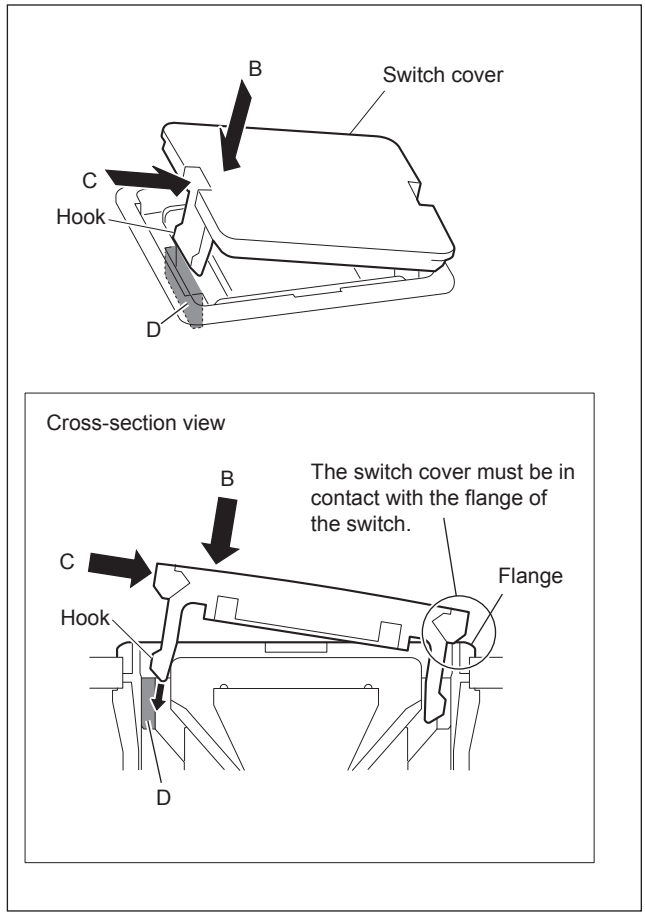
(1) Place the switch cover at the position shown in the figure paying attention to the orientation of the groove. (The switch cover can be placed at the opposite side.)

(2) Turn the switch cover in the direction of arrow A with its area on the flange as a rotating axis.
The switch cover must be in contact with the flange of the switch.



(3) While pressing the switch cover from two directions of arrow B and arrow C, insert the tip of the switch cover hook into inside the area D in the switch.

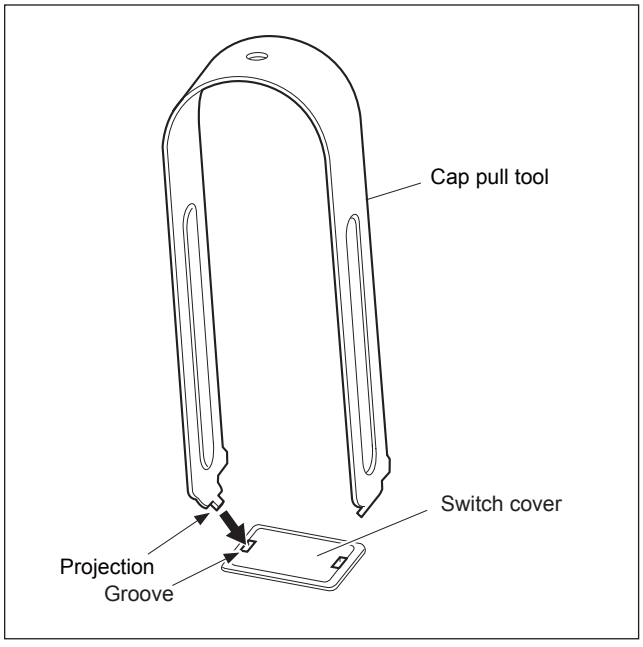
(4) Push the switch cover until a snap is heard.



5. Insert one projection of the supplied cap pull tool into the groove of the switch cover.

Note

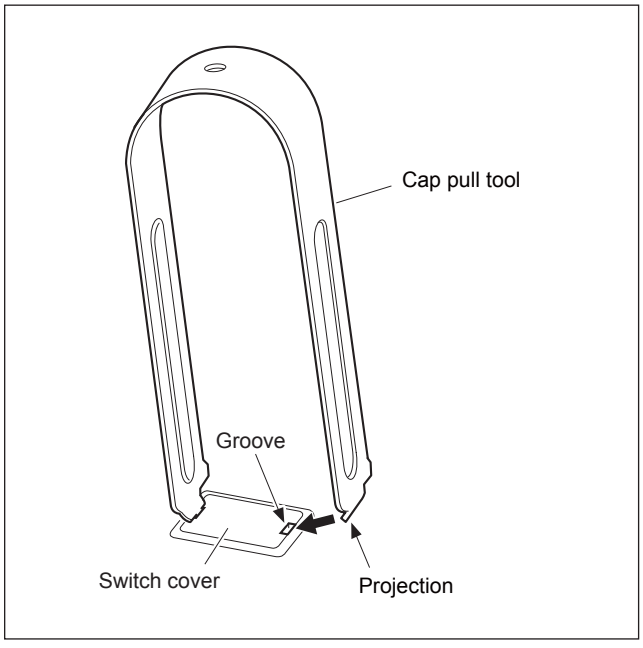
Do not insert both projections simultaneously.



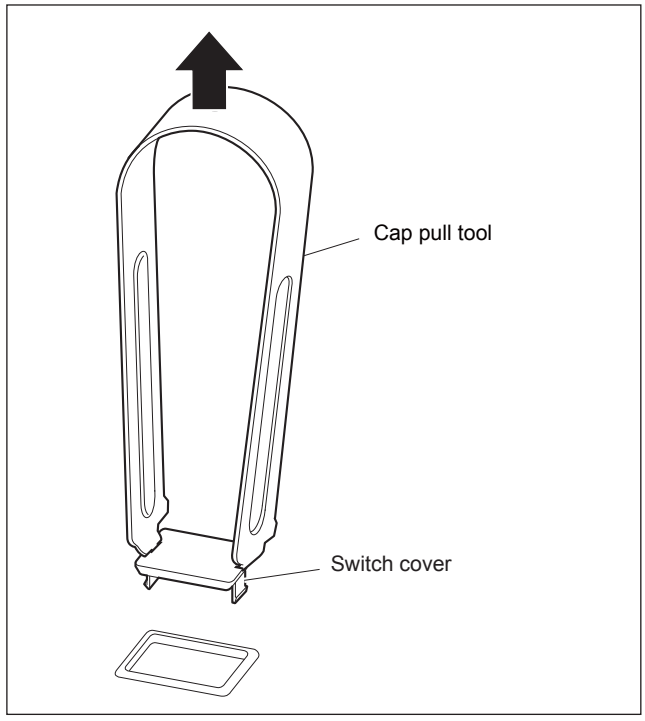
6. In the same way, insert the other projection into the other groove.

Note

Carefully insert the projections at the end of the cap pull tool into the grooves of the switch cover so as not to damage the switch cover and the panel by the projections.



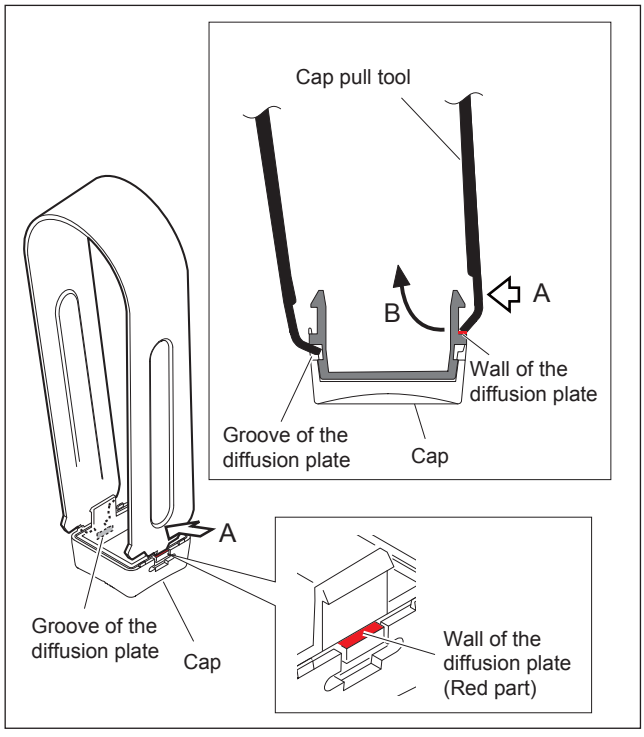
7. Hold and pull the cap pull tool in the direction of arrow to detach the switch cover.



1-9. Replacing Switch Label

Replace the switch label according to the system configuration in combination with ICP-X7000 and setup settings. Contact your local Sony Sales Office/Service Center about label types and other information.

1. Remove the cap/diffusion plate according to "1-7. Removing and Installing Cap/Diffusion Plate."
2. Insert one end of the Cap pull tool into one groove of the removed cap/diffusion plate, and then push the end of the Cap pull tool against the wall in front of the other groove.
3. In this state, push the end of the Cap pull tool in the direction of arrow A and draw the diffusion plate in the direction of arrow B to remove it.

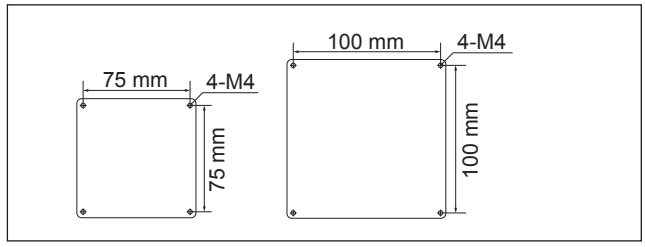


4. Remove the current label and install the new label to the cap.
5. Install the diffusion plate.
6. Install the cap/diffusion plate at the previous position.

1-10. Installing the Menu Panel

The menu panel (MKS-X7011) can be installed to the monitor arm (mounting dimensions below) conforming to the VESA standard by using the adaptor supplied with ICP-X7000.

Dimensional drawing of the adaptor mounting part (conforming to the VESA standard)



The following parts supplied with ICP-X7000 are required to install the menu panel.

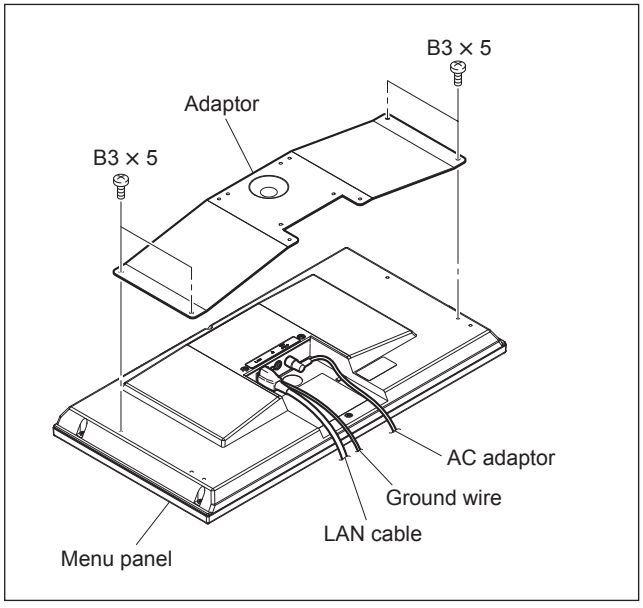
Note

Use the following specified accessories to install the menu panel.

- Adaptor
- Screw B3 × 5 (4 pcs)
- Screw B4 × 8 (4 pcs)
- AC adaptor (as needed)

Installation procedure

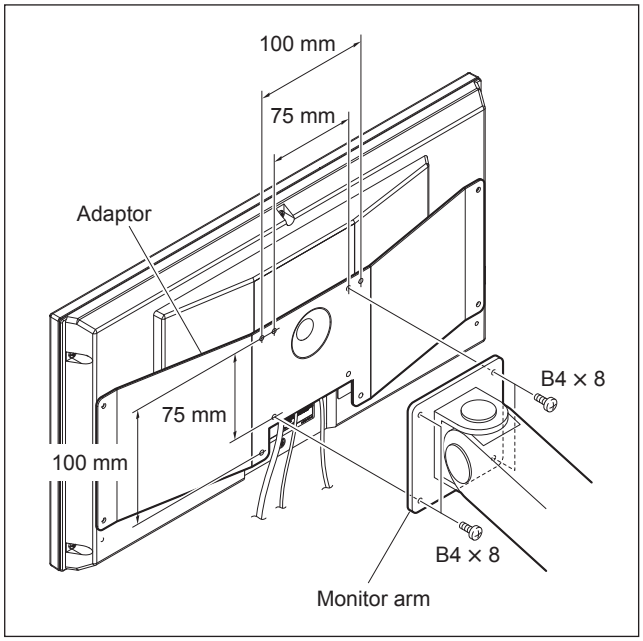
1. Connect the AC adaptor supplied with the menu panel, the LAN cable (commercially available), and the ground cable (commercially available).
2. Install the adaptor to the menu panel with the supplied four screws (B3 × 5).



3. Install the monitor arm (commercially available) to the adaptor with the supplied four screws (B4 × 8).

Note

Install the monitor arm according to the operation manual of the monitor arm.



1-11. Rack Mounting

The MKS-X2700/X7700 installs in a 19-inch standard rack. To mount the MKS-X2700/X7700 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 a 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)
- Adaptor attaching screws 6 pcs (B4 × 10: 7-682-562-09)

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 other 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.

CAUTION

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

- Be sure to carry out this work with two or more persons.
- Be sure to mount in the rack with two persons or more.
- 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.

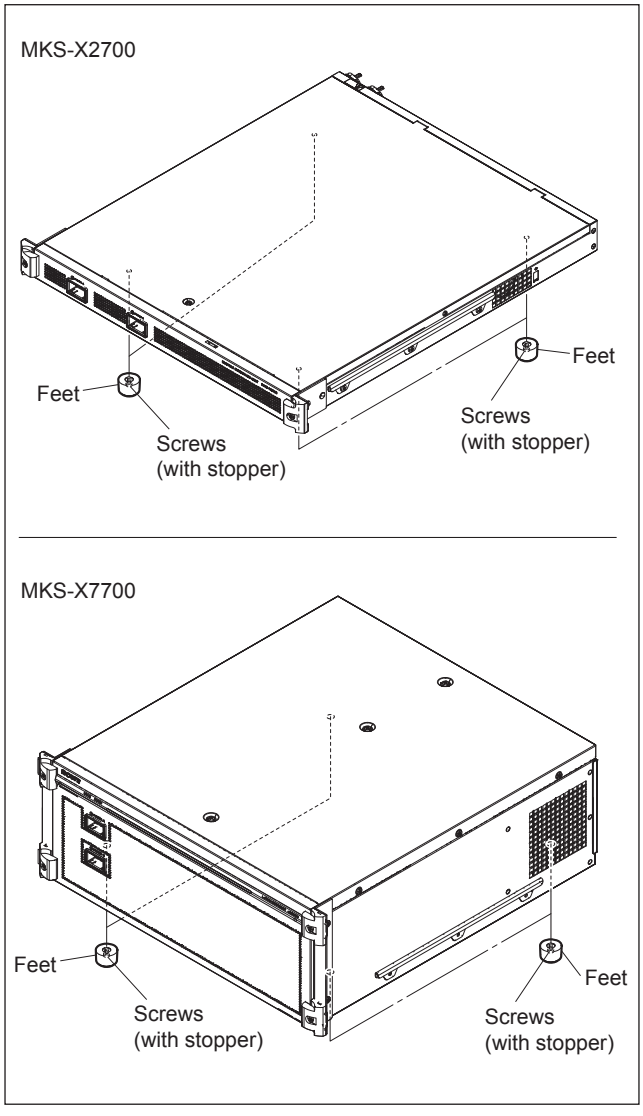
2. Rack mounting procedure

The following describes the rack mounting procedure using the rack mount kit RMM-10.

Note

Tighten screws to the following torque.
Tightening torque
MKS-X2700: 0.8 N•m {8.13 kgf•cm}
MKS-X7700: 120 × 10^{-2} N•m {12.2 kgf•cm}

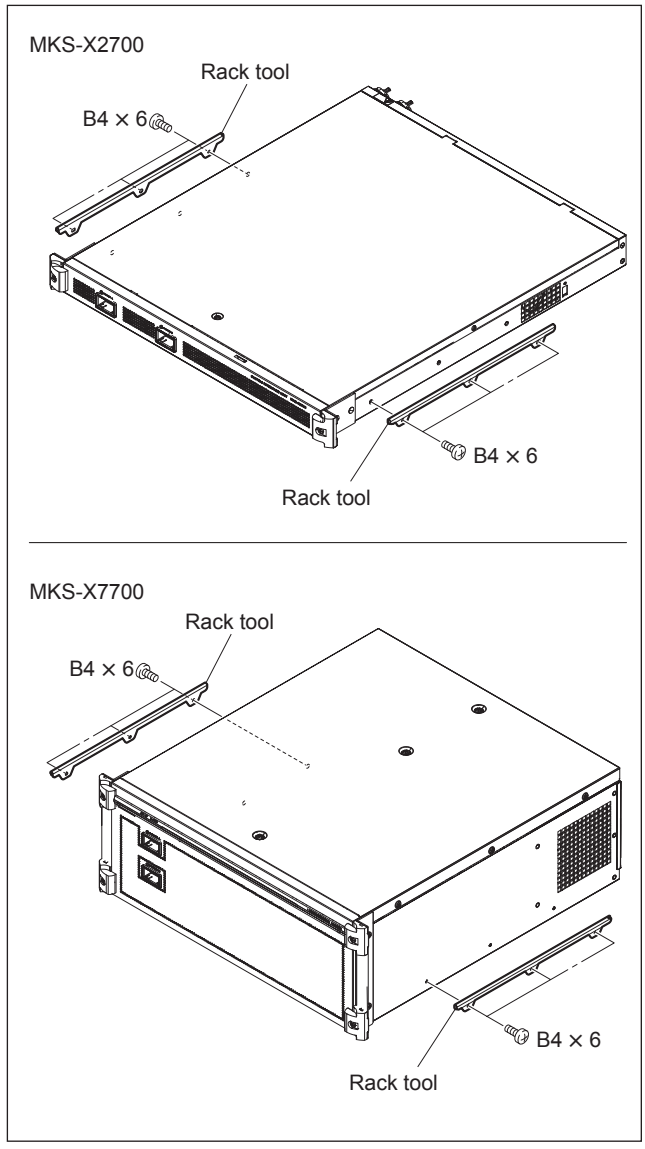
1. Sufficiently loosen the four screws (with stopper) to detach the four feet.



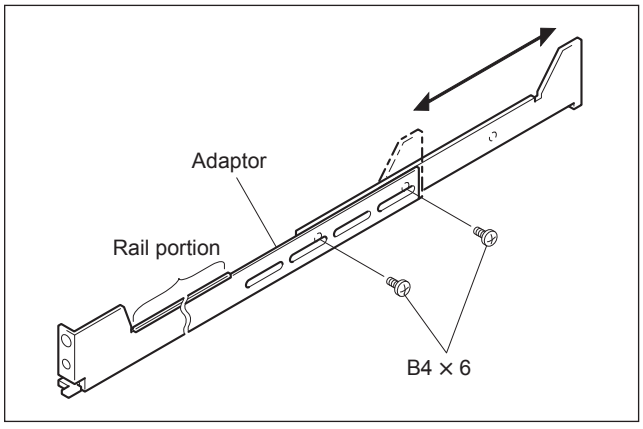
2. Attach the rack tools to the side panels of the unit with the specified six screws.

Note

Use B4 × 6 screws.



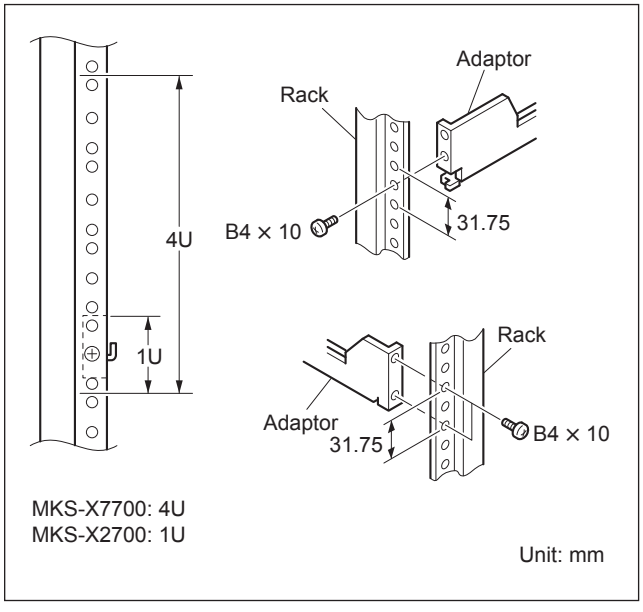
3. Loosen the screws on the rear of the right and left adaptors and adjust the length of the adaptor according to the depth of the rack.
   (The illustration below shows the left adaptor.)



Tip

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

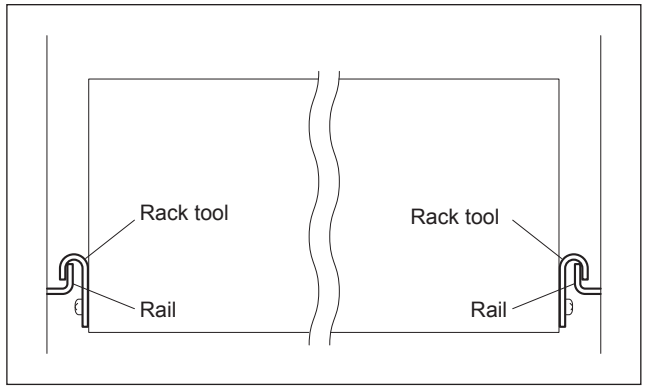
4. Attach the right and left adaptors to the rack completely using the specified six screws.
   (The illustration below shows the left adaptor.)



5. 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 3).
6. Align the groove of the rack tool at the side of the equipment with the rail, and slide the equipment to the rear.

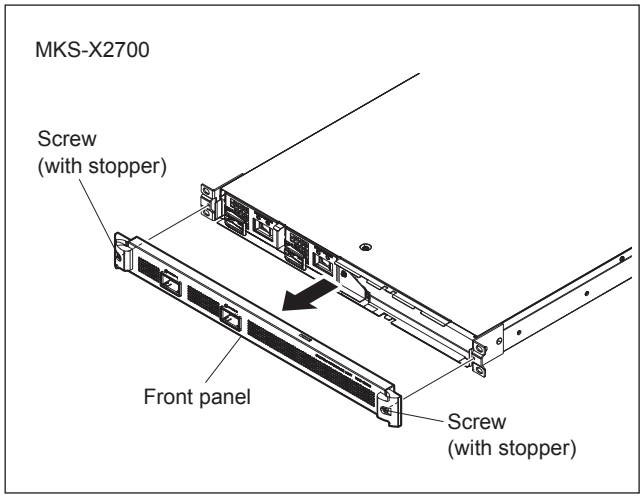
Tip

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



MKS-X2700

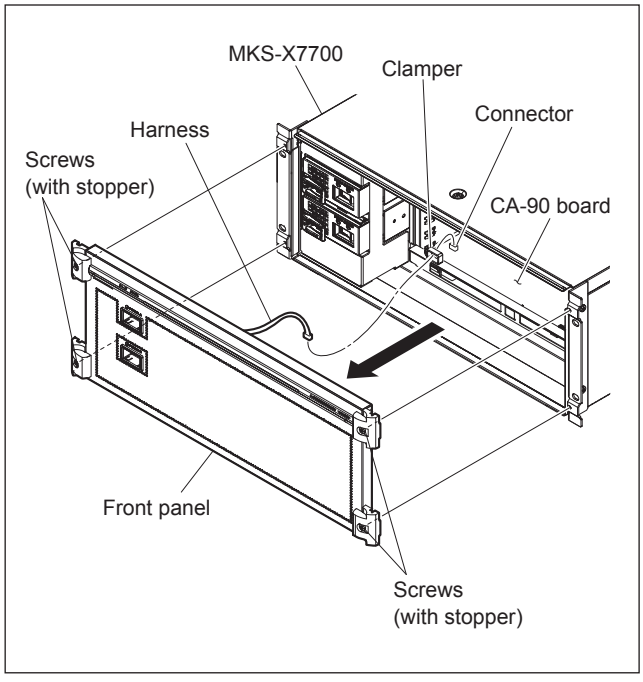
7. Loosen the two screws (with stopper) to detach the front panel.



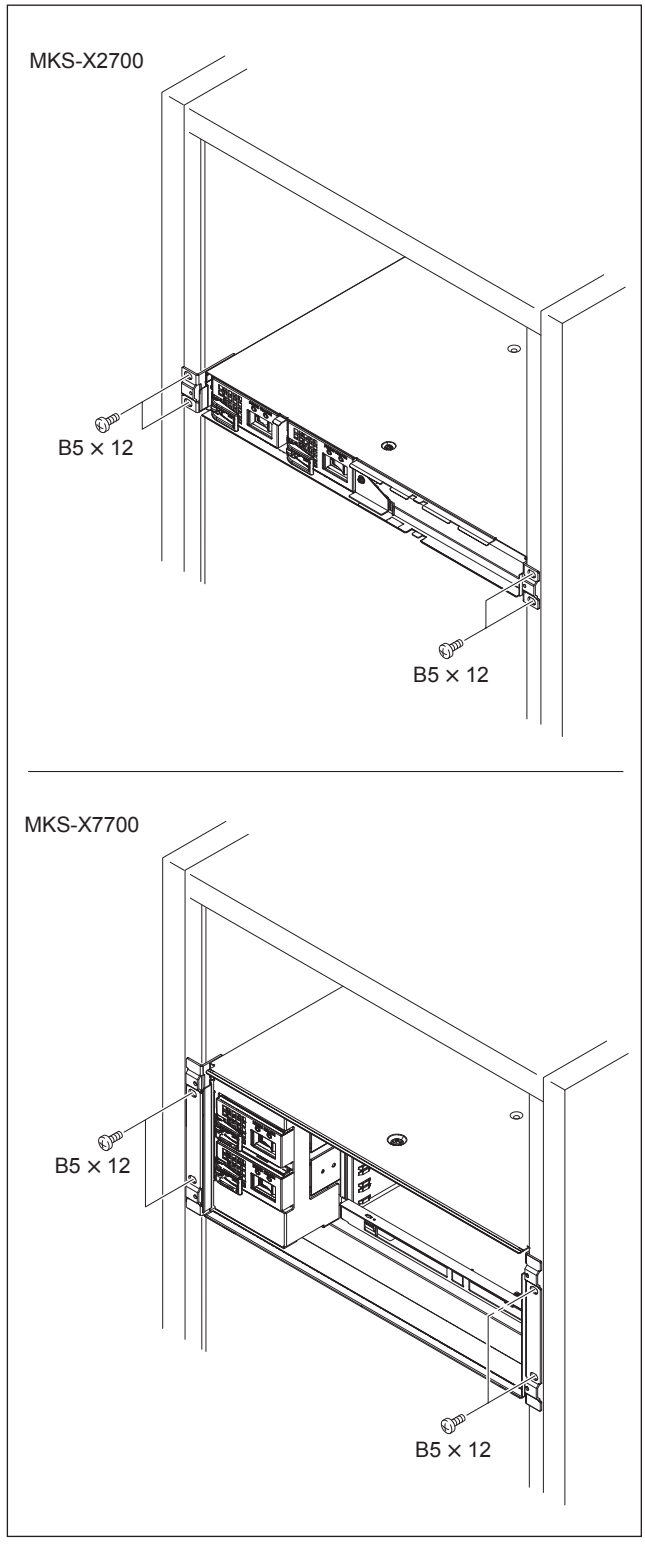
MKS-X7700

7. Perform the following procedure to detach the front panel.

(1) Loosen the four screws (with stopper) and draw the front panel.
(2) Open the clamper.
(3) Disconnect the harness from the connector on the CA-90 board, and then detach the front panel.



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



9. Attach the front panel to the equipment.

1-12. 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
MKS-X2700	REMOTE 1 to 6 SERIAL TALLY1, 2	D-sub 9pin, Female	D-sub 9-pin, Male
			Connector 9-pin, Male
			Junction Shell 9-pin
	TALLY/GPI OUT 1-18 TALLY/GPI OUT 19-36 TALLY/GPI IN 1-34	D-sub 37pin, Female	D-sub 37-pin, Male
			Connector 37-pin, Male
			Junction Shell 37-pin
	S-BUS REF IN	BNC, 75 Ω	Belden 1694 coaxial cable
	MVS UTIL	RJ-45 modular jack*1	CAT5e or equivalent*2
MKS-X7700	REMOTE1 to 4 SERIAL TALLY1, 2	D-sub 9pin, Female	D-sub 9-pin, Male
			Connector 9-pin, Male
			Junction Shell 9-pin
	TALLY/GPI IN 1-34 TALLY/GPI IN 35-68	D-sub 37pin, Female	D-sub 37-pin, Male
			Connector 37-pin, Male
			Junction Shell 37-pin
	S-BUS REF IN	BNC, 75 Ω	Belden 1694 coaxial cable
	MVS UTIL	RJ-45 modular jack*1	CAT5e or equivalent*2
MKS-X7701	TALLY/GPI OUT 1-18 TALLY/GPI OUT 19-36 TALLY/GPI OUT 37-54	D-sub 37pin, Female	D-sub 37-pin, Male
			Connector 37-pin, Male
			Junction Shell 37-pin
MKS-X7702	REMOTE1 to 6	D-sub 9pin, Female	D-sub 9-pin, Male
			Connector 9-pin, Male
			Junction Shell 9-pin
MKS-X7011	LAN*3	RJ-45 modular jack*1	CAT5e or equivalent*2
	DEVICE*4	USB Type A receptacle	
ICP-X7000	LAN*3	RJ-45 modular jack*1	CAT5e or equivalent*2
MKS-X7075			

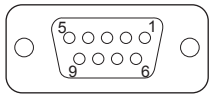
∗1: Conforms to IEEE 802.3 Ethernet 1000BASE-TX standard.
∗2: Shield type is recommended.
∗3: Compliance with PoE + (IEEE802.3at)
∗4: Compliance with USB2.0

1-13. Input/Output Signals of Connectors

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

1-13-1. MKS-X2700

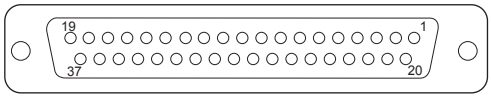
REMOTE 1 to 6
RS-422A (D-sub 9-pin, Female)
<CONTROLLER>to External Device
SERIAL TALLY1, 2
RS-422A (D-sub 9-pin, Female)
<CONTROLLER>to Tally Interface Unit



– External View –

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

TALLY/GPI OUT 1-18, TALLY/GPI OUT 19-36
(D-sub 37pin, Female)
Relay contacts 30 V 0.1 A



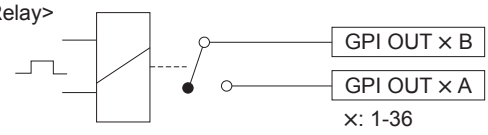
– External View –

Pin No.	Signal Name		Function
	TALLY/GPI OUT 1-18	TALLY/GPI OUT 19-36	
1	OUT_1A	OUT_19A	General-purpose relay output(A)*1
2	OUT_2A	OUT_20A	
3	OUT_3A	OUT_21A	
4	OUT_4A	OUT_22A	
5	OUT_5A	OUT_23A	
6	OUT_6A	OUT_24A	
7	OUT_7A	OUT_25A	
8	OUT_8A	OUT_26A	
9	OUT_9A	OUT_27A	General-purpose relay output(A)*1
10	OUT_10A	OUT_28A	
11	OUT_11A	OUT_29A	
12	OUT_12A	OUT_30A	
13	OUT_13A	OUT_31A	
14	OUT_14A	OUT_32A	
15	OUT_15A	OUT_33A	
16	OUT_16A	OUT_34A	
17	OUT_17A	OUT_35A	
18	OUT_18A	OUT_36A	
19	GND	GND	GND
20	OUT_1B	OUT_19B	General-purpose relay output(B)*1
21	OUT_2B	OUT_20B	
22	OUT_3B	OUT_21B	
23	OUT_4B	OUT_22B	
24	OUT_5B	OUT_23B	
25	OUT_6B	OUT_24B	
26	OUT_7B	OUT_25B	
27	OUT_8B	OUT_26B	
28	OUT_9B	OUT_27B	
29	OUT_10B	OUT_28B	
30	OUT_11B	OUT_29B	
31	OUT_12B	OUT_30B	
32	OUT_13B	OUT_31B	
33	OUT_14B	OUT_32B	
34	OUT_15B	OUT_33B	
35	OUT_16B	OUT_34B	
36	OUT_17B	OUT_35B	
37	OUT_18B	OUT_36B	

Note

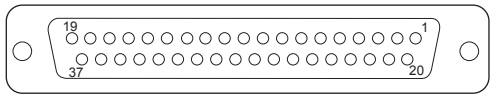
A and B of the same number constitute a pair of relay contacts.

(*1) <Relay>



TALLY/GPI IN 1-34

D-sub 37pin, Female, +3.3 V TTL input



– External View –

Pin No.	Signal Name	Function
1	GPI IN1	General-purpose input
2	GPI IN3	
3	GPI IN5	
4	GPI IN7	
5	GPI IN9	
6	GPI IN11	
7	GPI IN13	
8	GPI IN15	
9	GPI IN17	
10	GPI IN19	
11	GPI IN21	
12	GPI IN23	
13	GPI IN25	
14	GPI IN27	
15	GPI IN29	
16	GPI IN31	
17	GPI IN33*1	
18	GND	GND
19	GND	
20	GPI IN2	General-purpose input
21	GPI IN4	
22	GPI IN6	
23	GPI IN8	
24	GPI IN10	
25	GPI IN12	
26	GPI IN14	
27	GPI IN16	
28	GPI IN18	
29	GPI IN20	
30	GPI IN22	
31	GPI IN24	
32	GPI IN26	
33	GPI IN28	
34	GPI IN30	
35	GPI IN32	
36	GPI IN34*1	
37	GND	GND

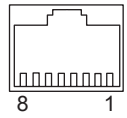
∗1: This pin can be used as a +12 V input pin by setting the switch S1601 on the CA-90 board to ON.
(Refer to “CA-90 board” in “1-14. Description of On-board Switches and LEDs”.)

MVS

UTIL

1000BASE-T

RJ-45 (8pin)



– External View –

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

1-13-2. MKS-X7700

REMOTE 1 to 4

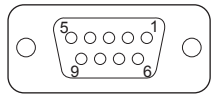
RS-422A (D-sub 9-pin, Female)

<CONTROLLER>to External Device

SERIAL TALLY1, 2

RS-422A (D-sub 9-pin, Female)

<CONTROLLER>to Tally Interface Unit

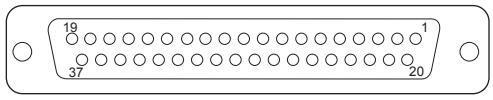


– External View –

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

TALLY/GPI IN 1-34
TALLY/GPI IN 35-68

D-sub 37pin, Female, +3.3 V TTL input



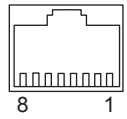
– External View –

Pin No.	Signal Name		Function
	TALLY/GPI IN 1-34	TALLY/GPI IN 35-68	
1	GPI IN1	GPI IN35	General-purpose input
2	GPI IN3	GPI IN37	
3	GPI IN5	GPI IN39	
4	GPI IN7	GPI IN41	
5	GPI IN9	GPI IN43	
6	GPI IN11	GPI IN45	
7	GPI IN13	GPI IN47	
8	GPI IN15	GPI IN49	
9	GPI IN17	GPI IN51	
10	GPI IN19	GPI IN53	
11	GPI IN21	GPI IN55	
12	GPI IN23	GPI IN57	
13	GPI IN25	GPI IN59	
14	GPI IN27	GPI IN61	
15	GPI IN29	GPI IN63	
16	GPI IN31	GPI IN65	
17	GPI IN33*1	GPI IN67*1	
18	GND	GND	GND
19	GND	GND	
20	GPI IN2	GPI IN36	General-purpose input
21	GPI IN4	GPI IN38	
22	GPI IN6	GPI IN40	
23	GPI IN8	GPI IN42	
24	GPI IN10	GPI IN44	
25	GPI IN12	GPI IN46	
26	GPI IN14	GPI IN48	
27	GPI IN16	GPI IN50	
28	GPI IN18	GPI IN52	
29	GPI IN20	GPI IN54	
30	GPI IN22	GPI IN56	
31	GPI IN24	GPI IN58	
32	GPI IN26	GPI IN60	
33	GPI IN28	GPI IN62	
34	GPI IN30	GPI IN64	
35	GPI IN32	GPI IN66	
36	GPI IN34*1	GPI IN68*1	
37	GND	GND	GND

*1: This pin can be used as a +12 V input pin by setting the switch S1601 on the CA-90 board to ON.
(Refer to "CA-90 board" in "1-14. Description of On-board Switches and LEDs".)

MVS
UTIL

1000BASE-T
RJ-45 (8pin)



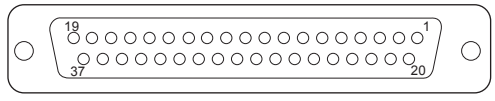
– External View –

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

1-13-3. MKS-X7701

TALLY/GPI OUT 1-18, TALLY/GPI OUT 19-36
TALLY/GPI OUT 37-54

D-sub 37pin, Female, relay contacts 30 V 0.1 A



– External View –

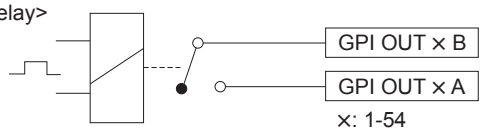
Pin No.	Signal Name			Function
	TALLY/ GPI OUT 1-18	TALLY/ GPI OUT 19-36	TALLY/ GPI OUT 37-54	
1	OUT_1A	OUT_19A	OUT_37A	General-purpose relay output(A)*1
2	OUT_2A	OUT_20A	OUT_38A	
3	OUT_3A	OUT_21A	OUT_39A	
4	OUT_4A	OUT_22A	OUT_40A	
5	OUT_5A	OUT_23A	OUT_41A	
6	OUT_6A	OUT_24A	OUT_42A	
7	OUT_7A	OUT_25A	OUT_43A	
8	OUT_8A	OUT_26A	OUT_44A	
9	OUT_9A	OUT_27A	OUT_45A	
10	OUT_10A	OUT_28A	OUT_46A	
11	OUT_11A	OUT_29A	OUT_47A	
12	OUT_12A	OUT_30A	OUT_48A	
13	OUT_13A	OUT_31A	OUT_49A	
14	OUT_14A	OUT_32A	OUT_50A	

Pin No.	Signal Name			Function
	TALLY/ GPI OUT 1-18	TALLY/ GPI OUT 19-36	TALLY/ GPI OUT 37-54	
15	OUT_15A	OUT_33A	OUT_51A	General-purpose relay output(A)*1
16	OUT_16A	OUT_34A	OUT_52A	
17	OUT_17A	OUT_35A	OUT_53A	
18	OUT_18A	OUT_36A	OUT_54A	
19	GND	GND	GND	GND
20	OUT_1B	OUT_19B	OUT_37B	General-purpose relay output(B)*1
21	OUT_2B	OUT_20B	OUT_38B	
22	OUT_3B	OUT_21B	OUT_39B	
23	OUT_4B	OUT_22B	OUT_40B	
24	OUT_5B	OUT_23B	OUT_41B	
25	OUT_6B	OUT_24B	OUT_42B	
26	OUT_7B	OUT_25B	OUT_43B	
27	OUT_8B	OUT_26B	OUT_44B	
28	OUT_9B	OUT_27B	OUT_45B	
29	OUT_10B	OUT_28B	OUT_46B	
30	OUT_11B	OUT_29B	OUT_47B	
31	OUT_12B	OUT_30B	OUT_48B	
32	OUT_13B	OUT_31B	OUT_49B	
33	OUT_14B	OUT_32B	OUT_50B	
34	OUT_15B	OUT_33B	OUT_51B	
35	OUT_16B	OUT_34B	OUT_52B	
36	OUT_17B	OUT_35B	OUT_53B	
37	OUT_18B	OUT_36B	OUT_54B	

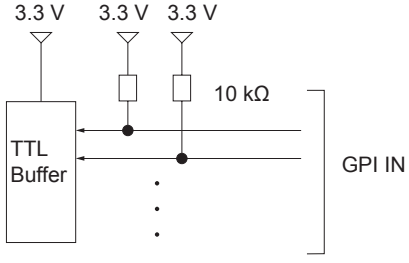
Note

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

(*1) <Relay>



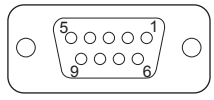
- GPI input pins are pulled up on the board.
  These pins can be connected to 3.3 V TTL or open-collector output pins.



1-13-4. MKS-X7702

REMOTE1 to 6

D-sub 9pin, Female



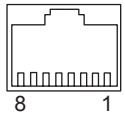
– External View –

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

1-13-5. MKS-X7011

LAN

1000BASE-T, PoE+, RJ-45 (8pin)

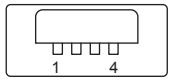


– External View –

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

DEVICE

USB (Type A)



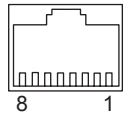
– External View –

Pin No.	Signal Name	Function
1	+5 V	USB Vcc
2	D–	USB DATA–
3	D+	USB DATA+
4	GND	Ground

1-13-6. ICP-X7000, MKS-X7075

LAN

1000BASE-T, PoE+, RJ-45 (8pin)



– External View –

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

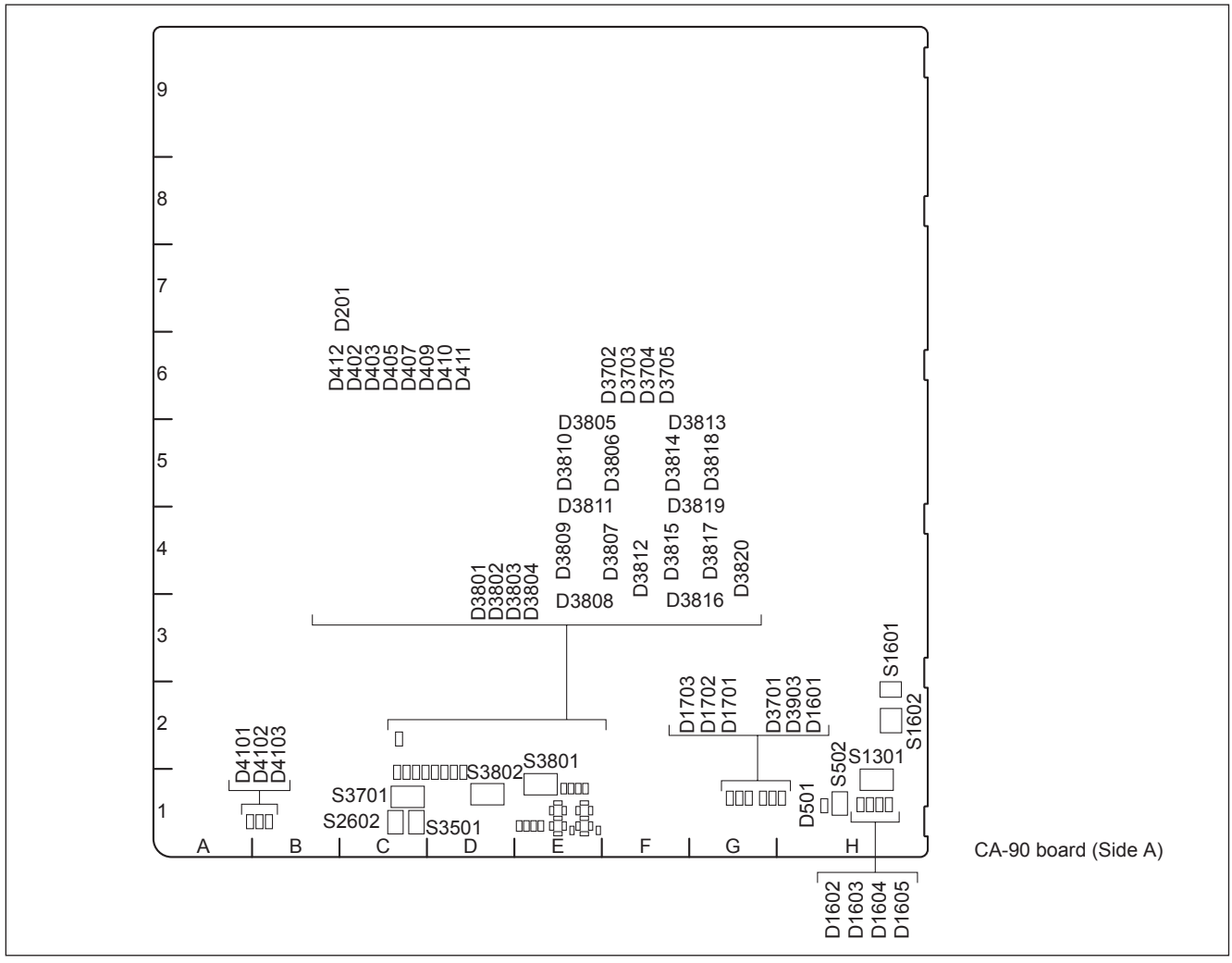
1-14. Description of On-board Switches and LEDs

Note

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

1-14-1. MKS-X2700/MKS-X7700

CA-90 board



<LED>

D201 (C-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.

D402 (C-2): 1.0 V-1

+1.0 V-1 power supply status indication.
Lit when the +1.0 V power is supplied.

D403 (C-2): 1.0 V-2

+1.0 V-2 power supply status indication.
Lit when the +1.0 V power is supplied.

D405 (C-2): 1.2 V

+1.2 V power supply status indication.
Lit when the +1.2 V power is supplied.

D407 (D-2): 1.5 V

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

D409 (D-2): 2.5 V

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

D410 (D-2): 3.3 V
+3.3V power supply status indication.
Lit when the +3.3 V power is supplied.

D411 (D-2): 5.0 V
+5.0 V power supply status indication.
Lit when the +5.0 V power is supplied.

D412 (C-2): VTT
VTT power supply status indication.
Lit when the VTT power is supplied.

D501 (H-1): SWER_RST
This LED lights in the following when:
- Switch S502 is pressed
- A software reset request is received
- IC3 is not working correctly

D1602 to D1605 (H-1): SWR CADEC LED0, 1, 2, 3
Used only for design.

D3702 to D3705 (E-1): SCU CADEC LED0, 1, 2, 3
Used only for design.

D3801 to D3804 (E-1): SCU_DBG LED1, 2, 3, 4
Used only for design.

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

D4101, D4102, D4103 (A-1, B-1): SCU NIOS
CPU of NIOS8SB FPGA (IC5) status indication.

D1601 (H-1): CADEC1 DONE
This LED goes out when configuration of the CADEC1 FPGA (IC1) is completed.

D1701 (G-1): NO LOCK
REF IN status indication.
This LED lights when the setting for the format of signals that are input to the REF IN connector differs from the SIU format setting.

D1702 (G-1): NO ALIGN
This LED indicates the alignment status of the internal REF signal generated from REF IN.
This LED is lit when the alignment is deviated.

D1703 (G-1): NO REF
REF IN status indication.
This LED is unlit while the REF signal is input to the REF IN connector, and is lit while the REF signal is not recognized.

D3701 (G-1): CADEC2 DONE
This LED goes out when configuration of the CADEC2 FPGA (IC4) is completed.

D3903 (G-1): NIOS DONE
This LED goes out when configuration of the NIOS8SB FPGA (IC5) is completed.

<Switch>

S502 (H-1): RESET switch
This switch is used to reset the SIU to reboot it.

S1301 (H-1): GROUP ID, UNIT ID Switch
This switch is used to set GROUP ID and UNIT ID connected to the MVS LAN.
Bits 1 to 4 are used to set GROUP ID and bits 5 to 8 are used to set UNIT ID.
Bits 1 and 5 were set to ON and other bits were set to OFF in the factory default setting.

S1601 (H-2): GPI SW1 Switch
This switch is used to select the TTL level of TALLY/GPI INPUT signals (IN33, IN34, IN67, and IN68) or +12 V.

Function		Factory setting
S1601-1(Bit1)	ON: IN33 12 V input	OFF
	OFF: IN33 3.3 V TTL input	
S1601-2(Bit2)	ON: IN34 12 V input	OFF
	OFF: IN34 3.3 V TTL input	
S1601-3(Bit3)	ON: IN67 12 V input	OFF
	OFF: IN67 3.3 V TTL input	
S1601-4(Bit4)	ON: IN68 12 V input	OFF
	OFF: IN68 3.3 V TTL input	

S1602 (H-2): GPI SW2 Switch
Reserved for future functional extension.

S3701 (C-1): SCU CADEC SW Switch
Used only for design.

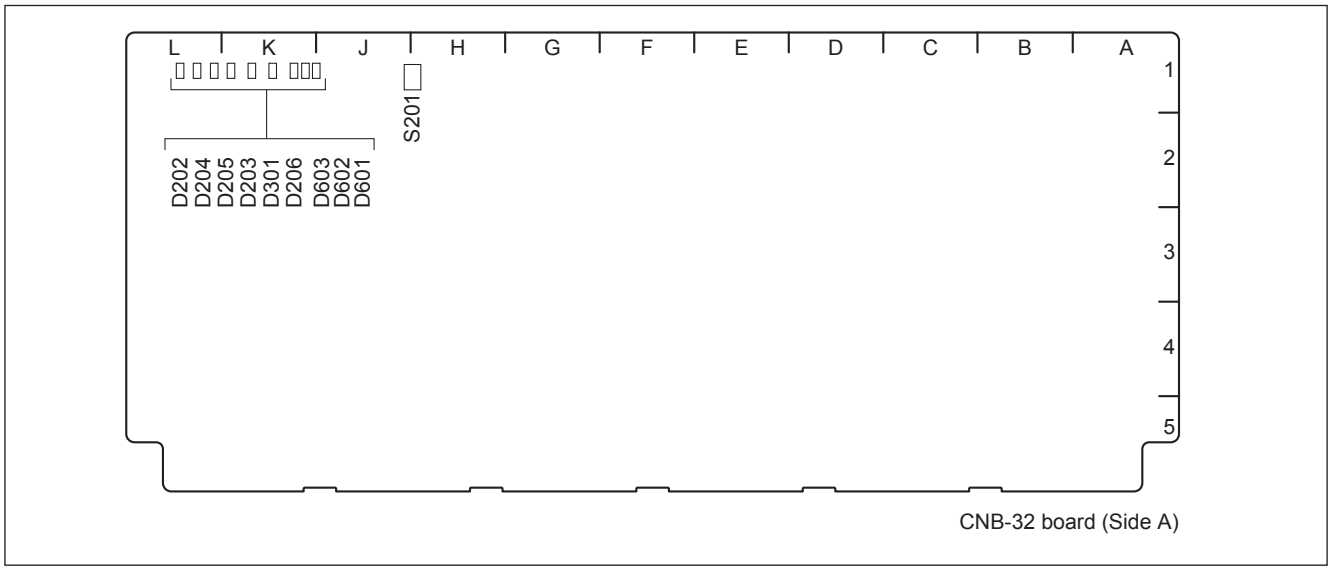
S3801 (E-1): STATION ID Switch
This switch is used to set STATION ID connected to the SBUS.
This switch is used to connect an external routing switcher to the SBUS connector.
Bit 2 was set to ON and other bits were set to OFF in the factory default setting.

S3802 (D-1): SCU DBG SW Switch
Used only for design.

S2602 (C-1): NIOS8SB_RESET Switch
Reset switch for the NIOS8SB(IC5).

S3501 (C-1): SCU MON Switch
The SIU CPU runs in the monitor mode when switch S502 is pressed while this switch is being pressed or when power is turned on.

CNB-32 board (MKS-X7702)/CNB-32A board (MKS-X7700)



∗: Only CNB-32 board.

<LED>

D203 (K-1): +12 V
+12 V power supply status indication.
Lit green when the +12 V power is supplied.

D205 (L-1): +3.3 V
+3.3 V power supply status indication.
Lit green when the +3.3 V power is supplied.

D204* (L-1): +2.5 V
+2.5 V power supply status indication.
Lit green when the +2.5 V power is supplied.

D202* (L-1): +1.2 V
+1.2 V power supply status indication.
Lit green when the +1.2 V power is supplied.

D301* (K-1): CFG ERR (IC1: Serial IO FPGA)
This LED indicates a configuration error of IC1.
While this LED is lit red, IC1 may not be working correctly.

D206* (K-1): RST_LED (IC1: Serial IO FPGA)
This LED indicates the IC1 reset state.
While this LED is lit green, IC1 is in the reset state.

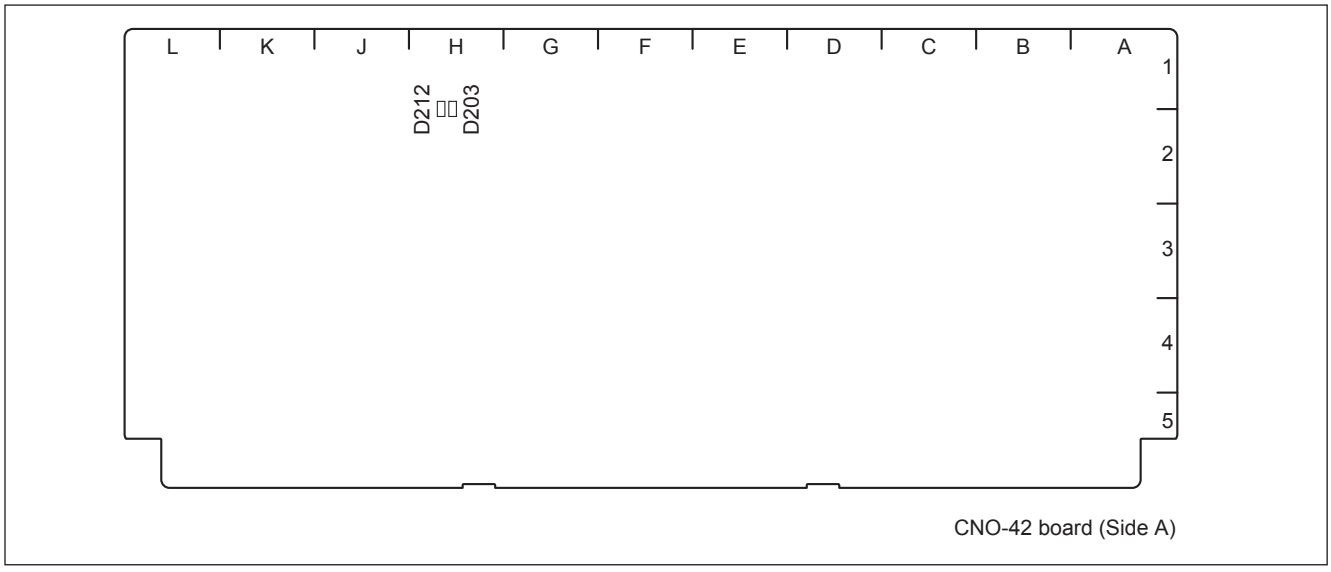
This LED lights green when:
- Switch S201* (RST_SW) is pressed
- A reset request is made from the CA-90 board

D601*, D602*, D603* (K-1): STATUS0, 1, 2
The status indication of the built-in CPU of IC1.
All of these LEDs are lit green while IC1 is working correctly.

<Switch>

S201* (H-1): RST_SW
This switch is used to reset the IC1.
Pressing this switch initializes IC1.

CNO-42 board (MKS-X7701)



<LED>

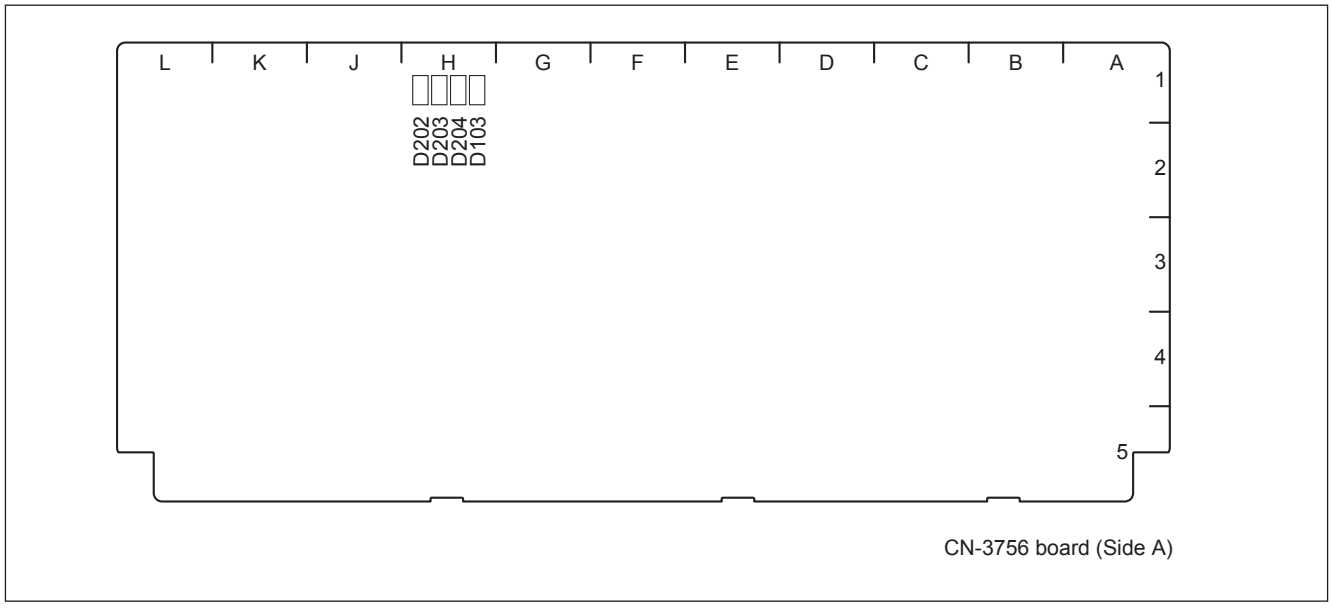
D203 (H-2): 12 V

+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.

D212 (H-2): 3.3 V

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

CN-3756 board



<LED>

D103 (H-1): 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.

D202 (H-1): 5 V-A

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

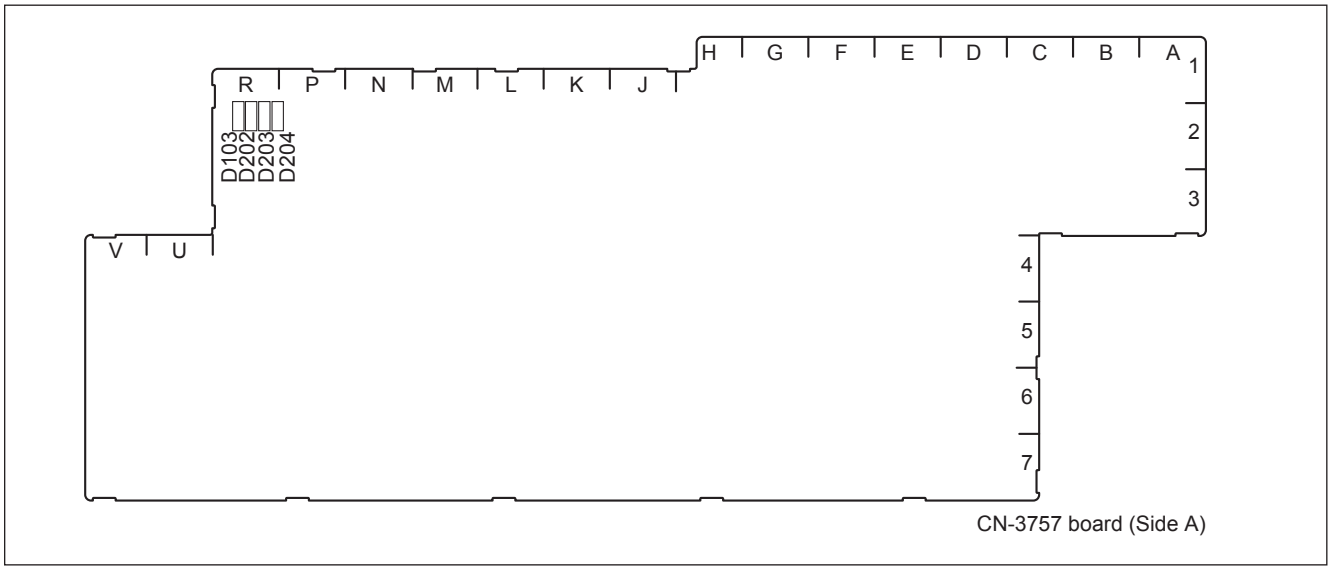
D203 (H-1): 5 V-SBUS

+5.0 V-SBUS power supply status indication.
Lit when the +5.0 V-SBUS power is supplied.

D204 (H-1): 3.3 V

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

CN-3757 board



<LED>

D103 (R-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.

D202 (R-2): 5 V-A

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

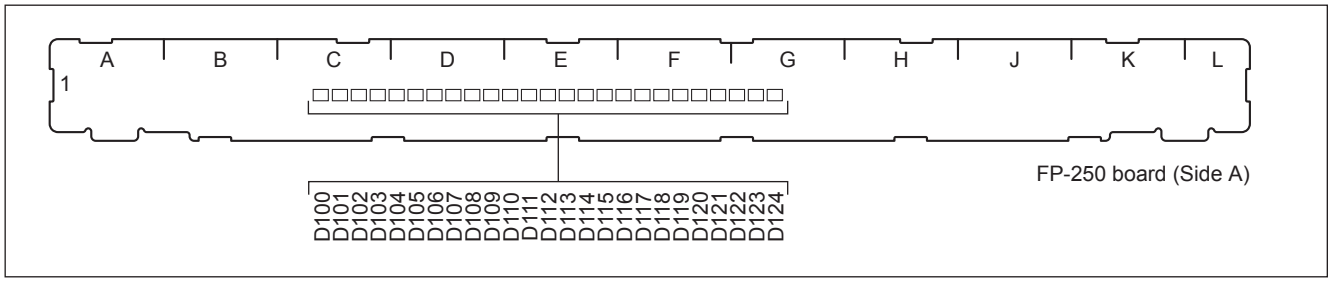
D203 (R-2): 5 V-SBUS

+5.0 V-SBUS power supply status indication.
Lit when the +5.0 V-SBUS power is supplied.

D204 (R-2): 3.3 V

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

FP-250 board



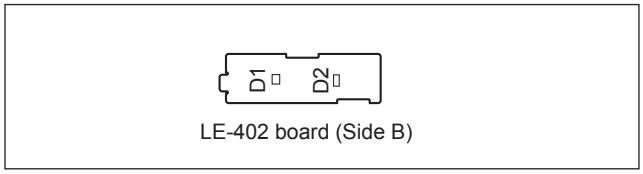
<LED>

D100 (C-1) to D124 (G-1): POWER

Power supply status indication.

This LED is lit when +5 V is supplied from CA-90 board correctly.

LE-402 board



LE-402 board (Side B)

<LED>

D1: POWER

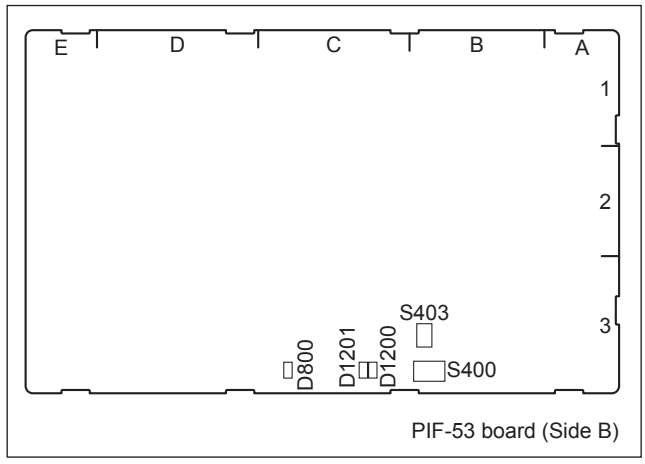
Power supply unit status indication.
This LED is lit green while +12 V is normally output and the fans in the power supply unit are normally rotating.
This LED lights red when +12 V becomes abnormal or any fan in the power supply unit malfunctions.

D2: BEACON

Not used.

1-14-2. ICP-X7000/MKS-X7075

PIF-53 board



PIF-53 board (Side B)

<LED>

D800 (C-3): FPGA Config

This LED lights when configuration of the FPGA is completed, and it flashes when CPU is boot.

D1200 (C-3): LINL

This LED lights when the Ethernet links.

D1201 (C-3): ACT

This LED is flashed while the Ethernet is in communication.

<Switch>

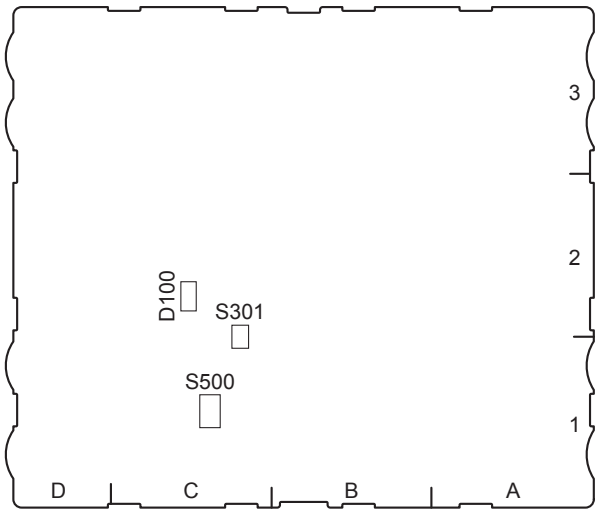
S400 (B-3): MODE setting

Function		Factory default setting
S400-1 (Bit1)	Boot Device	OFF
	ON: SD Card	
	OFF: NOR Flash	
S400-2 (Bit2)	Reserved	OFF
S400-3 (Bit3)	Reserved	OFF
S400-4 (Bit4)	Reserved	OFF
S400-5 (Bit5)	Boot Mode	OFF
	ON: NBL	
	OFF: CE-Linux	
S400-6 (Bit6)	Boot Mode for CE-Linux	OFF
	ON: Recovery	
	OFF: Normal	
S400-7 (Bit7)	Reserved	OFF
S400-8 (Bit8)	Reserved	OFF

S403 (B-3): Reset

This switch is used to reset PIF-53/MPU-163 board hardware.

KY-724 board (MKS-X7018/MKS-X7019)



KY-724 board (Side A)

<LED>

D100 (C-2): +12 V

+12 V power supply status indication.
Lit when the +12 V power is supplied correctly.

<Switch>

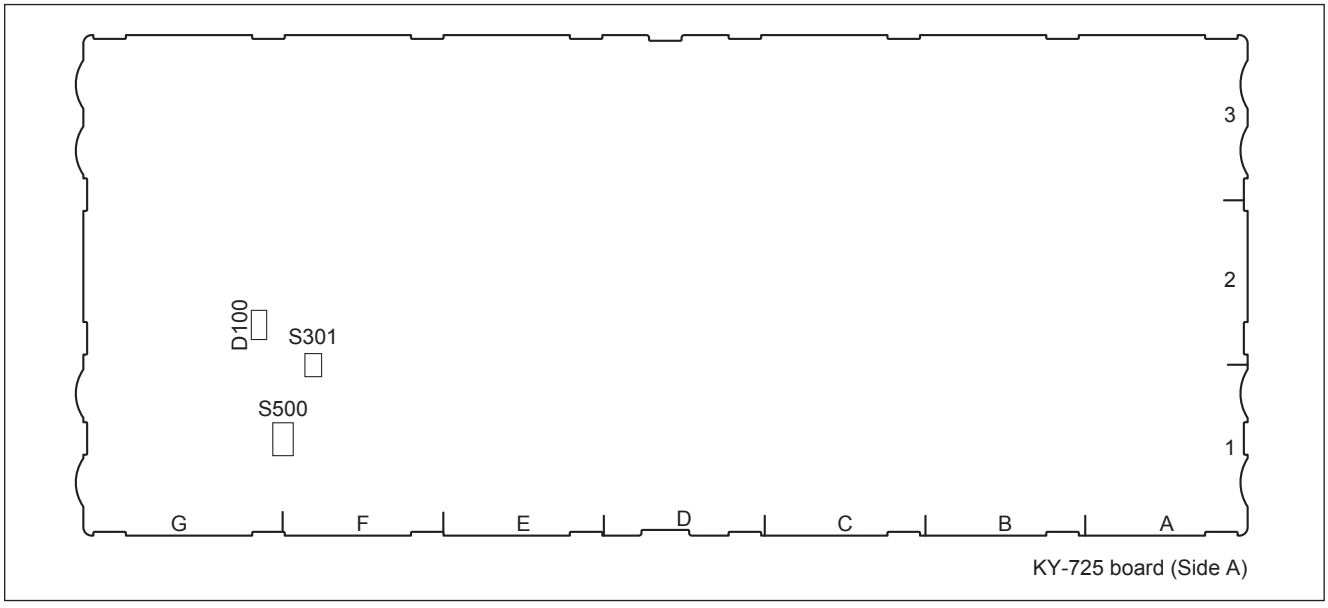
S500 (C-1): RECONF

Pressing this switch initializes KY-724 board.

S301 (C-1): SETTING2

This switch is used for manufacturing at the factory.
Do not change the setting of this switch.

KY-725 board (MKS-X7017/MKS-X7019)



<LED>

D100 (G-2): +12 V

+12 V power supply status indication.
Lit when the +12 V power is supplied correctly.

<Switch>

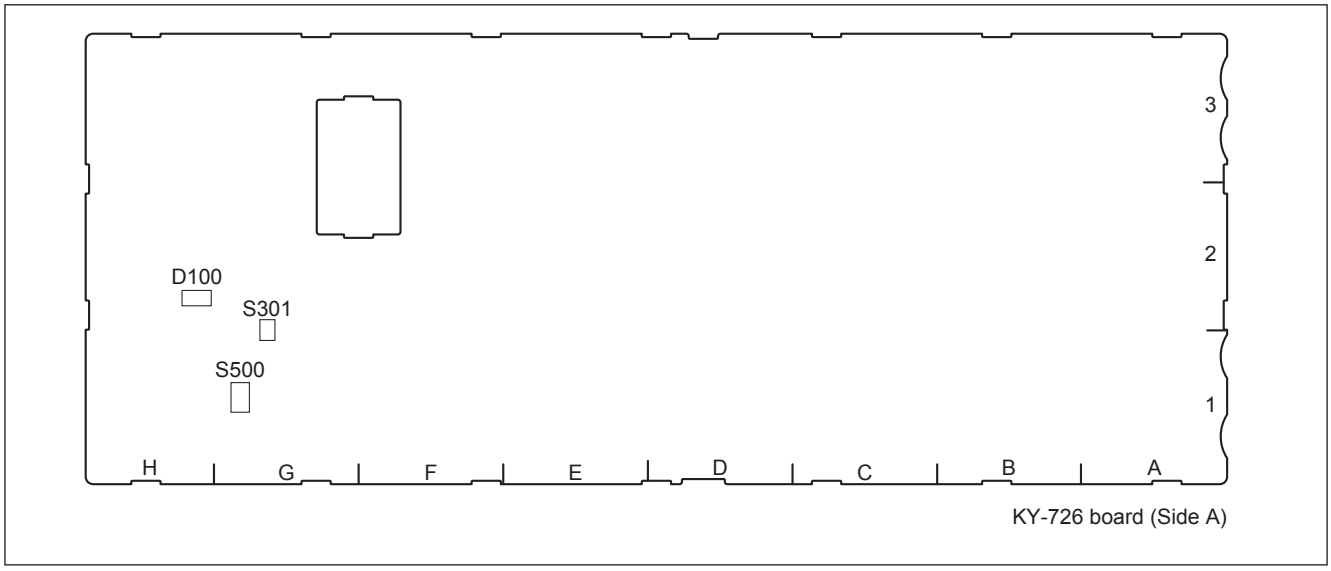
S500 (F-1): RECONF

Pressing this switch initializes KY-725 board.

S301 (F-1): SETTING2

This switch is used for manufacturing at the factory.
Do not change the setting of this switch.

KY-726 board (MKS-X7017/MKS-X7018/MKS-X7019)



<LED>

D100 (H-2): +12 V

+12 V power supply status indication.
Lit when the +12 V power is supplied correctly.

<Switch>

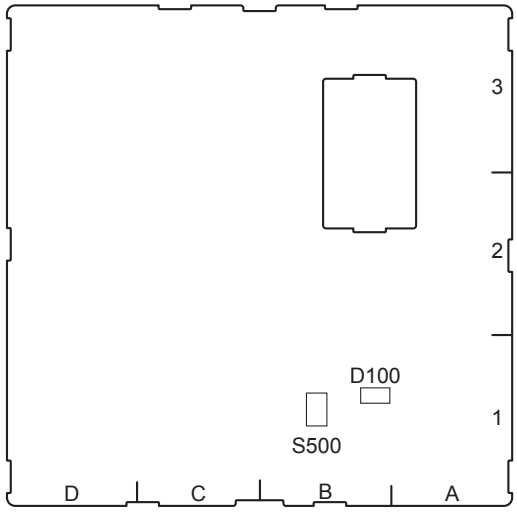
S500 (G-1): RECONF

Pressing this switch initializes KY-726 board.

S301 (G-2): SETTING2

This switch is used for manufacturing at the factory.
Do not change the setting of this switch.

KY-727 board (MKS-X7024)



KY-727 board (Side A)

<LED>

D100 (B-1): +12 V

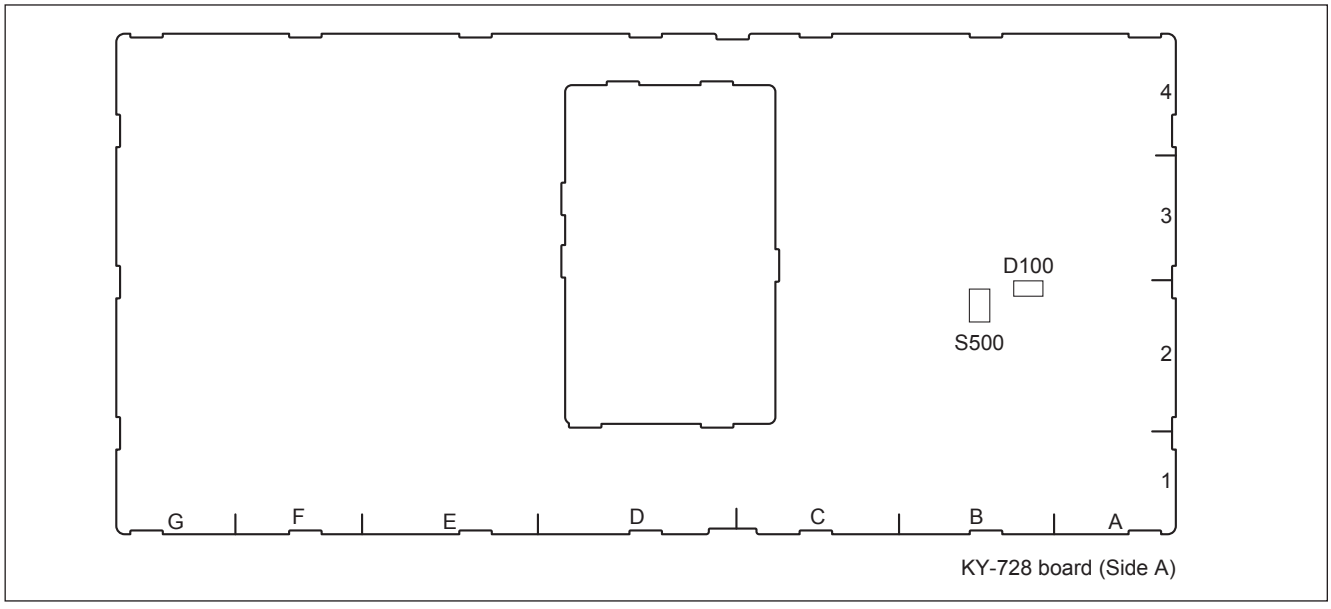
+12 V power supply status indication.
Lit when the +12 V power is supplied correctly.

<Switch>

S500 (B-1): RECONF

Pressing this switch initializes KY-727 board.

KY-728 board (MKS-X7020)



<LED>

D100 (B-2): +12 V

+12 V power supply status indication.

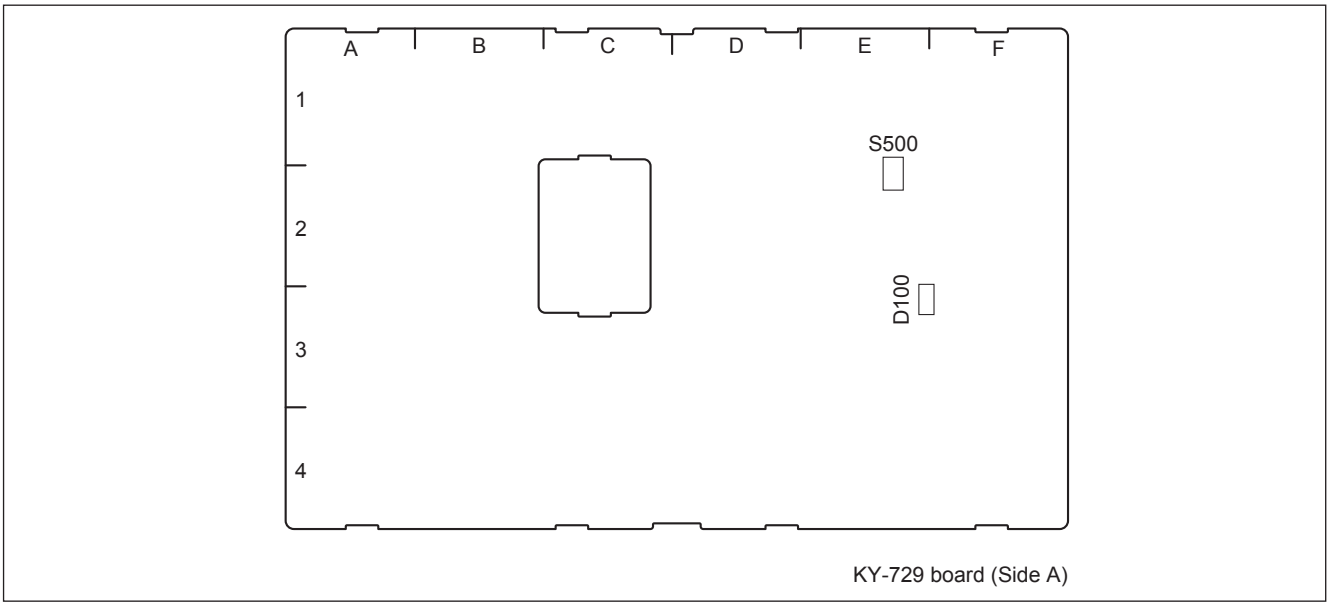
Lit when the +12 V power is supplied correctly.

<Switch>

S500 (B-2): RECONF

Pressing this switch initializes KY-728 board.

KY-729 board (MKS-X7033)



KY-729 board (Side A)

<LED>

D100 (E-3): +12 V

+12 V power supply status indication.

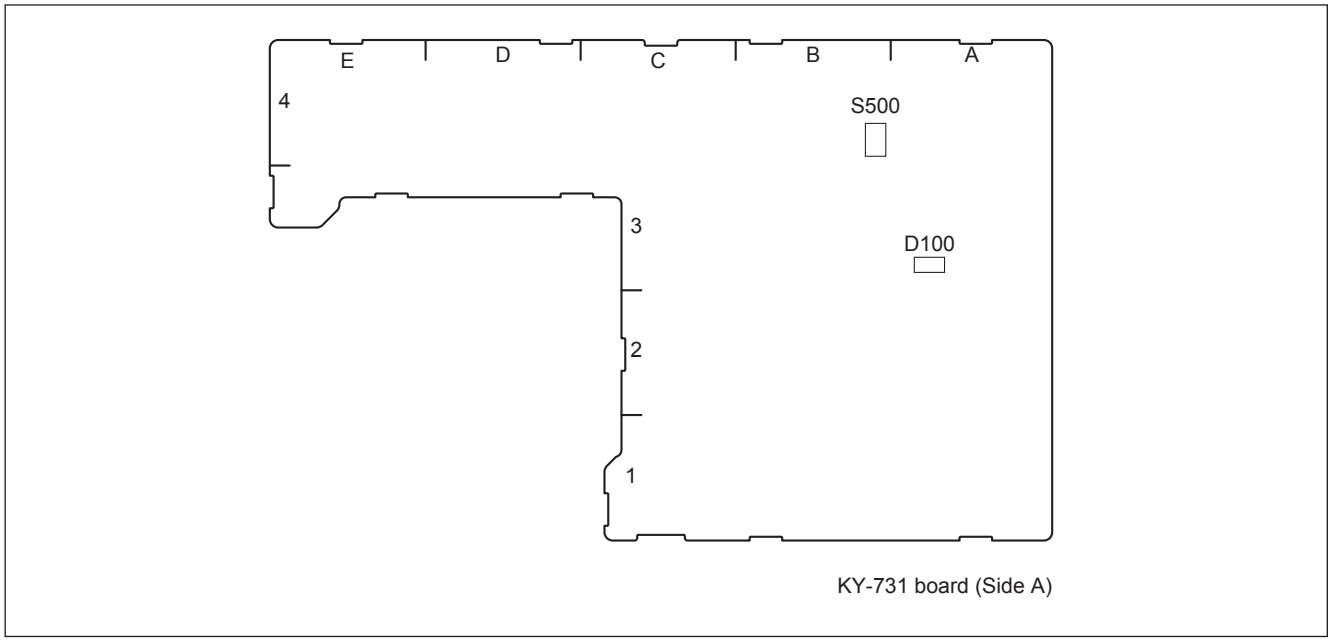
Lit when the +12 V power is supplied correctly.

<Switch>

S500 (E-2): RECONF

Pressing this switch initializes KY-729 board.

KY-731 board (MKS-X7031TB)



<LED>

D100 (A-3): +12V

+12 V power supply status indication.

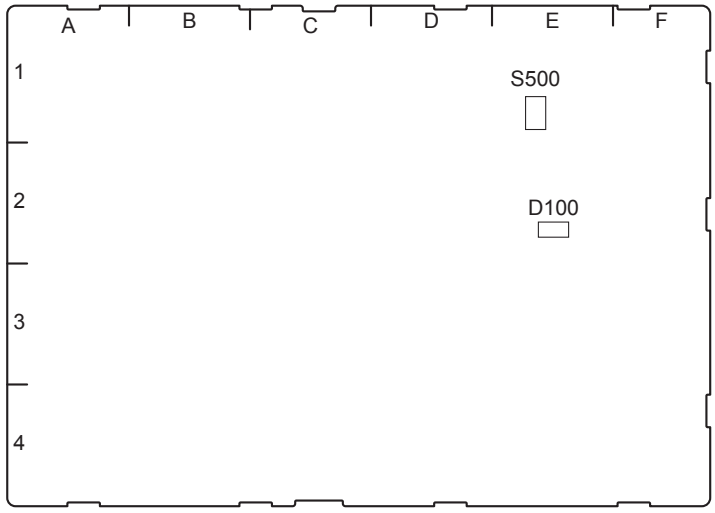
Lit when the +12 V power is supplied correctly.

<Switch>

S500 (B-4): RECONF

Pressing this switch initializes KY-731 board.

KY-732 board (MKS-X7035)



KY-732 board (Side A)

<LED>

D100(E-2): +12 V

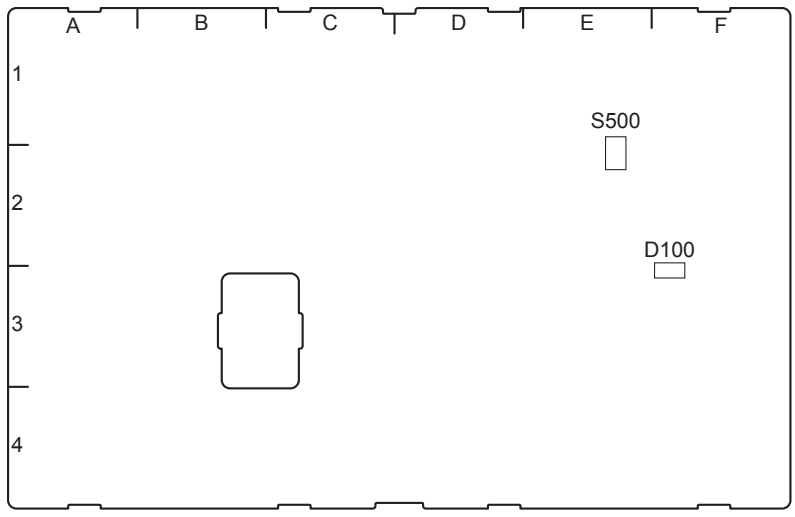
+12 V power supply status indication.
Lit when the +12 V power is supplied correctly.

<Switch>

S500 (E-1): RECONF

Pressing this switch initializes KY-732 board.

KY-733/KY-755/KY-756/KY-757 board



KY-733/KY-755/KY-756/KY-757 board (Side A)

KY-733 board (MKS-X7026)

<LED>

D100 (F-3): +12 V

+12 V power supply status indication.
Lit when the +12 V power is supplied correctly.

<Switch>

S500 (E-2): RECONF

Pressing this switch initializes KY-733 board.

KY-755 board (MKS-X7021)

<LED>

D100 (F-3): +12 V

+12 V power supply status indication.
Lit when the +12 V power is supplied correctly.

<Switch>

S500 (E-2): RECONF

Pressing this switch initializes KY-755 board.

KY-756 board (MKS-X7023)

<LED>

D100 (F-3): +12 V

+12 V power supply status indication.
Lit when the +12 V power is supplied correctly.

<Switch>

S500 (E-2): RECONF

Pressing this switch initializes KY-756 board.

KY-757 board (MKS-X7032)

<LED>

D100 (F-3): +12 V

+12 V power supply status indication.
Lit when the +12 V power is supplied correctly.

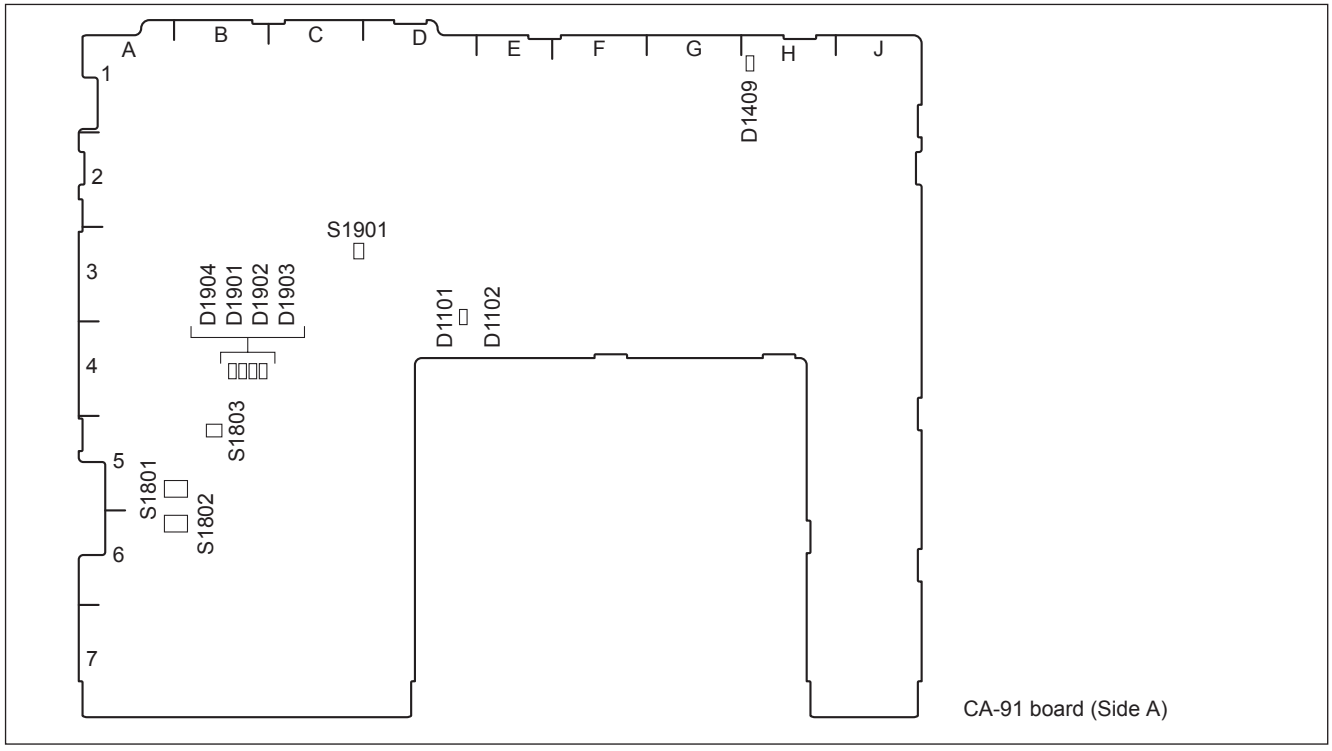
<Switch>

S500 (E-2): RECONF

Pressing this switch initializes KY-757 board.

1-14-3. MKS-X7011

CA-91 board (A side)



<LED>

D1101 (D-4): LINK

This LED is lit when the Ethernet links.

D1102 (D-4): ACT

This LED is flashed while the Ethernet is in communication.

D1409 (H-1): 5 V

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

D1901 to D1904 (B4): Board Status

These LEDs display a startup state of the CA-91 board.

∗ All of LEDs D1901 to 1904 are lit during normal operation.

<Switch>

S1801 (A-5): SETTING1

This switch is used to set the configuration when CA-91 board is boot.

Function			Factory setting
S1801-1 (Bit1), -2 (Bit2): Boot Device setting			OFF (-1, -2) both
S1801-1	S1801-2		
OFF	OFF	SPI ROM boot	
ON	OFF	SD Card boot	
OFF	ON	Reserved	
ON	ON	Reserved	
S1801-3 (Bit3): Used for design			OFF (Do not change this setting.)
S1801-4 (Bit4): Used for design			OFF (Do not change this setting.)

S1802 (A-6): SETTING2

This switch is used for manufacturing at the factory.
Factory setting: All OFF
Do not change this factory setting.

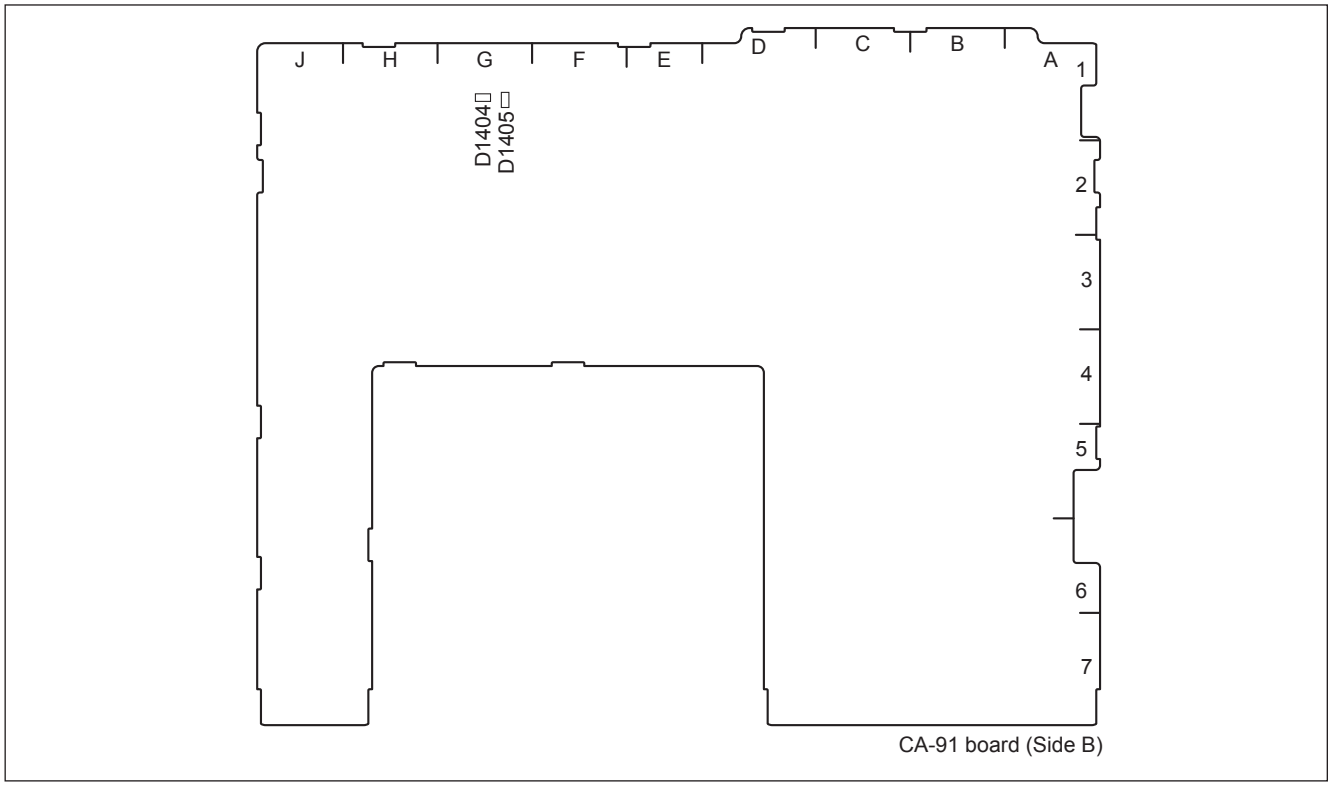
S1803 (B-5): RECONF

This switch is used to forcibly reboot the CA-91 board.

S1901 (C-3): RESET

This switch is used to reset the CPU hardware of CA-91 board.

CA-91 board (B side)



<LED>

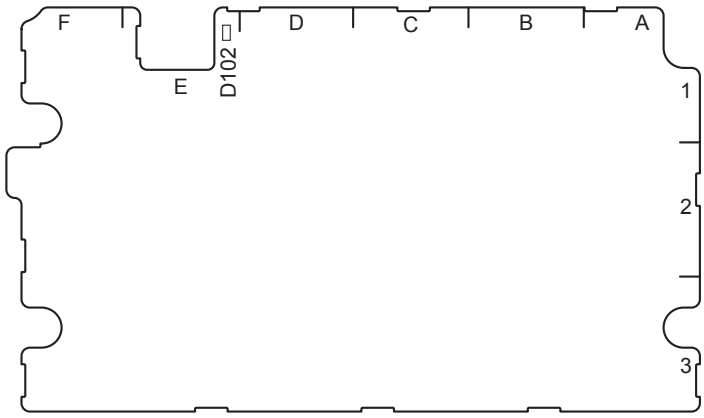
D1404 (G-1): 3.3V PLD

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

D1405 (G-1): 1.2V PLD

+1.2 V power supply status indication.
Lit when the +1.2 V power is supplied correctly.

KY-723 board



KY-723 board (Side A)

<LED>

D102 (E-1): 5 V

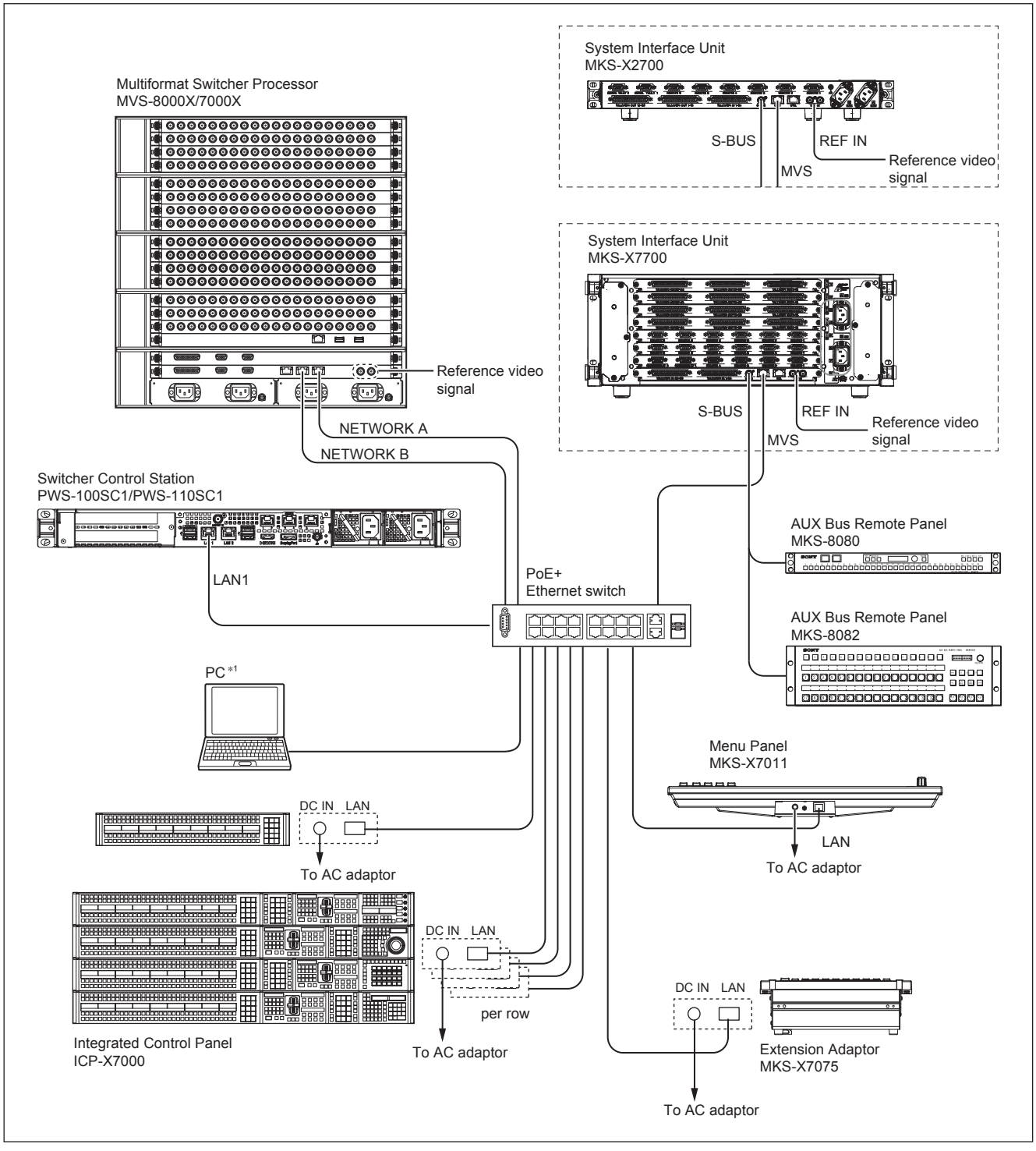
+5 V power supply status indication.

Lit when the +5 V power is supplied correctly.

1-15. System Connection

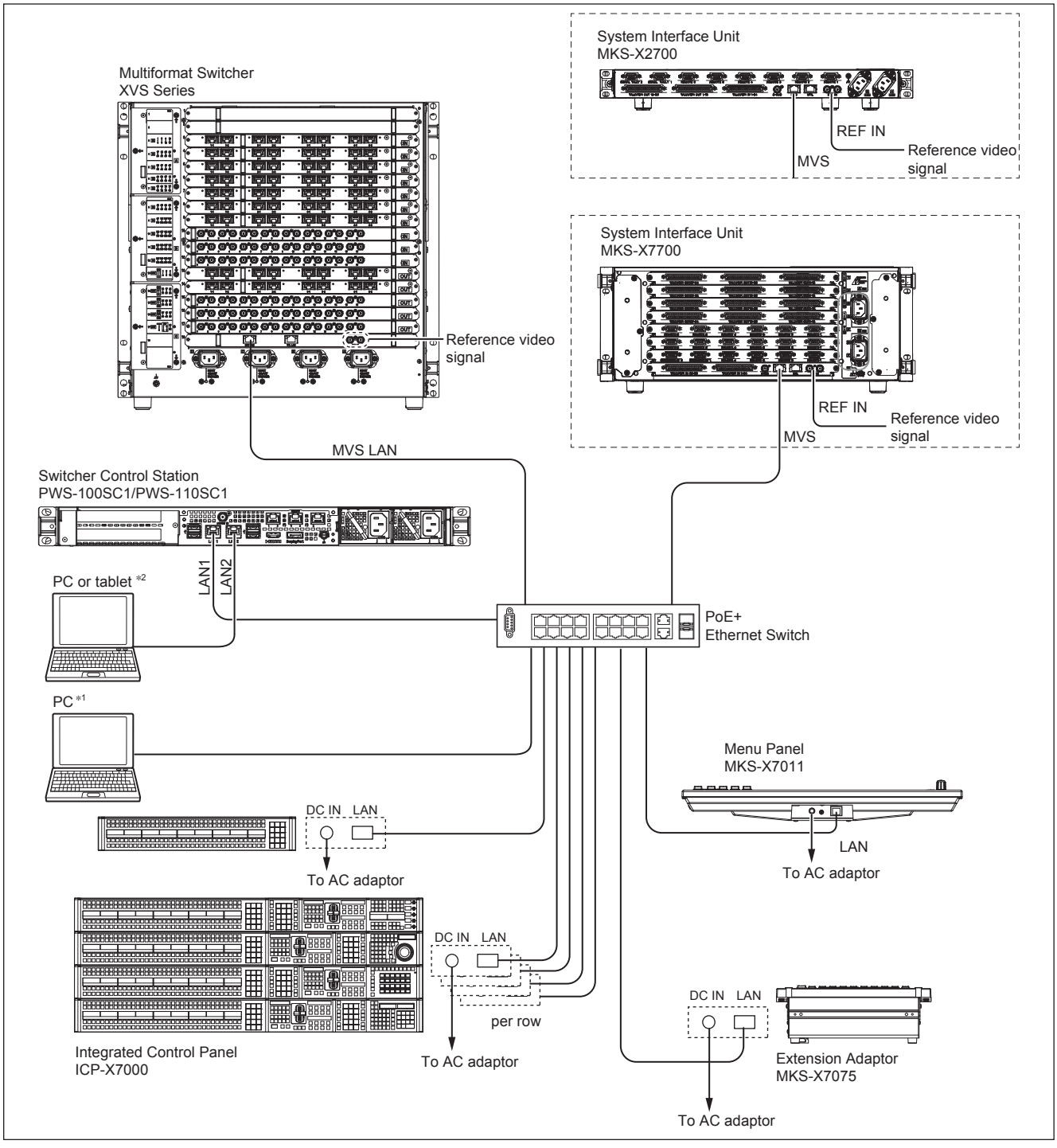
Configure the system connection referring to the connection example as shown below.

1-15-1. Example of Connection to MVS-8000X/7000X



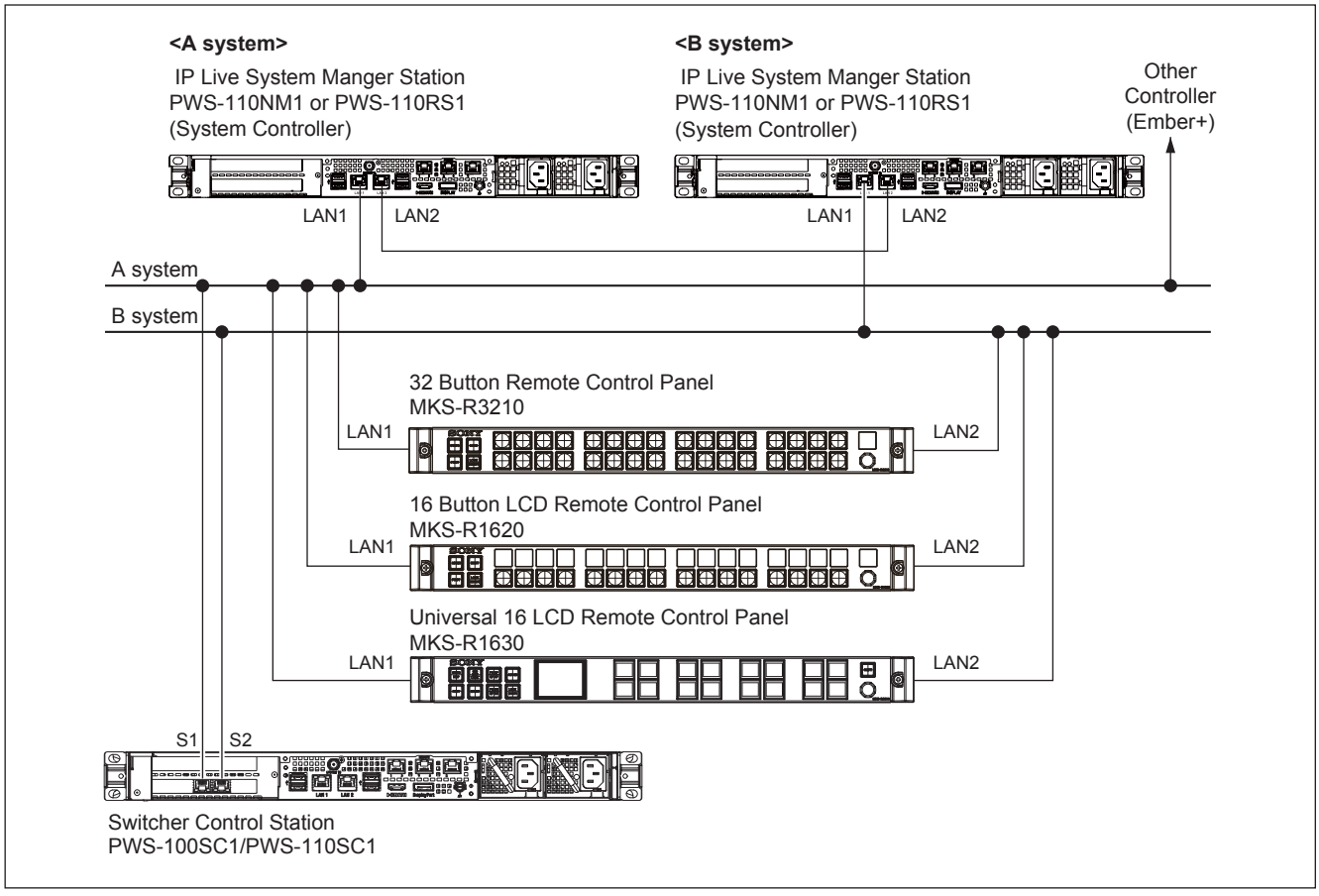
∗1: PC is only required when performing the “1-17. Maintenance Menu”.

1-15-2. Example of Connection to XVS Series



∗1: PC is only required when performing the “1-17. Maintenance Menu”.
∗2: Required when using the Web Application of the XVS series.

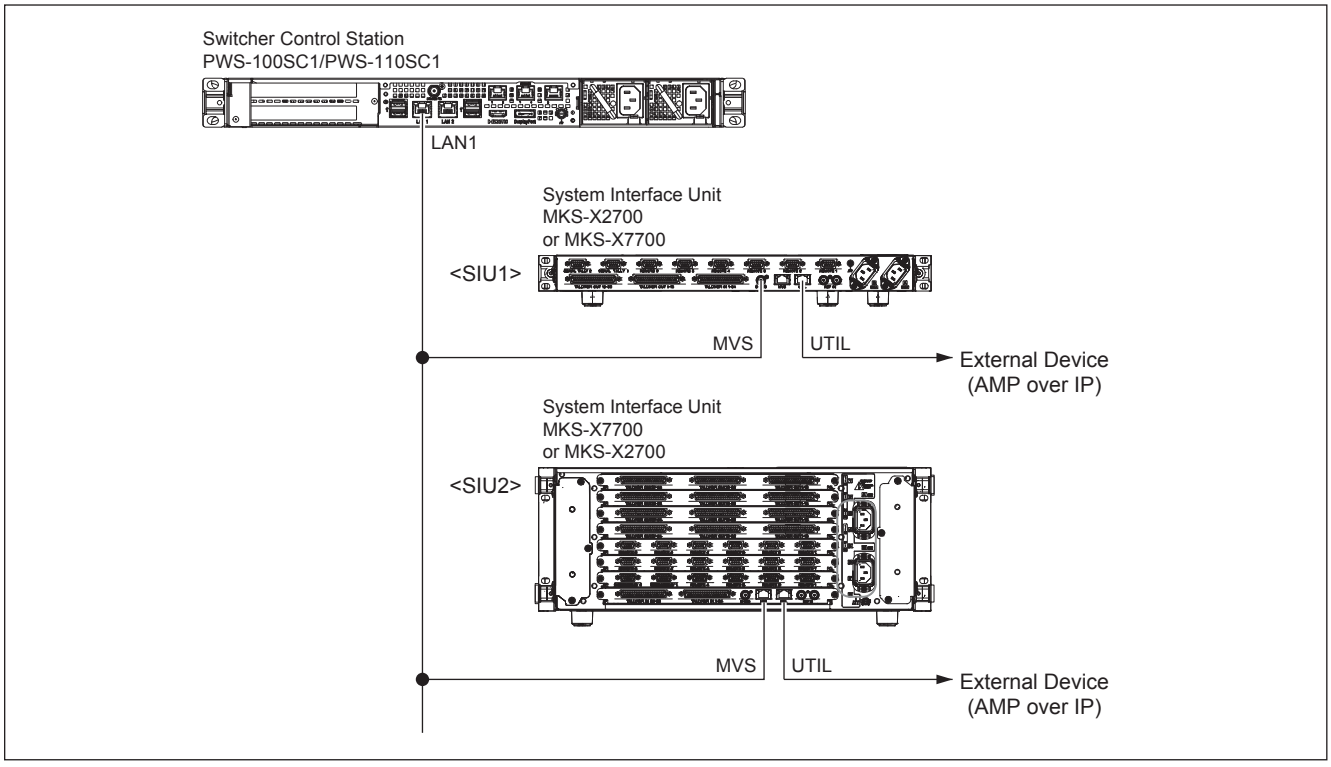
1-15-3. Example of Connection to NS-BUS



Tip

- For details of remote controller connection using the NS-BUS and settings, see the MKS-R3210/R1620/R1630 installation manual.
- For connection to the NS-BUS, a network card for expansion is required.
- For IP address settings related to A system and B system, refer to "1-17-4. Settings for External Protocol."

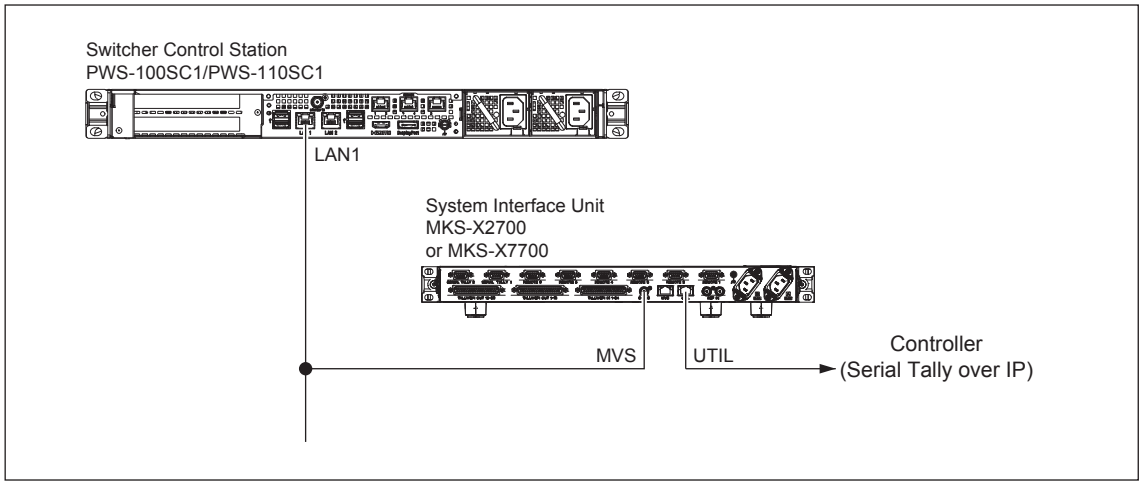
1-15-4. Example of Connection to External Devices through AMP over IP



Tip

- Up to two system interface units (SIU1 and SIU2) can be connected to external devices.
- Set the unit ID of SIU1 and SIU2 respectively according to “1-14. Description of On-board Switches and LEDs.”

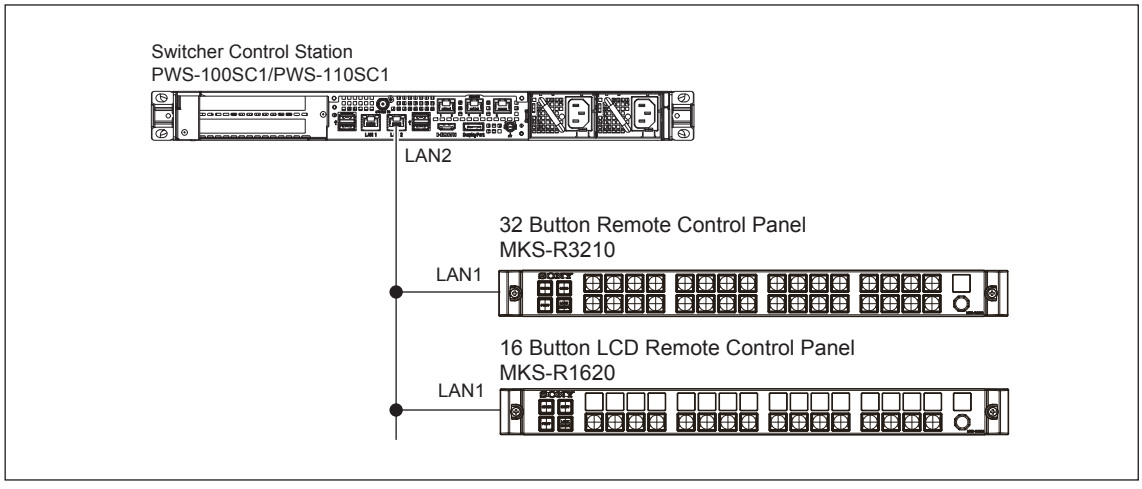
1-15-5. Example of Connection of Serial Tally through a Network



Tip

- Set system interface units (to be connected to external devices) in the tally master.
- For the serial tally setting, refer to "Setting of Serial Tally" in the user's guide.
- For setting the UTIL LAN IP address of system interface units, refer to "1-17-3. Network Settings for Connected Devices."

1-15-6. Connection Example of Network AUX Remote



Tip

- The following shows a connection example of the NS-BUS remote control panel to be used as an AUX remote controller without using the system controller (PWS-110NM1/PWS-110RS1).
- This connection cannot be used together with the NS-BUS connection (shown in "1-15-3. Example of Connection to NS-BUS").
- Only two models (MKS-R3210 and MKS-R1620) of NS-BUS remote control panel can be used in this connection.
- Up to 16 NS-BUS remote control panels per switcher control panel are connectable in this connection.
  (Example: Up to 64 NS-BUS remote control panels are connectable in a system including four switcher control panels.)

1-16. Settings of PWS-100SC1/110SC1

The PWS-100SC1/PWS-110SC1 is provided with web server functions, and the setting menu can be displayed on the web browser of a PC or a tablet. The PWS-100SC1/PWS-110SC1 also enables settings and operation of the ICP-X7000.

- Systems to be connected to MVS-8000X/7000X:
  The Maintenance menu allows you to make settings for the PWS-100SC1/PWS-110SC1 and the panel configuration (For details, refer to the section 1-17.).
- Systems to be connected to XVS-8000/XVS-7000/XVS-6000:
  In addition to the Maintenance menu, several menus are available.

Equipment required

- PC (personal computer) or tablet: PC or tablet should be capable of LAN1 network connection to PWS-100SC1/PWS-110SC1 and using a web browser. (Refer to the section 1-15.)

  Note

  Do not browse any other website in the Web browser while making settings or after making settings. Since the login status remains in the Web browser, close the Web browser when you complete the settings to prevent unauthorized third parties from using the unit or harmful programs from running.

1-16-1. Accessing the Setting Menu

Systems to be connected to MVS-8000X/7000X

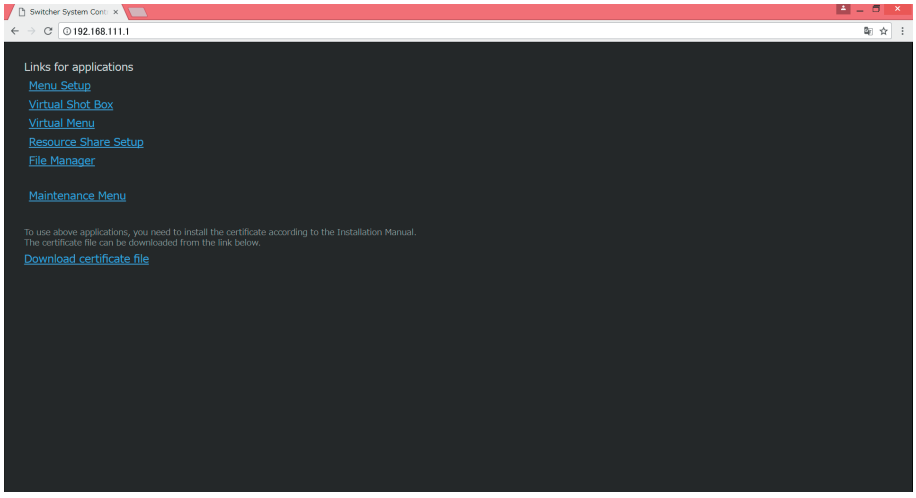
Procedure

1. Turn on the PWS-100SC1/PWS-110SC1.
2. Connect the PC to the same network as the PWS-100SC1/PWS-110SC1. (Refer to the section 1-15.)
3. Run the web browser on the PC, and access the following URL.
   http://192.168.111.1/xwc/
   The Maintenance menu opens.

Systems to be connected to XVS-8000/XVS-7000/XVS-6000

Procedure

1. Turn on the PWS-100SC1/PWS-110SC1.
2. Connect a PC or a tablet terminal to the same network as the PWS-100SC1/PWS-110SC1. (Refer to Section 1-15.)
3. Run the web browser of the PC or tablet and access the following URL.
   For using encrypted communication: https://192.168.111.1/
   For using unencrypted communication: http://192.168.111.1/
   The Root menu page showing links to each menu opens.



4. Click or tap the link of the following menu on the [Links for applications] window to access it.
   - Menu Setup
     This menu is used for the Web Application of the XVS series.
     This menu manages creation of account used in the Web Application, various settings, and software license.
     Entering the following URL enables direct access.
     – For using encrypted communication: https://192.168.111.1/xwm/menu-setup
     – For using unencrypted communication: http://192.168.111.1/xwm/menu-setup
   - Maintenance Menu
     This menu is operated from the web browser of the PC.
     This menu allows you to make following settings.
     – PWS-100SC1/PWS-110SC1 settings and the panel configuration (detailed in Section 1-17-1).
     – PWS-100SC1/ PWS-110SC1 network settings (detailed in Section 1-17-2).
     – The network settings for connected devices (detailed in Section 1-17-3)
     – The external protocol setting (detailed in Section 1-17-4)
     Entering the following URL enables direct access.
     – For using encrypted communication: https://192.168.111.1/xwc/
     – For using unencrypted communication: http://192.168.111.1/xwc/

Note

If a URL beginning with https://192.168.111.1 (shown above) is accessed, a warning message “Your connection is not private”, for example, is output, and some functions do not work normally.
To make a connection to a URL (https:), perform the following procedure to install the root certificate corresponding to the server (Sony-IPLiveProduction-<serial number>) in the web browser. Also name resolution setting is required.

If it is hard to make settings with the following procedure, connection by means of “http” is also possible. However, communication data is not encrypted with the “http” connection. If you use this connection, accept security risks.

Installing root certificate

1. Access http://192.168.111.1.
2. Click or tap [Download certificate files].
   The certificate file is downloaded to the PC or tablet.
3. Install the root certificate according to the manual of the PC or tablet.

Setting name resolution

1. Access https://192.168.111.1.
2. Refer to the server certificate issue destination according to the browser operation method.
   Tip
   For Android 5 and Chrome 48, perform the following procedure to refer to the server certificate issue destination.

   (1) Tap the key icon on the left of the address bar.
   (2) Tap [Details] on the pop-up window.
   (3) Tap [View certificate] on the pop-up window.
   The certificate viewer appears.
   (4) Refer to the following shown in “Common name (CN)” in [Issued to].
   Sony-IPLiveProduction-<serial number>
3. Set the name resolution between IP address (192.168.111.1) of PWS-100SC1/PWS-110SC1 and the server certificate issue destination “Sony-IPLiveProduction-<serial number>” (referred to in step 2) by registering the name resolution in the hosts file.
4. When accessing the URL of each menu after the name resolution has been set, access “https://Sony-IPLiveProduction-<serial number>” instead of “https://192.168.111.1”.
   Note
   When using Chrome 58 and later, a security warning message appears when PC UI is displayed. Ignore this warning and proceed with operation.

1-17. Maintenance Menu

Equipment required

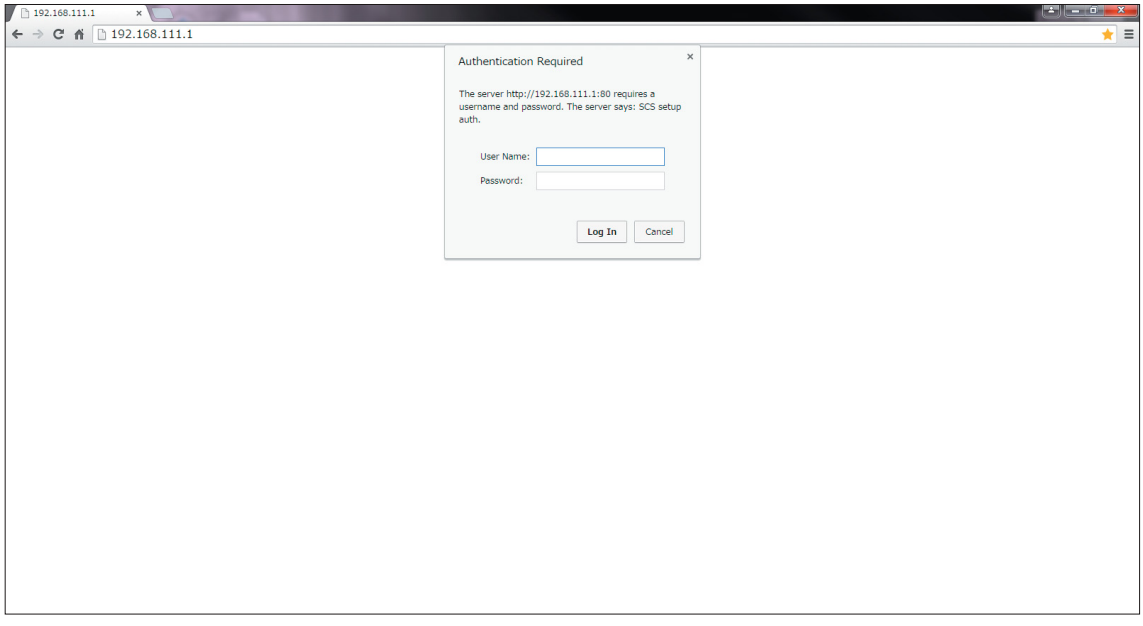
- PC (personal computer)
  The following conditions must be satisfied.
  – Should be capable of network connection to PWS-100SC1/PWS-110SC1.
  – Display resolution: 1024x720 or more (1920x1080 recommended)
  – Operation guaranteed OS: Windows 7 or Windows 10
  – Operation guaranteed web browser: Chrome

  For connection with the PC, refer to “1-15. System Connection”.

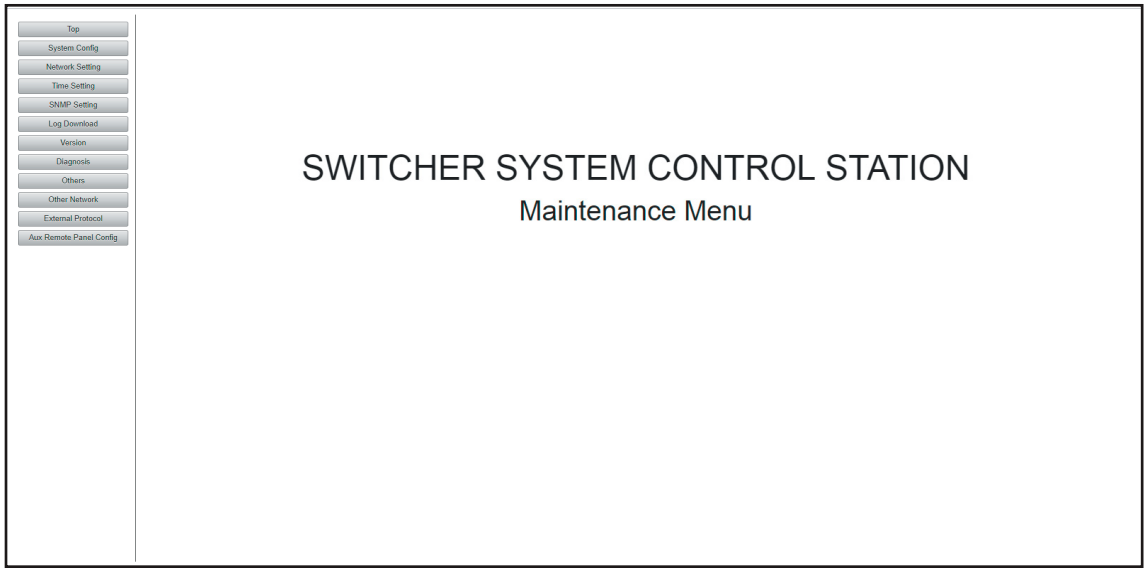
Procedure

1. Connect all devices according to “Connection example” in “1-15. System Connection” and turn on power.
2. Connect the PC to the same network as PWS-100SC1/PWS-110SC1.
   Tip
   An IP address is automatically assigned from PWS-100SC1/PWS-110SC1 by setting the network port of the PC to be connected to “Obtain an IP address automatically.”

3. Run the web browser on the PC and access the Maintenance menu.
   - Systems to be connected to XVS-8000/XVS-7000/XVS-6000
     Access the Maintenance menu according to Section 1-16-1.
   - Systems to be connected to MVS-8000X/7000X
     Access the Root menu according to Section 1-16-1, and then click [Maintenance Menu] in [Links for applications].
4. The authentication form is displayed. Enter the following user name and password, and then click [Log In].
   User name: setup
   Password: sjx30260



The Maintenance Menu appears.



1-17-1. Panel Configuration

The ICP-X7000 system can assign numbers to each panel row (including MKS-X7075) and set them for PWS-100SC1/PWS-110SC1. Be sure to set numbers in the following cases.

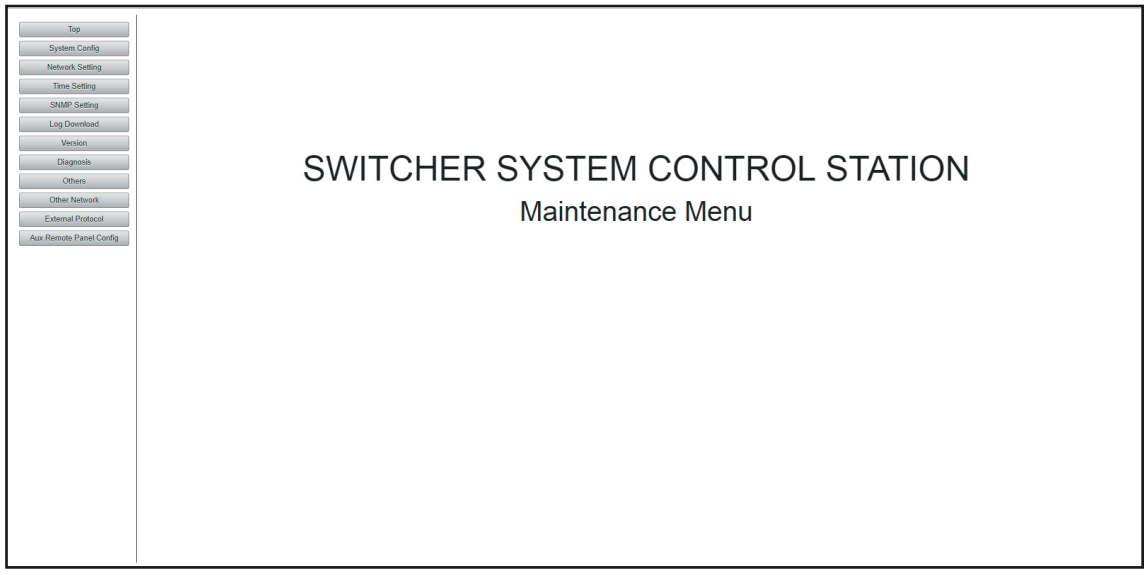
- When starting a system for the first time:
  Be sure to set numbers for systems shipped before April 2016.
- When assigning numbers according to the panel layout
  Numbers are assigned for systems shipped in April 2016 and later, but they may not correspond to the actual panel row layout. In that case, make this setting again.
- When panel row or MKS-X7075 is newly added or transferred from another system
  Row numbers are managed by PWS-100SC1/PWS-110SC1 of each system. When newly adding rows, make this setting.

Overview of setting

This setting is available for PWS-100SC1/PWS-110SC1 to be connected to the panel system network.

Procedure

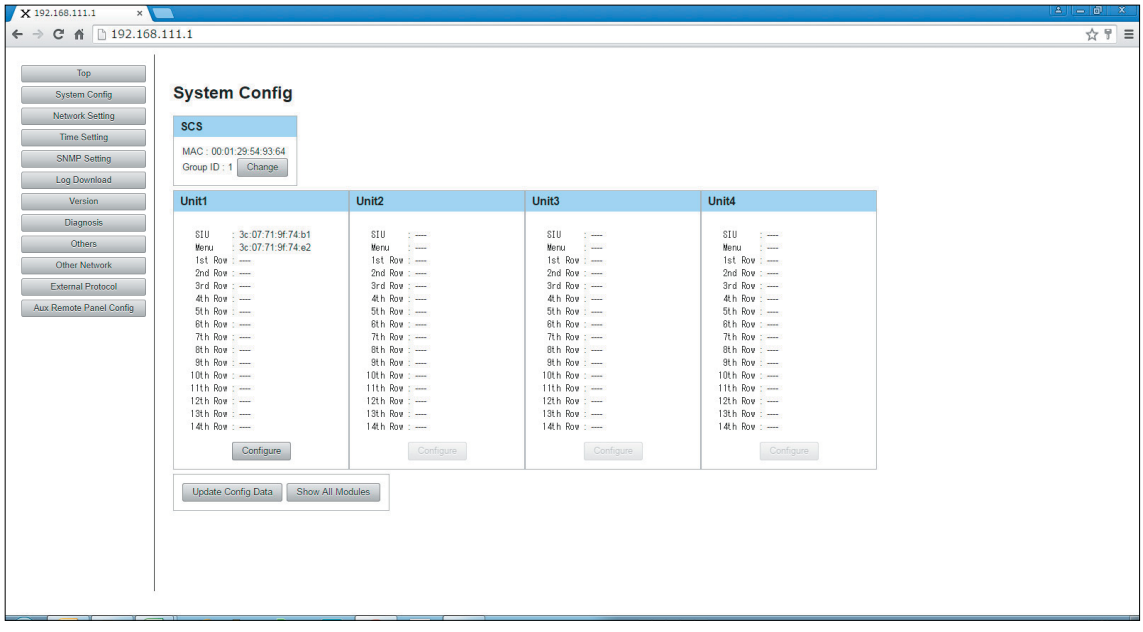
1. Open the Maintenance Menu and click [System Config] on the left side of the window.



2. The System Config window opens.
   Make setting on this window.

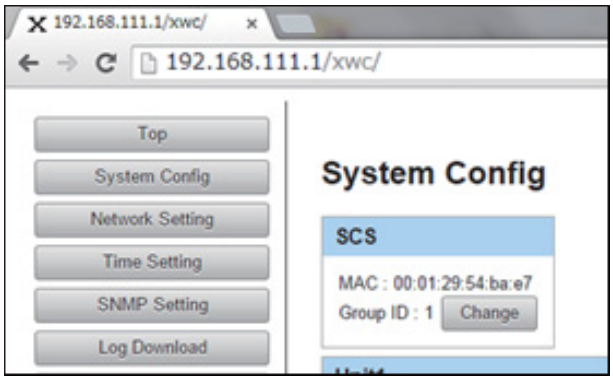
   Tip

   Without this setting, noting is displayed under “1st Row.”



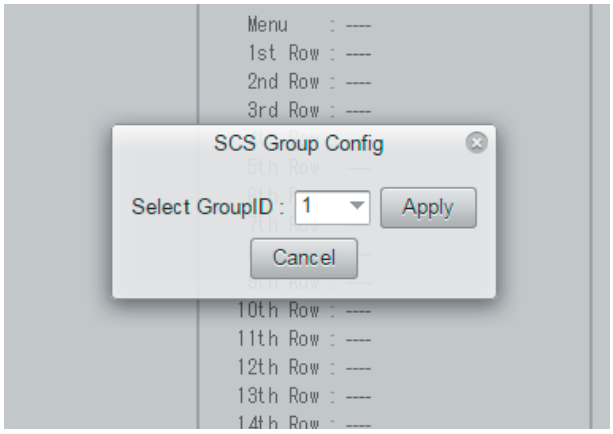
3. Set SCS Group Config to 1.

(1) Click [Change] in the SCS field.



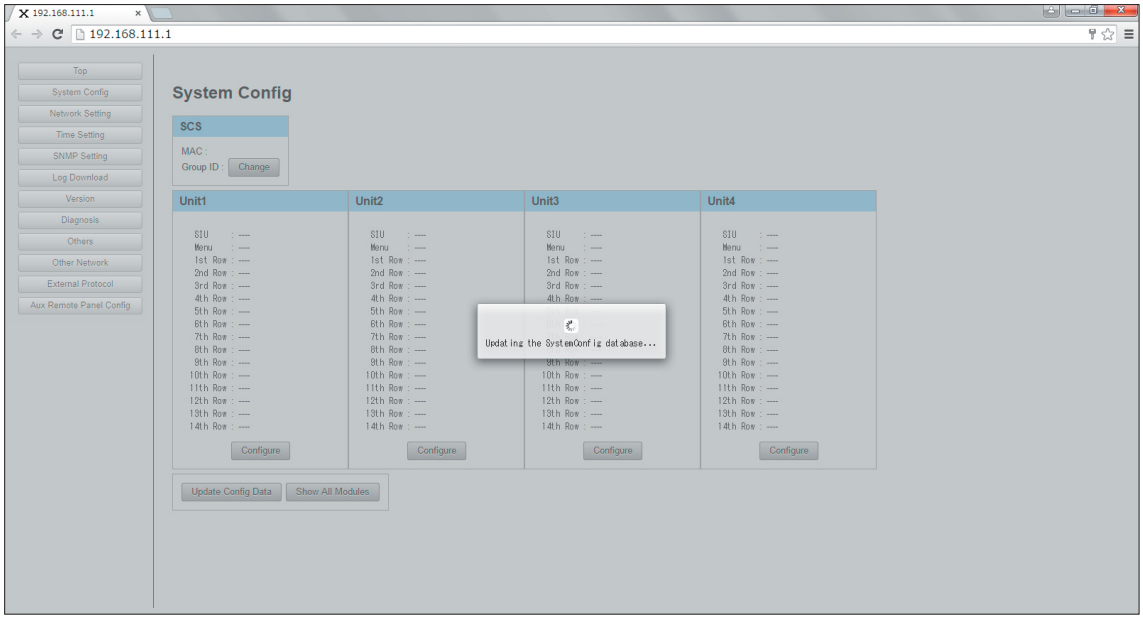
(2) The setting change (SCS Group Config) window opens.

(3) Select "1" in Group ID and click [Apply].
After [Apply] is clicked, the setting is applied.

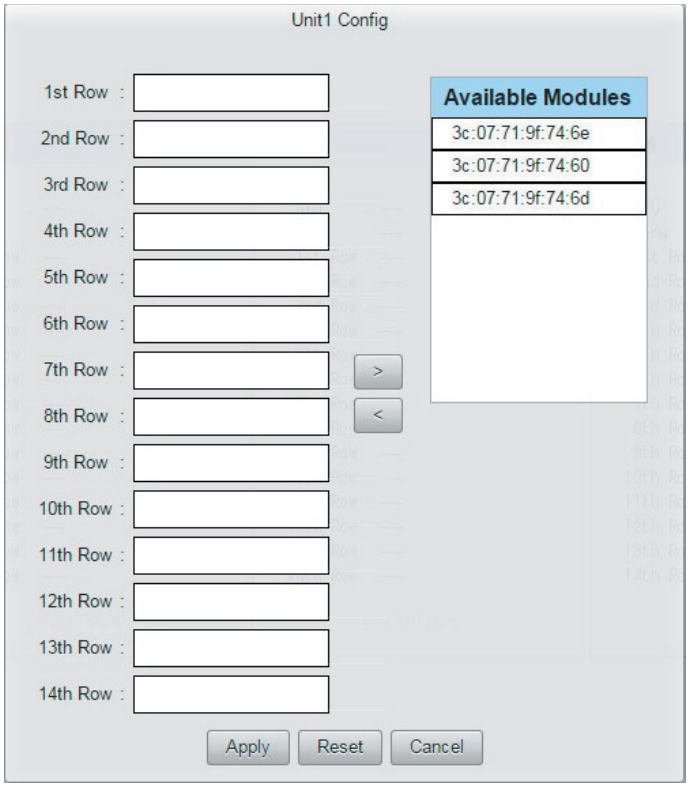


4. Register devices in the unit.

(1) On the System Config window, click [Configure] in the unit section to be set.



(2) The setting window opens.



(3) Select modules shown on the right side and shift them to left rows.
MAC addresses of registerable modules (panel rows and extension boxes in this case) are shown on the right side.

Tip

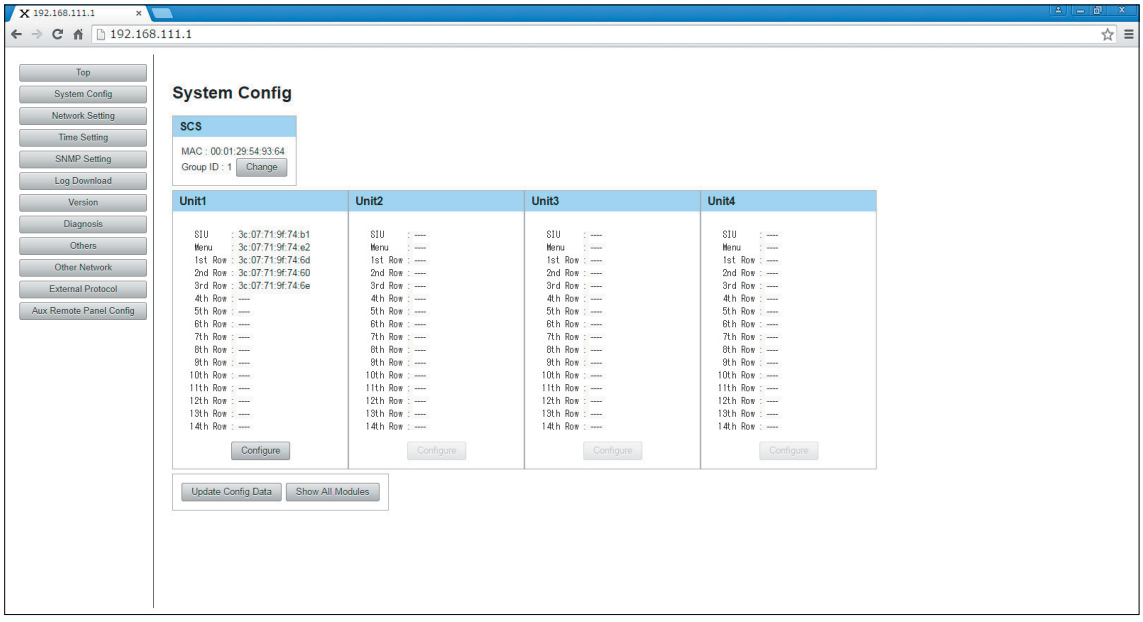
- When an MAC address on the right is selected, the corresponding panel blinks.
- Modules can be shifted by drag and drop operation or by using the central buttons [<] and [>] with modules selected.

(4) After the setting has been completed, click [Apply].
After [Apply] is clicked, the setting is applied. It takes about 30 seconds to apply the setting because devices are rebooted at this time.

Note

Be sure to exit the Unit Config window by clicking [Apply] or [Cancel]. If page reloading is performed or the browser is directly closed, the setting may become unstable.

(5) After the setting has been successfully completed, MAC addresses are shown in 1st Row, etc.

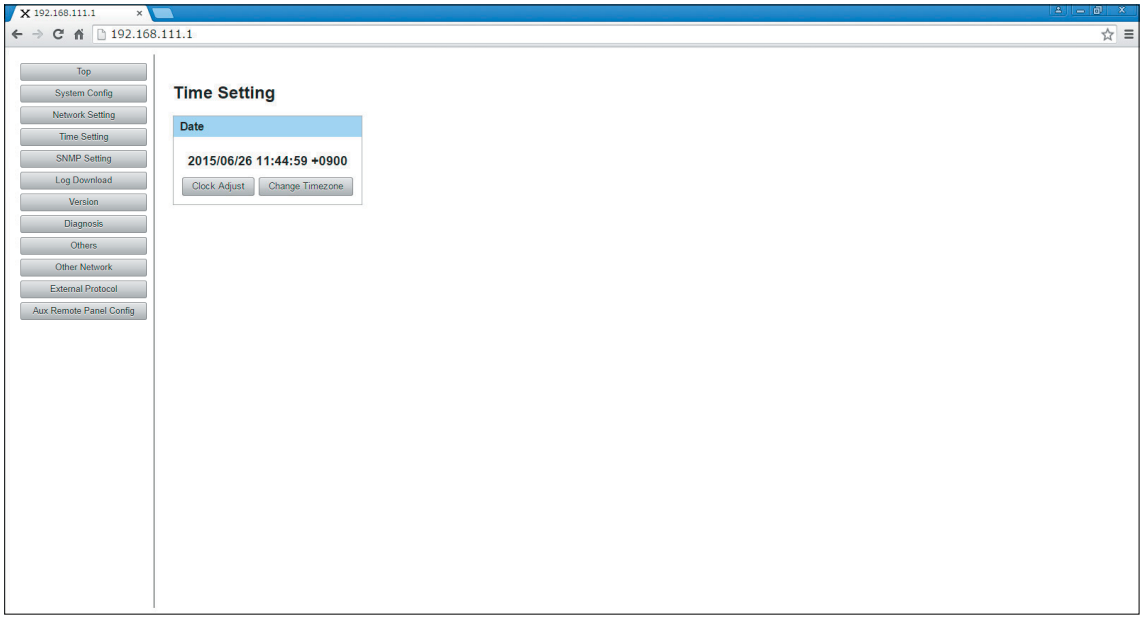


The panel configuration procedure has been completed.

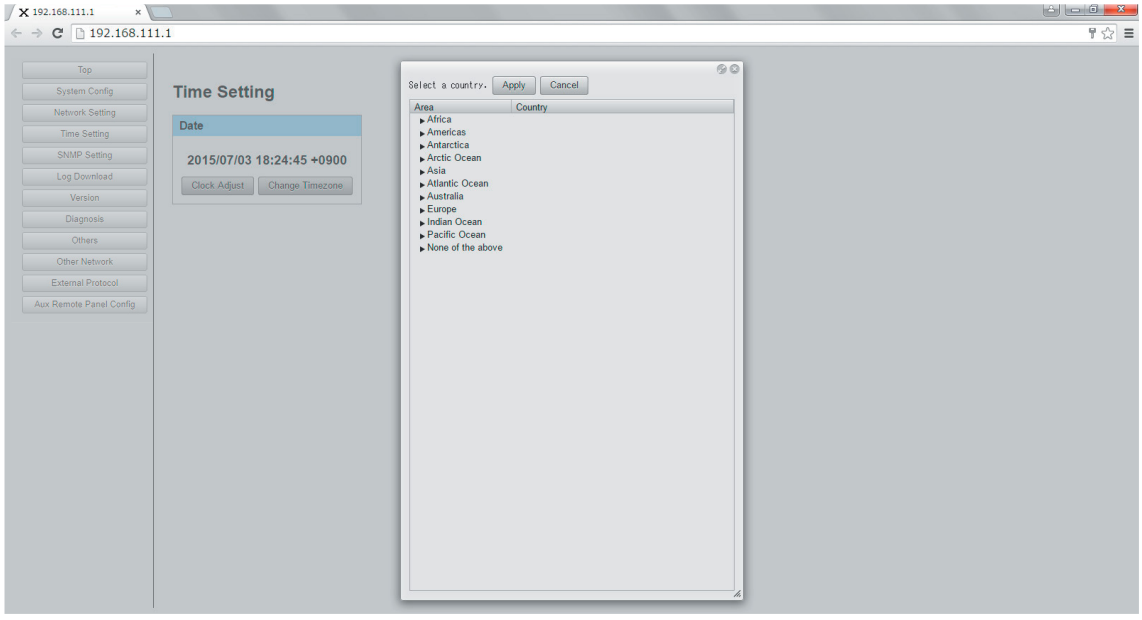
5. Set Time Zone.

(1) Click [Time Setting] on the left side of the window.

(2) The Time Setting window opens.



(3) Click [Change Timezone] and select the country for which time is to be adjusted.



(4) Click [Apply].
The time zone setting has been completed.

6. After these settings have been completed, exit the web browser of the PC and restart the entire system.

Tip

Aside from row numbers, M/E can be assigned for each row by selecting Engineering Setup > Panel > Config menu (7321) of MENU GUI.

1-17-2. PWS-100SC1/PWS-110SC1 Network Settings

Set the following networks of the PWS-100SC1/PWS-110SC1 (SCS).

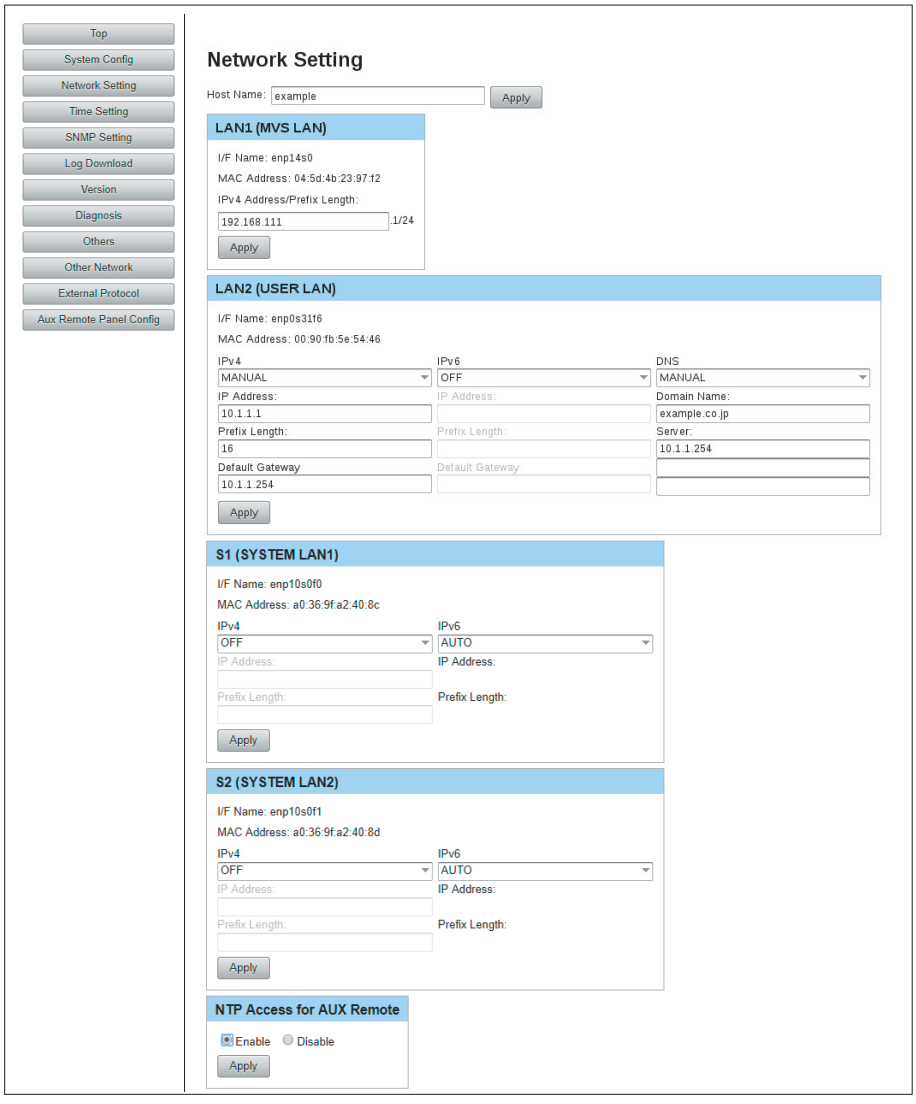
- LAN1 (MVS LAN): Switcher system network connected to the system interface unit (SIU) and modules such as menu panel
- LAN2 (USER LAN): Connected to a network different from the switcher system
- S1, S2 (SYSTEM LAN1, 2): This network is set when the network card is installed.

Tip

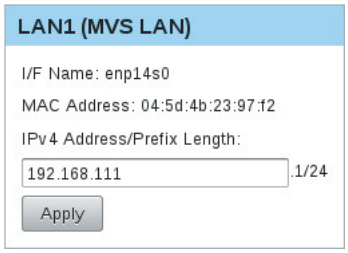
When the network card is not installed, S1 and S2 are not displayed.

Procedure

1. Open the Maintenance Menu and click [Network Setting] on the left side of the window.
   The Network Setting window is displayed.



2. Make LAN1 (MVS LAN) network settings.



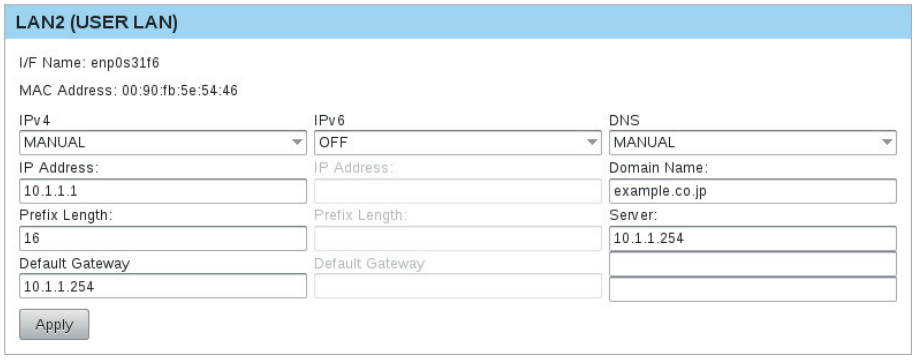
(1) Enter the IP address of IPv4 in [IPv4 Address/Prefix Length].

Tip

- The suffix value ".x" is fixed corresponding to the Group ID of PWS-100SC1/PWS-110SC1.
- The Prefix Length value is fixed to 24.

(2) Click [Apply].
The settings are stored.

3. Make LAN2 (USER LAN) network settings.



(1) Select the IPv4 connection mode.
- OFF: IPv4 is not used.
- MANUAL: Manual setting mode. IP Address, Prefix Length, and Default Gateway can be entered only in this mode.
- DHCP: DHCP server auto acquisition mode. Values acquired by the DHCP server are displayed in the IP Address, Prefix Length, and Default Gateway columns respectively.

When the "MANUAL" connection mode is selected, go to step (2).
When the "OFF" or "DHCP" connection mode is selected, go to step (5).

(2) Enter a value (0 to 255) divided into four by periods in [IP Address] as the IP address of IPv4.
(3) Enter a value (8 to 30) in [Prefix Length] as the prefix length of IPv4.
(4) Enter the default gateway of IPv4 in [Default Gateway].
(5) Select the IPv6 connection mode.
- OFF: IPv6 is not used.
- MANUAL: Manual setting mode. IP Address, Prefix Length, and Default Gateway can be entered only in this mode.
- AUTO: Auto acquisition mode. Values acquired are displayed in the IP Address, Prefix Length, and Default Gateway columns respectively.
- DHCP: DHCP server auto acquisition mode. Values acquired by the DHCP server are displayed in the IP Address, Prefix Length, and Default Gateway columns respectively.

When the "MANUAL" connection mode is selected, go to step (6).
When the "OFF", "AUTO" or "DHCP" connection mode is selected, go to step (9).

(6) Enter a value in [IP Address] as the IP address of IPv6.
(7) Enter a value (8 to 126) in [Prefix Length] as the prefix length of IPv6.
(8) Enter the default gateway of IPv6 in [Default Gateway].
(9) Select the DNS connection mode.
- OFF: DSN is not used.
- MANUAL: Manual setting mode. Domain Name and Server can be entered only in this mode.
- DHCP: DHCP server auto acquisition mode. Values acquired by the DHCP server are displayed in the Domain Name and Server columns respectively.

Note

The following restrictions are provided depending on combinations of IPv4 Mode and IPv6 Mode.
- When IPv4 and IPv6 are OFF: Always OFF
- When IPv4 or IPv6 is DHCP: Always DHCP
- When IPv4 and IPv6 are other than DHCP: OFF or MANUAL selectable

When the “MANUAL” connection mode is selected, go to step (10).
When the “OFF” or “DHCP” connection mode is selected, go to step (12).

(10) Enter the domain name in [Domain Name].
(11) Enter the IP address of IPv4 or IPv6 in [Server].
(12) Click [Apply].
The settings are stored.

4. Make S1 (SYSTEM LAN1) and S2 (SYSTEM LAN2) settings.

Tip

This step is not necessary when the network card is not installed.
Set the same items for S1 (SYSTEM LAN1) and S2 (SYSTEM LAN2).

(1) Select the IPv4 connection mode.
- OFF: IPv4 is not used.
- MANUAL: Manual setting mode. IP Address and Prefix Length can be entered only in this mode.
- DHCP: DHCP server auto acquisition mode. Values acquired by the DHCP server are displayed in the IP Address and Prefix Length columns respectively.

When the “MANUAL” connection mode is selected, go to step (2).
When the “OFF” or “DHCP” connection mode is selected, go to step (4).

(2) Enter a value (0 to 255) divided into four by periods in [IP Address] as the IP address of IPv4.
(3) Enter a value (8 to 30) in [Prefix Length] as the prefix length of IPv4.
(4) Select the IPv6 connection mode.
- OFF: IPv6 is not used.
- MANUAL: Manual setting mode. IP Address and Prefix Length can be entered only in this mode.
- AUTO: Auto acquisition mode. Values acquired are displayed in the IP Address and Prefix Length columns respectively.
- DHCP: DHCP server auto acquisition mode. Values acquired by the DHCP server are displayed in the IP Address and Prefix Length columns respectively.

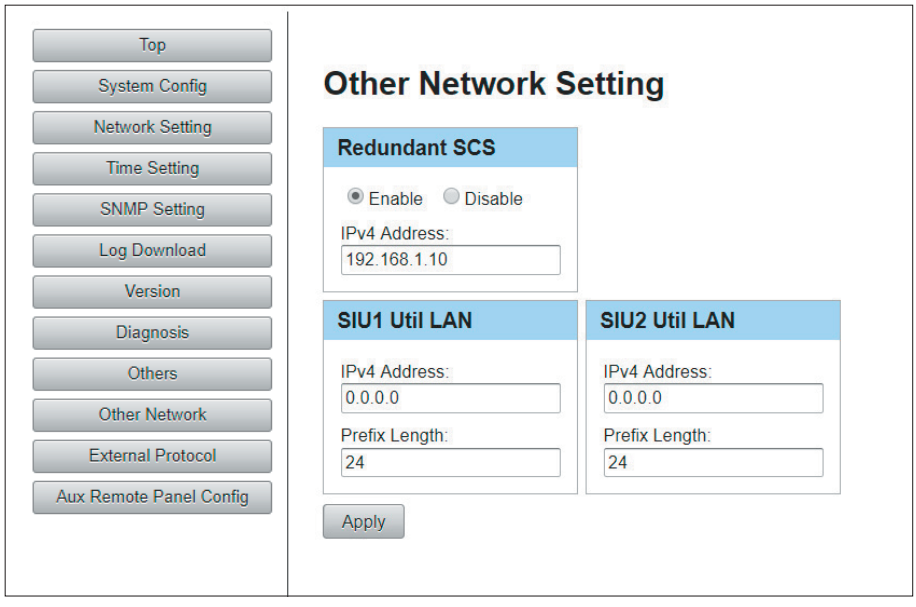
When the "MANUAL" connection mode is selected, go to step (5).
When the "OFF", "AUTO" or "DHCP" connection mode is selected, go to step (7).
(5) Enter a value in [IP Address] as the IP address of IPv6.
(6) Enter a value (8 to 126) in [Prefix Length] as the prefix length of IPv6.
(7) Set the S1 (SYSTEM LAN1) or S2 (SYSTEM LAN2).
Click [Apply] after each setting, the setting is saved.

1-17-3. Network Settings for Connected Devices

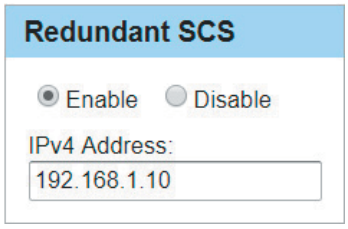
Set the IP address when making PWS-100SC1/PWS-110SC1 (SCS) redundant or connecting the system interface unit (SIU).

Procedure

1. Open the Maintenance Menu and click [Other Network] on the left side of the window.
The Other Network Setting window is displayed.



2. Set the IP address of SCS that copies and stores data at an emergency when making PWS-100SC1/ PWS-110SC1 (SCS) redundant.



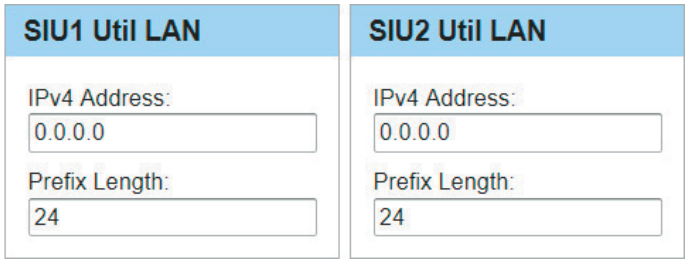
(1) Select “Enable” or “Disable” for [Redundant SCS].
- Enable: Enables SCS to be redundant.
- Disable: Disables SCS to be redundant. (Initial value)

(2) Enter a value (0 to 255) divided into four by periods as the IP address of PWS-100SC1/PWS-110SC1 (SCS) to be a data copy destination.

Tip

This setting is not required when “Disable” is selected.

3. Set the IP address of the Util LAN of SIU1/SIU2 connected to PWS-100SC1/PWS-110SC1 (SCS).



(1) Enter a value (0 to 255) divided into four by periods in [IPv4 Address] of [SIU1 Util LAN] or [SIU2 Util LAN] as the IP address of respective IPv4.

(2) Enter a value (8 to 30) in [Prefix Length] as the prefix length of respective IPv4.

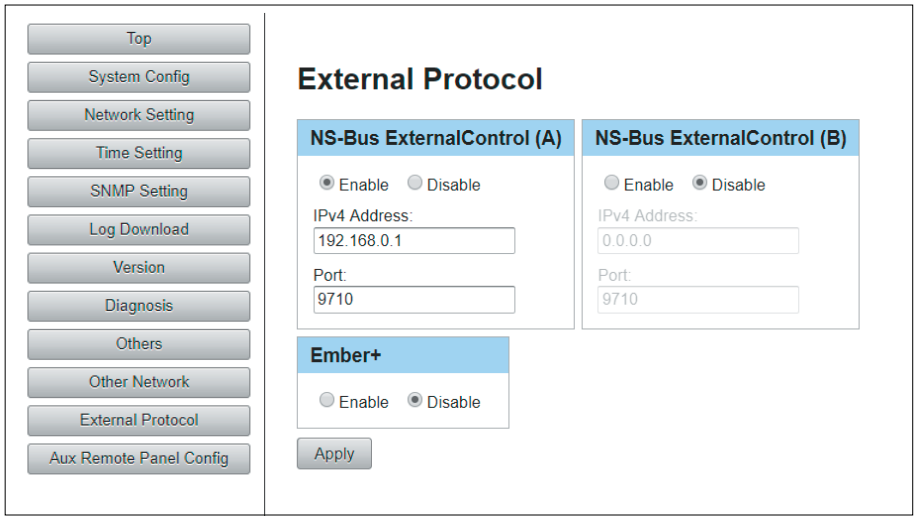
4. Click [Apply].
The settings are stored.

1-17-4. Settings for External Protocol

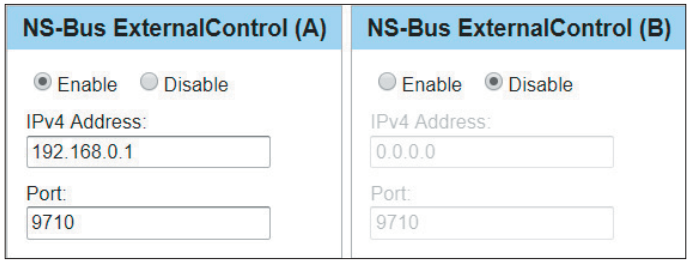
Make settings for the external protocol from [External Protocol] in the Maintenance Menu.

Procedure

1. Open the Maintenance Menu and click [External Protocol] on the left side of the window.
   The External Protocol window is displayed.



2. Make settings for a device to be connected with the NS-Bus ExternalControl protocol.



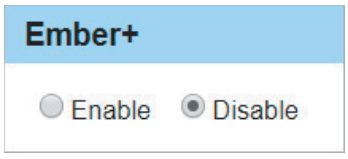
(1) Select “Enable” or “Disable” for [NS-Bus ExternalControl (A)] and [NS-Bus ExternalControl (B)].
- Enable: Enables the NS-Bus ExternalControl protocol.
  Entering values in IPv4 Address and Port is enabled.
- Disable: Disables the NS-Bus ExternalControl protocol. (Initial value)

When the protocol is set to “Enable”, go to step (2).
When the protocol is set to “Disable”, go to step 3.

(2) Enter a value (0 to 255) divided into four by periods in [IPv4 Address] as the IP address of IPv4 of a device to be connected by the NS-Bus ExternalControl protocol.

(3) Enter a port number (0 to 65535) in [Port].

3. Select “Enable” or “Disable” for [Ember+].



- Enable: Enables the Ember+ protocol.
- Disable: Disables the Ember+ protocol. (Initial value)

4. Click [Apply].
   The settings are stored.

1-17-5. Settings when Using Network AUX Remote

This section describes settings when using the NS-BUS remote control panel as an AUX remote controller without using the system controller (PWS-110NM1/PWS-110RS1).

Network settings for the NS-BUS remote control panel

The following describes how to connect the NS-BUS remote control panel (MKS-R3210/MKS-R1620) to a PC and to make network settings using the Web menu on the NS-BUS remote control panel.

Tip

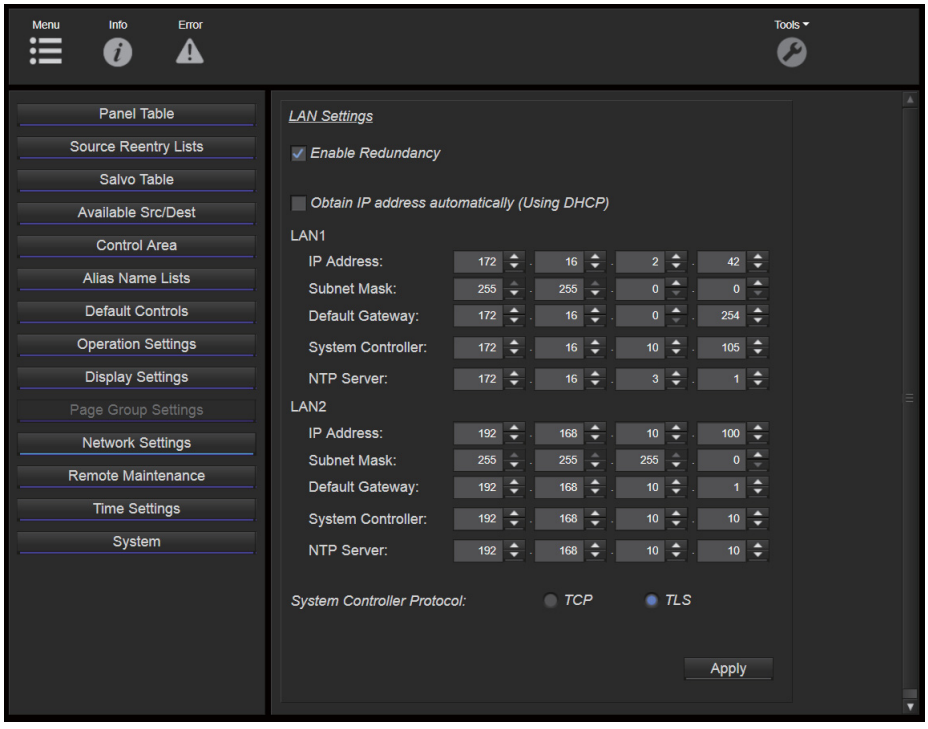
For details of the Web menu on the NS-BUS remote control panel, refer to the MKS-R3210/MKS-R1620 instruction manual.

Preparation

1. Connect the LAN1 connector on the MKS-R3210/MKS-R1620 to the PC.

Procedure

1. Open the Web menu on the NS-BUS remote control panel, and then click [Network Settings] on the left side of the window.
   The LAN Settings window appears.



2. Clear the “Obtain IP address automatically (Using DHCP)” checkbox, and then make LAN1 network settings.
   - IP Address: IP address of NS-BUS remote control panel (MKS-R3210/MKS-R1620)
   - Subnet Mask: Subnet mask of NS-BUS remote control panel (MKS-R3210/MKS-R1620)
   - Default gateway: Default gateway of NS-BUS remote control panel (MKS-R3210/MKS-R1620)
   - System Controller: IP address of switcher control station (PWS-100SC1/PWS-110SC1)
   - NTP Server: IP address of switcher control station (PWS-100SC1/PWS-110SC1)

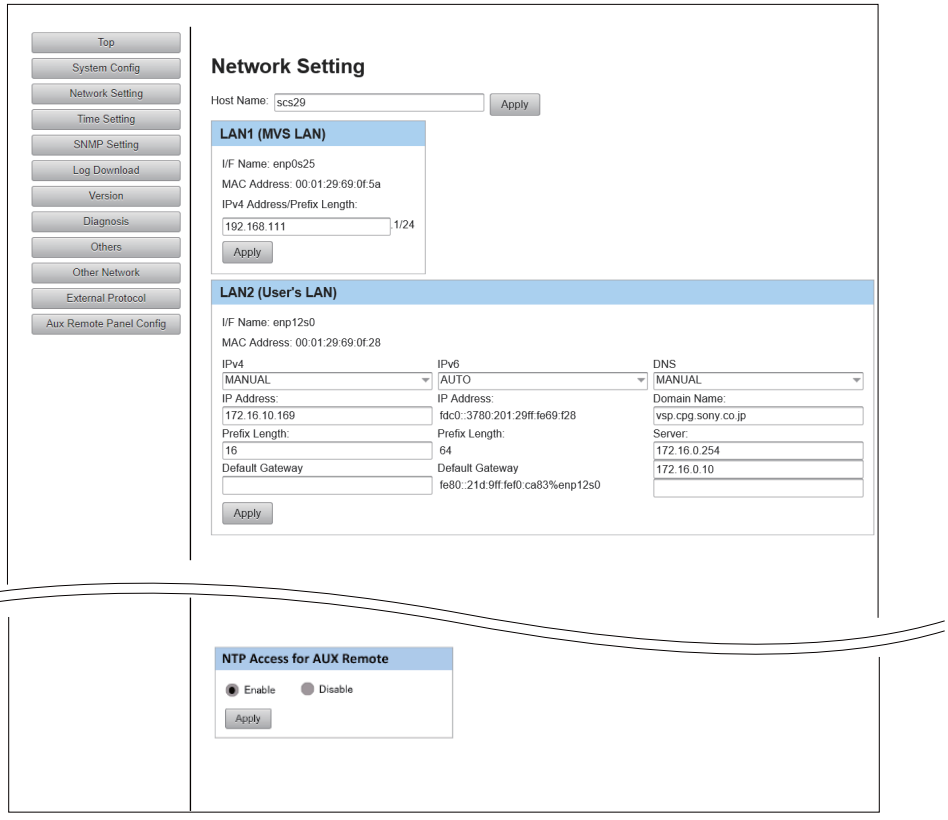
3. Click the [Apply] button.
4. Restart the MKS-R3210/MKS-R1620.
   After restart, the set values are applied.

NTP server access permission setting

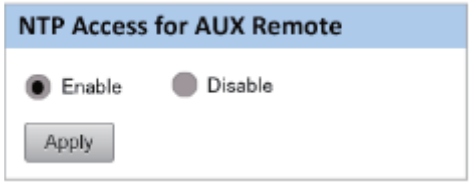
The following describes how to permit accesses to the NTP server when the switcher control station (PWS-100SC1/PWS-110SC1) functions as an NTP server.

Procedure

1. Open the Maintenance menu.
2. Click [Network Setting] on the left side of the Maintenance Menu window.
   The Network Setting window appears.



3. Select the [Enable] radio button of "NTP Access for AUX Remote."



4. Click the [Apply] button.
   The access permission setting is stored.

Association between switcher control panel and NS-BUS remote control panel

The following describes how to associate the NS-BUS remote control panel (MKS-R3210/MKS-R1620) with the switcher control panel to use the NS-BUS remote control panel (MKS-R3210/MKS-R1620) as Network AUX Remote.

Tip

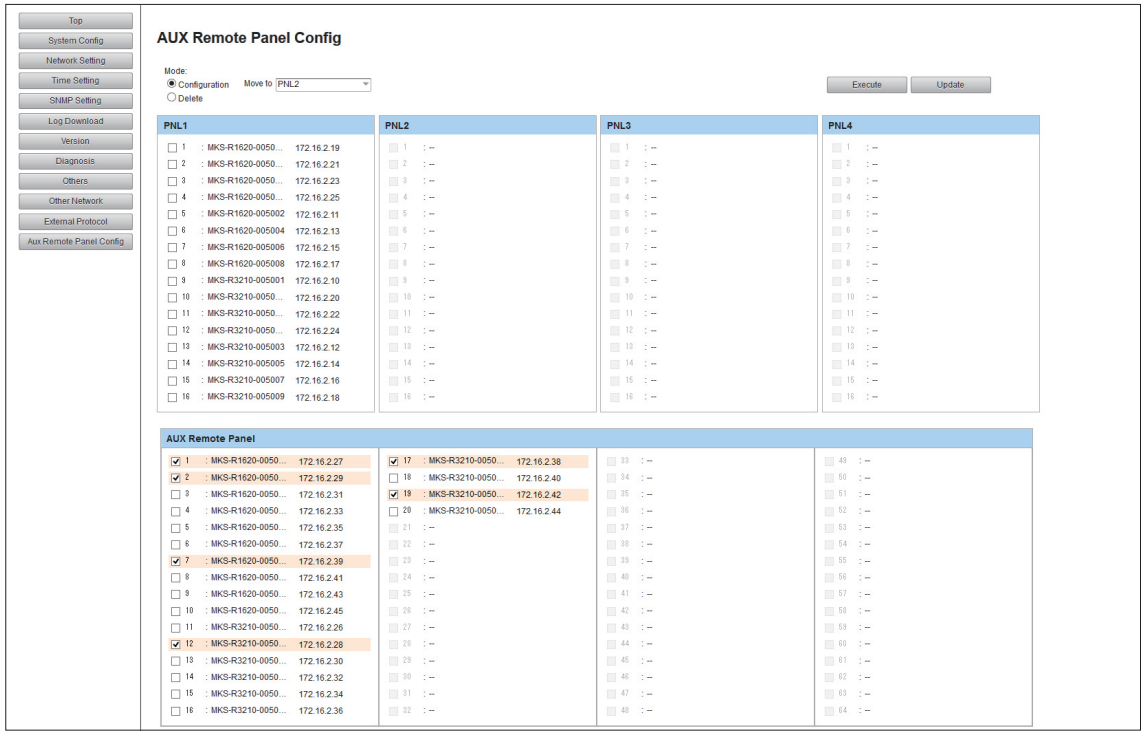
Up to 16 NS-BUS remote control panels per switcher control panel are connectable.
When an NS-BUS remote control panel (1st to 16th) is detected, it is automatically associated with the first switcher control panel (PNL1).

Procedure

1. Open the Maintenance menu.
2. Click [AUX Remote Panel Config] on the left side of the Maintenance Menu window.
   The AUX Remote Panel Config window appears.

   Tip

   NS-BUS remote control panels are displayed in the name order.



3. Select the [Configuration] radio button of “Mode.”
4. Select the checkbox of NS-BUS remote control panel you want to associate from the AUX Remote Panel field.
5. Select the switcher control panel (PNL1 to PNL4) you want to associate from the [Move to] drop-down list.
6. Click the [Execute] button.
   The setting is executed.

Releasing association

The following describes how to release the association of NS-BUS remote control panel (MKS-R3210/MKS-R1620) with the switcher control panel.

Procedure

1. Select the [Configuration] radio button of “Mode” on the AUX Remote Panel Config window.
2. Select the checkbox of NS-BUS remote control panel whose association you want to release from the PNL1 to PNL4 field.
3. Select the destination (AUX Remote Panel) from the [Move to] drop-down list.
4. Click the [Execute] button.
   The setting is executed.

Deleting detected NS-BUS remote control panel

The following describes how to delete the NS-BUS remote control panel (MKS-R3210/MKS-R1620) displayed in the AUX Remote Panel field.

Procedure

1. Select the [Delete] radio button of “Mode” on the AUX Remote Panel Config window.
2. Select the checkbox of NS-BUS remote control panel to be deleted from the AUX Remote Panel field.
3. Click the [Execute] button.
   The setting is executed.

1-18. Setting Up Virtual Shot Box/Virtual Menu

The virtual shot box and the virtual menu function are available for systems to be connected to XVS-8000/XVS-7000/XVS-6000.

Equipment required

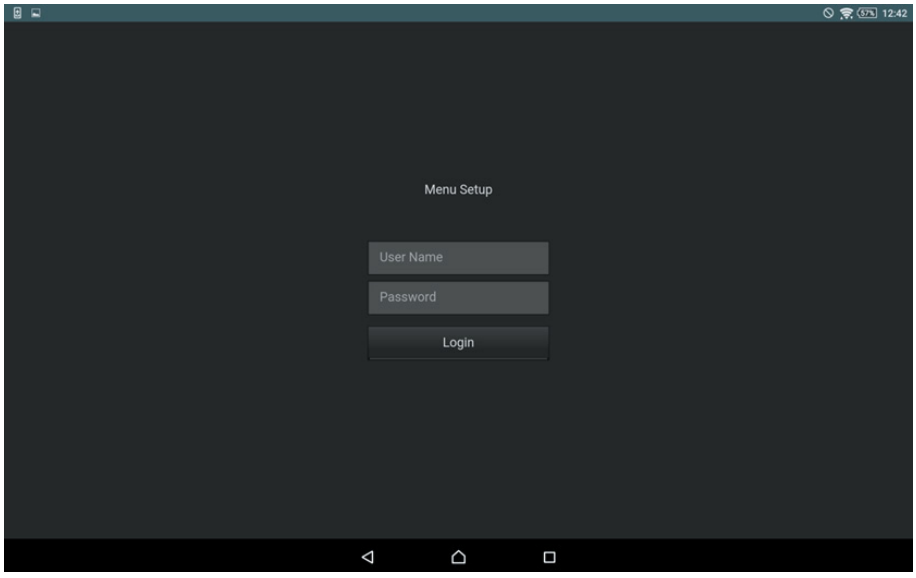
- PC (personal computer) or tablet: PC or tablet should be capable of network connection to PWS-100SC1/PWS-110SC1 and using a web browser. (Refer to the section 1-15.)

1-18-1. Activating Software License

A license key that activates software license must be entered to use the virtual shot box or the virtual menu.
Perform the following procedure to activate software license.

Preparation

1. Access “Menu Setup”. (Refer to Section 1-16-1.)
   The Menu Setup login page opens.



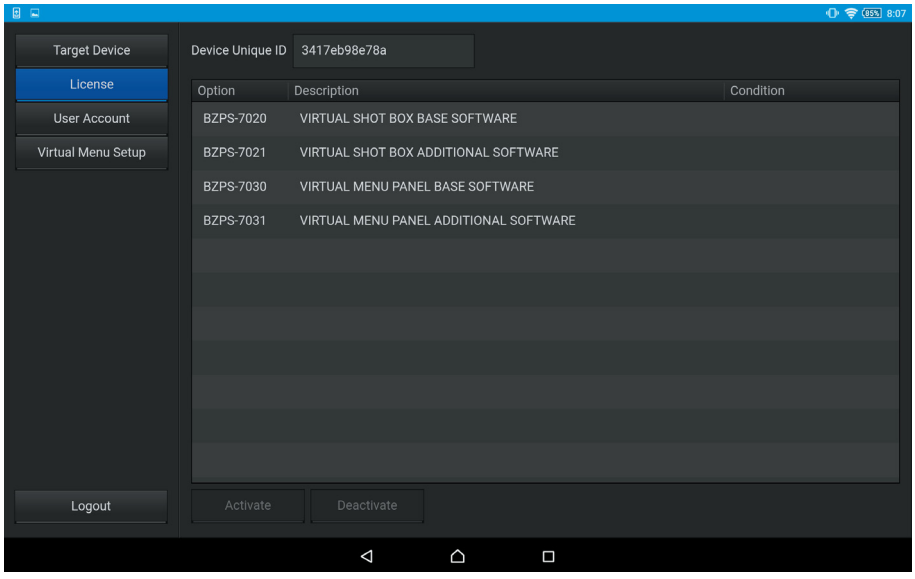
2. Enter the administrator user name in [User Name] and a password in [Password], and then tap the [Login].

Tip

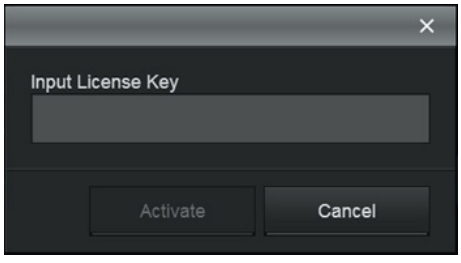
The following user name and password were set in the factory default setting.
User name: admin
Password: None

Procedure

1. Tap [License] on the left of the window.
   The License menu appears.



2. Select the software license you want to activate, and then tap [Activate].
   A dialog box to activate software license appears.

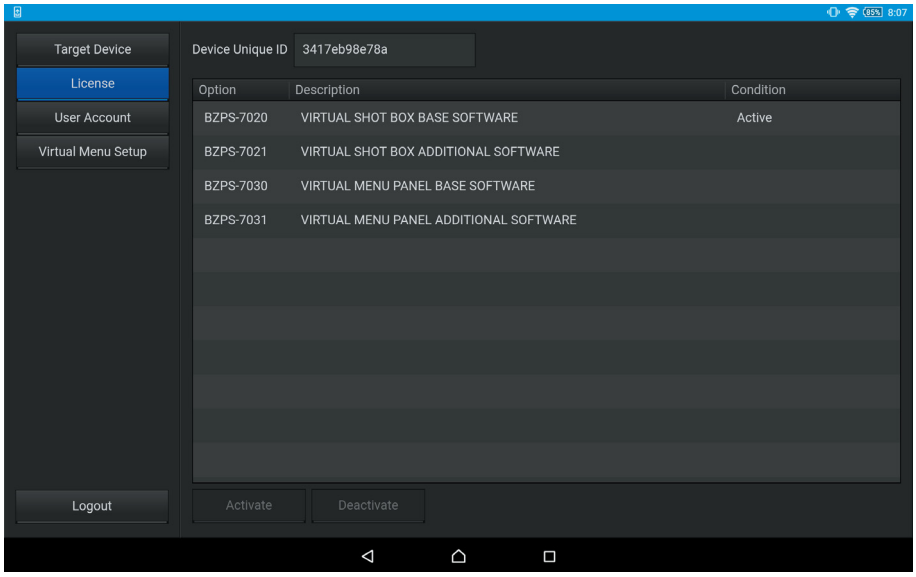


3. Enter the license key in [Input License Key] and tap [Activate].

Tip

For how to obtain the license key, contact your local Sony Sales Office/Service Center.
A model-specific ID may be required to obtain the license key
Model-specific IDs are shown in [Device Unique ID] of the License menu.

4. Confirm that “Active” is shown in [Condition] of the license selected in step 2.



This window shows that the BZPS-7020 license has been activated.

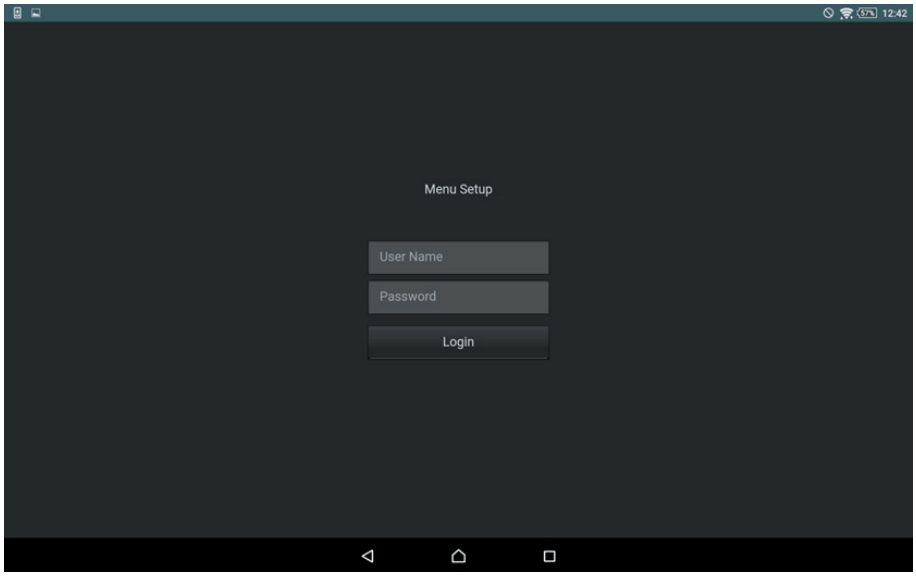
Tip

Select a license and tap [Deactivate] to deactivate the selected software license.

1-18-2. Creating User Account

Preparation

1. Access “Menu Setup”. (Refer to Section 1-16-1.)
   The Menu Setup login page opens.



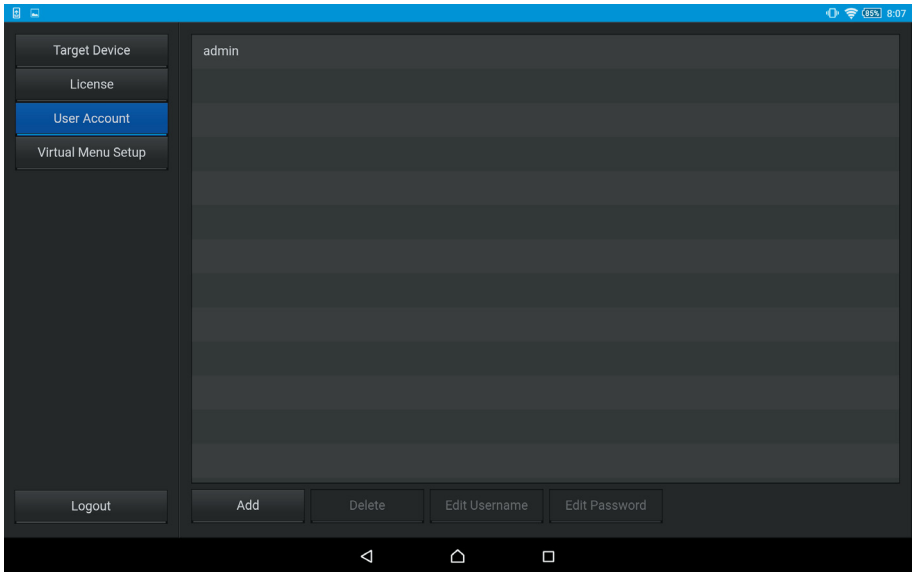
2. Enter the administrator user name in [User Name] and a password in [Password], and then tap the [Login].

Tip

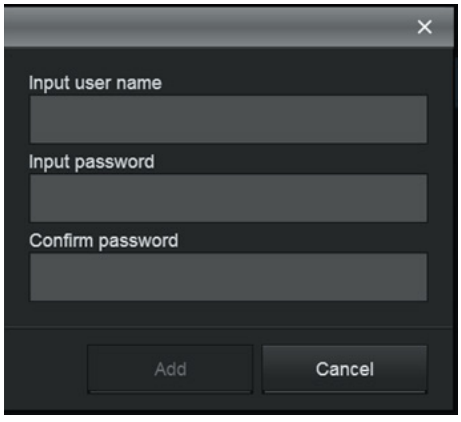
The following user name and password were set in the factory default setting.
User name: admin
Password: None

Procedure

1. Tap [User Account] on the left of the window.
   The User Account menu appears.



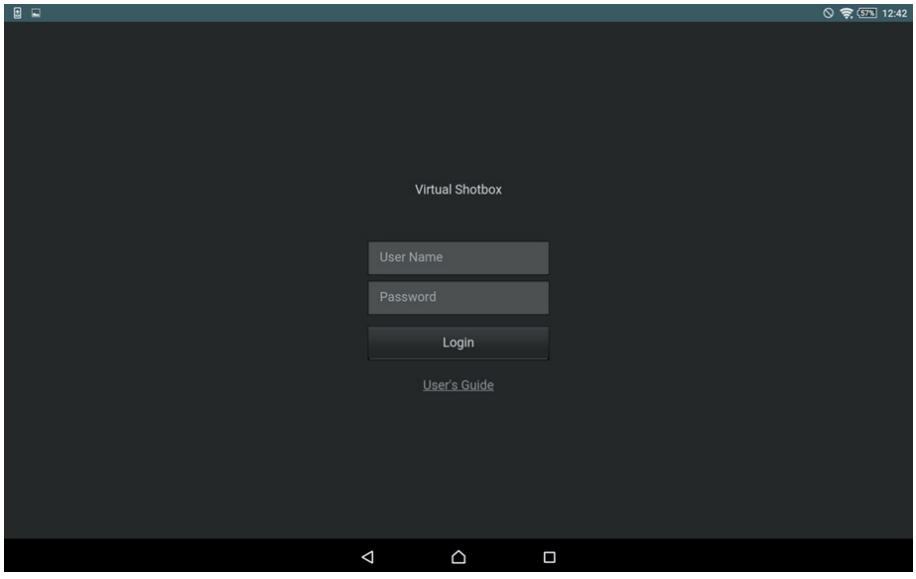
2. Tap [Add].
   A dialog box to add an account appears.



3. Enter a user name in [Input user name] and a password in [Input password] and [Confirm password], and then tap [Add].
   An account is created.
4. To create two or more accounts, repeat steps 2 and 3.

Tip

- Select the target account from the account list and perform the following operation to delete the registered account or change the user name or password.
  Deleting account: Tap [Delete] and delete the target account.
  Changing user name: Tap [Edit User Name] and change the user name on the dialog box displayed.
  Changing password: Tap [Edit Password] and change the password on the dialog box displayed.
- Access each menu to use the Virtual Shot Box/Virtual Menu User's Guide. (Refer to Section 1-16-1.)
  Tap [User's Guide] under the [Login] button to download the Virtual Shot Box/Virtual Menu User's Guide.



1-19. Setting Up Automation Interface Software

A system connected to XVS-8000/XVS-7000/XVS-6000 can make a connection with an external automation device using the Serial Tally Port of MKS-X2700/MKS-X7700.
Entering a license key is required to enable the following software license.

BZPS-7700: AUTOMATION INTERFACE SOFTWARE

For the procedure to enable this software, refer to "1-18-1. Activating Software License."

Tip

For how to connect an external automation device, please contact your local Sony Sales Office/Service Center.

1-20. Using Web Applications

When using the web application, access from the PC or tablet connected to the network of LAN 2 of PWS-100SC1/110SC1 (For details, refer to the section 1-15.).

- Virtual Shot Box: BZPS-7020/7021
  This menu is operated from the web browser of the tablet.
  This menu is used to call the switcher's shot box or a macro.
  Entering the following URL enables direct access.
  – For using encrypted communication: https://(IP address of LAN 2)/xwm/virtual-shotbox
  – For using unencrypted communication: http://(IP address of LAN 2)/xwm/virtual-shotbox
- Virtual Menu: BZPS-7030/7031
  This menu is operated from the web browser of the PC or tablet.
  This menu allows you to make switcher's setting with the same menu as menu panel (MKS-X7011).
  Entering the following URL enables direct access.
  – For using encrypted communication: https://(IP address of LAN 2)/xwm/virtual-menu
  – For using unencrypted communication: http://(IP address of LAN 2)/xwm/virtual-menu
- Resource Share Setup
  This menu is operated from the web browser of the PC or tablet.
  This menu allows you to make settings for the switcher's resource share function.
  Entering the following URL enables direct access.
  – For using encrypted communication: https://(IP address of LAN 2)/xwm/re-setup
  – For using unencrypted communication: http://(IP address of LAN 2)/xwm/re-setup
- File Manager
  This menu is operated from the web browser of the PC or tablet.
  This menu can back up and restore switcher settings and resource share settings and import frame memory images to the switcher.
  Entering the following URL enables direct access.
  – For using encrypted communication: https://(IP address of LAN 2)/xwm/file-manager
  – For using unencrypted communication: http://(IP address of LAN 2)/xwm/file-manager

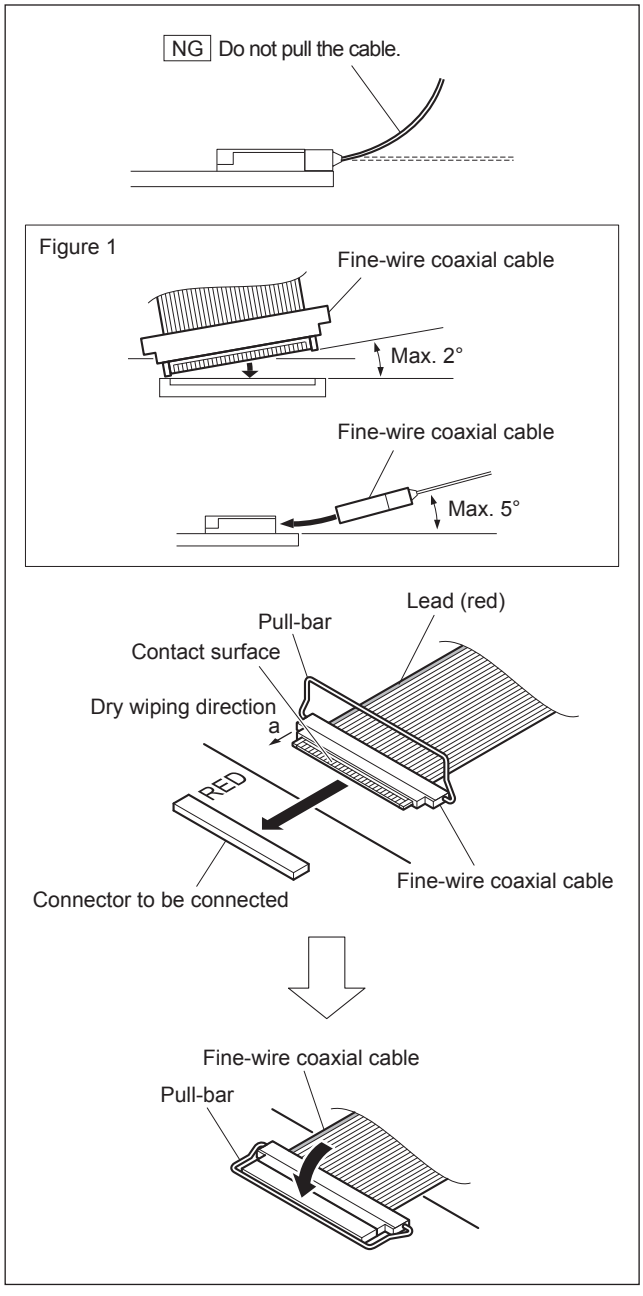
Section 2
Installation of Options

2-1. Installation of Operation Modules

2-1-1. Connecting/Disconnecting Fine-Wire Coaxial Cable

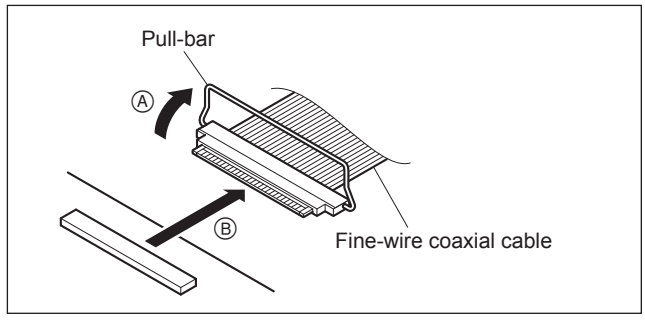
Operation modules are connected to the PIF-53 board with fine-wire coaxial cables for each row.
Carry out the following procedure to connect and disconnect fine-wire coaxial cables.

Connection



1. Wipe the contact surface with a dry wiping cloth in the direction of arrow (a).
2. Align the printed "RED" on the board with the red lead of the fine-wire coaxial cable.
3. Insert the cable connector straight to meet the insertion angle specified in Figure 1.
   Note
   Be careful so that the guide of the cable connector is not caught by the edge of the connector on the board.
4. Turn the pull-bar in the direction of arrow and lock it.

Disconnection



1. Raise the pull-bar in the direction of arrow Ⓐ to unlock it, and then disconnect the fine-wire coaxial cable in the direction of arrow Ⓑ.

2-1-2. Installing Modules

CAUTION
Be sure to turn off the power before installing operation modules.

Installing operation module to the main panel

Target modules

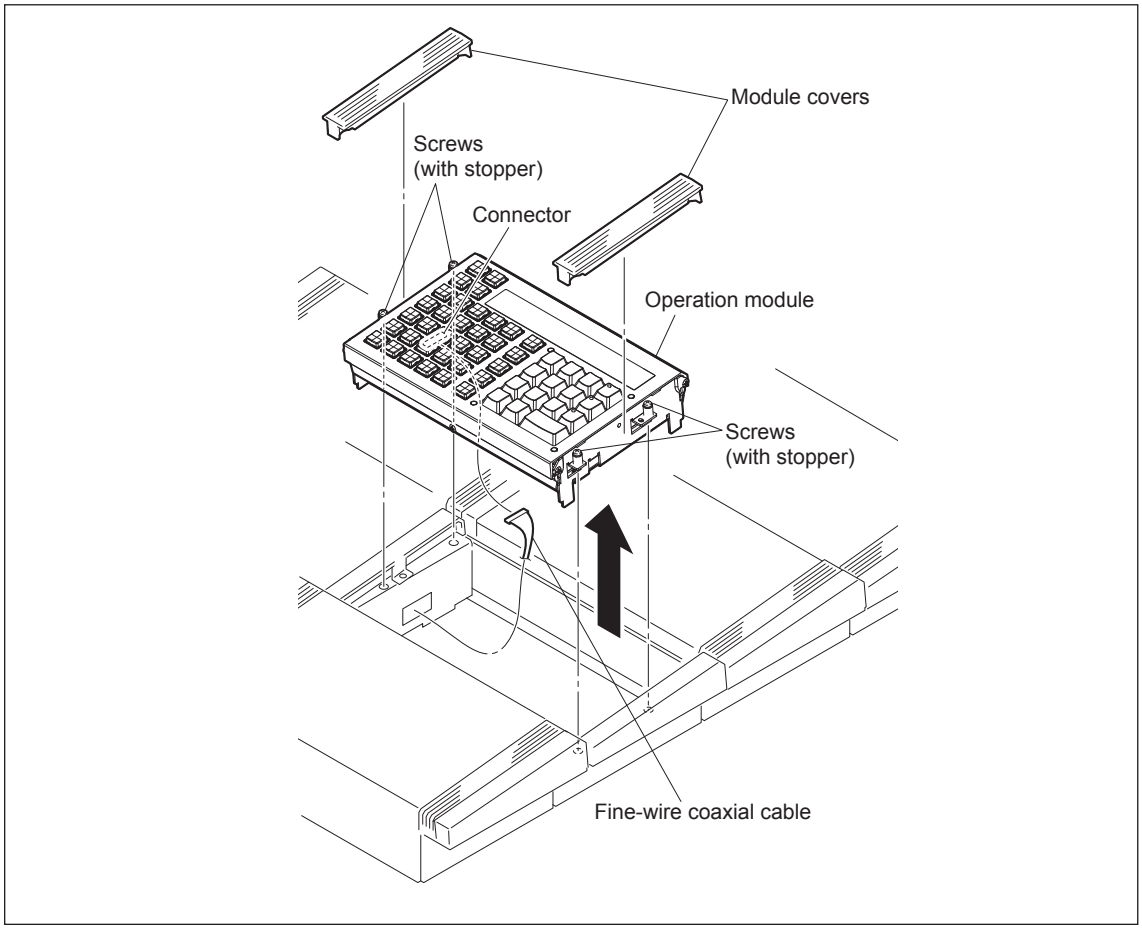
- MKS-X7017 36 XPT Module
- MKS-X7018 28 XPT Module
- MKS-X7019 20 XPT Module
- MKS-X7020 Standard Transition Module
- MKS-X7021 Simple Transition Module
- MKS-X7023 Key Transition Module
- MKS-X7024 FlexiPad Module
- MKS-X7026 10-Key Pad Module
- MKS-X7031TB Track Ball Module
- MKS-X7032 Key Fader Module
- MKS-X7033 Utility/Shotbox Module
- MKS-X7035 Key Control Module
- MKS-X7040 Blank Panel (1/3)
- MKS-X7041 Blank Panel (1/2)
- MKS-X7042 Blank Panel (1/6)

Installation

Tip

- Each operation module is connected to the PIF-53 board with a fine-wire coaxial cable for each row. In case a blank panel is attached to the installation location, remove all the operation modules to the left of the installation location.
- The following describes the procedure for replacing the right-end operation module as an example. The same replacing procedure applies to other operation modules.

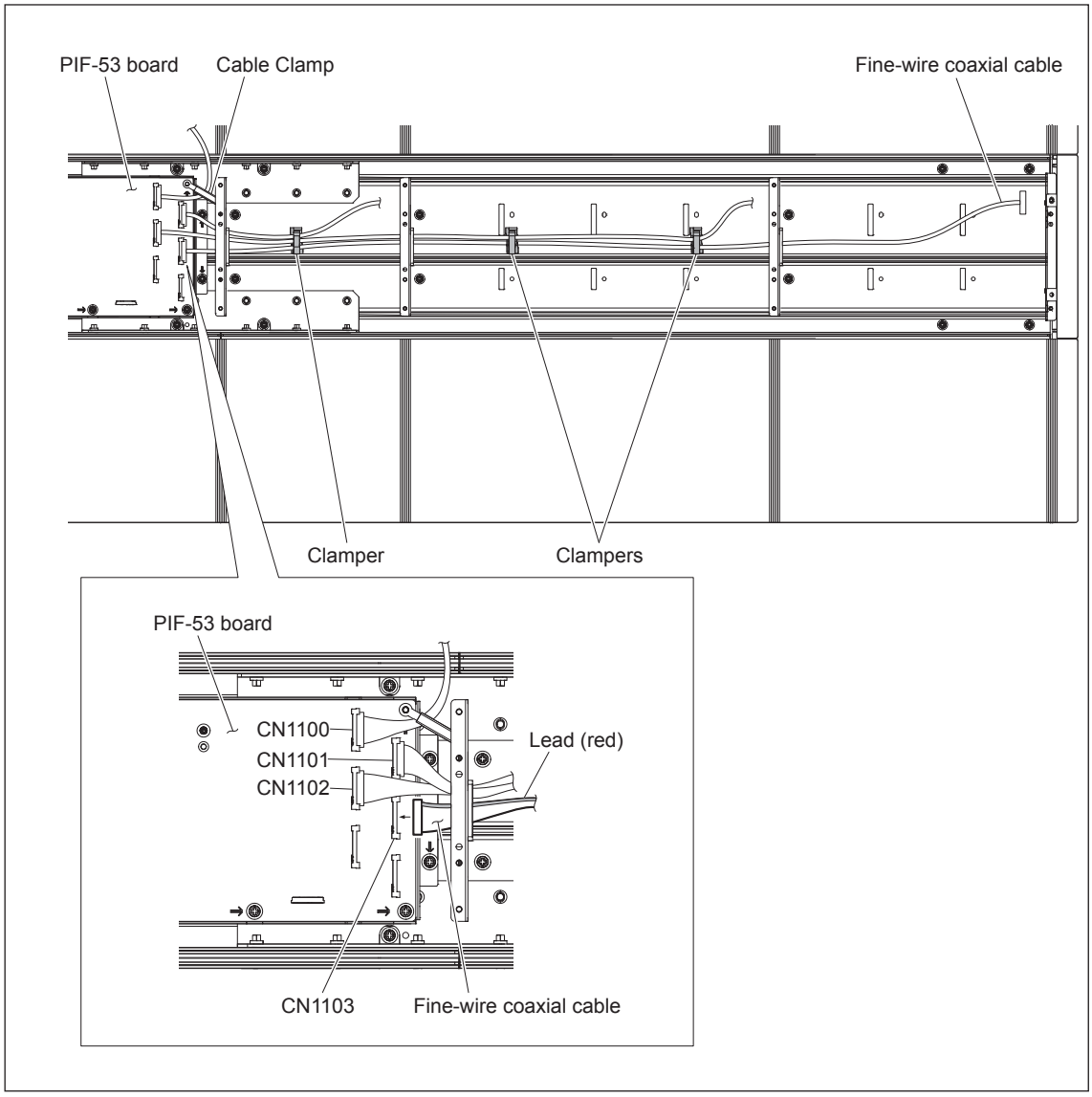
1. Remove all module covers on both sides of the operation module or the blank panel.
2. Loosen four screws (with stopper) securing the operation module or the blank panel.
3. Hold and remove the two front screws on both sides of the operation module or the blank panel. (When installing the MKS-X7031TB, refer to “Installing the trackball” described later.)
4. Disconnect the fine-wire coaxial cable from the operation module to be replaced, and then remove the operation module.



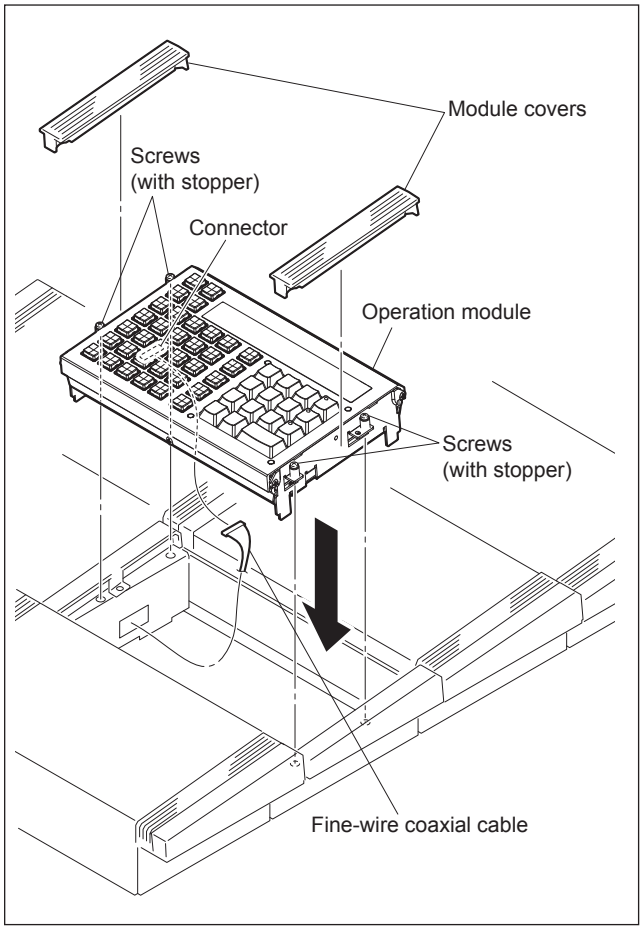
5. When a blank panel is removed and an operation module is installed, lay a fine-wire coaxial cable between the installation location and the PIF-53 board, connect the cable to the connector (CN1103), and then clamp it with clampers.

Tip

- Clamper positions vary depending on the operation module installation location.
- There is no indication “RED” near the connector on the PIF-53 board. Connect the fine-wire coaxial cable with the red lead upward.
- Connectors to which a fine-wire coaxial cable is to be connected vary depending on the operation module installation location.
  PIF-53 board
  CN1100: MKS-X7017/MKS-X7018/MKS-X7019
  CN1101: Any operation module
  CN1102: Any operation module
  CN1103: Any operation module
- When a blank panel is installed, connect the modules on the right side of the blank panel without providing a space.



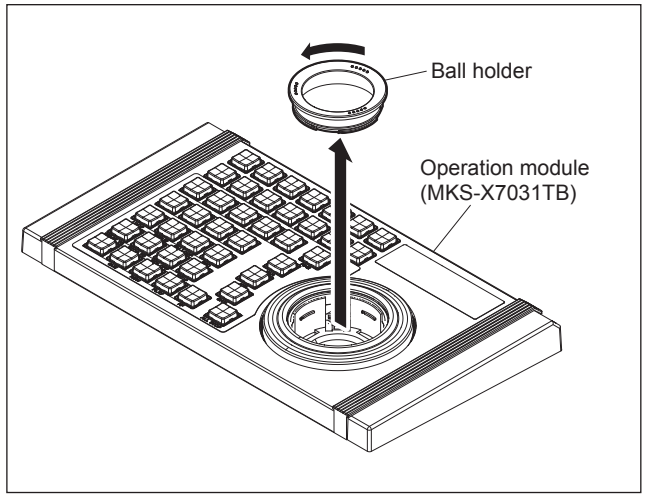
6. Connect the fine-wire coaxial cable to the connector on the operation module to be installed newly.
7. Fit the operation module to be installed in the location from which the operation module was removed in step 4, and tighten four screws (with stopper) on both sides to secure the operation module.
8. Reinstall the operation module or the blank panel removed in steps 1 to 3.



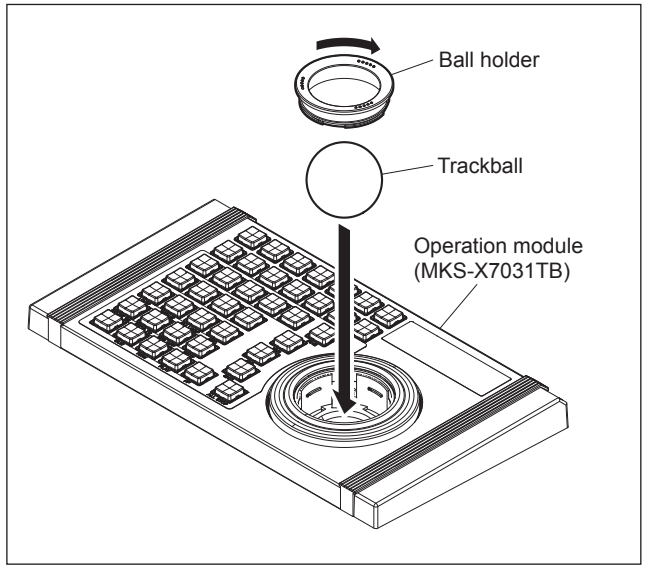
Installing the trackball

For MKS-X7031TB, the trackball must be installed after the operation module is installed in step 1 to 8 in “Installing operation module to the main panel” above.
Perform the following procedure to install the trackball.

9. Turn the ball holder counterclockwise (↺) to unlock it.
10. Detach the ball holder.



11. Install the trackball and the ball holder.
12. Turn the ball holder clockwise (↻) until it locks.



Installing operation module to the AUX panel

Tip

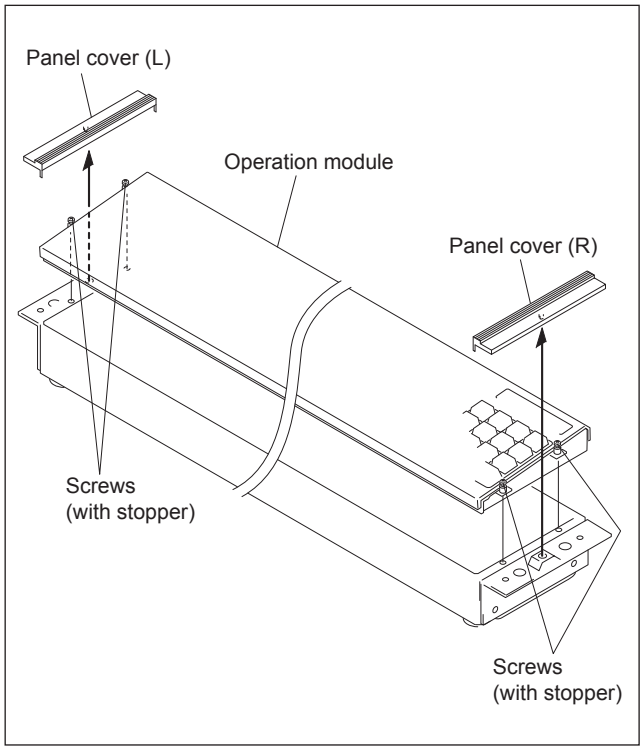
When two or more operation modules are installed to the AUX panel, perform the same work as shown in "Installing operation module to the main panel" to install and remove adjacent operation modules.

Target modules

Refer to the target modules shown in "Installing operation module to the main panel."

Installation

1. Detach the panel cover (L) and the panel cover (R) on both sides of the operation module to be removed. (Insert fingers into the hook areas on both sides and lift the panel covers.)
2. Remove the operation module. (Refer to "Installing operation module to the main panel.")
3. Install the operation module. (Refer to "Installing operation module to the main panel.")
4. Attach the panel cover (L) and the panel cover (R).



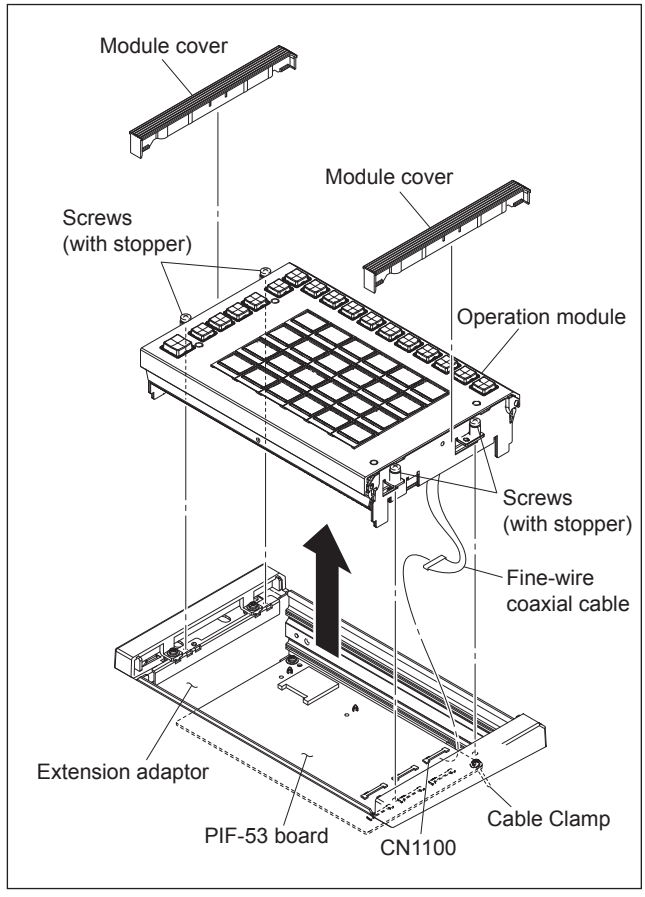
Installing operation module to the extension adaptor (MKS-X7075)

Target modules

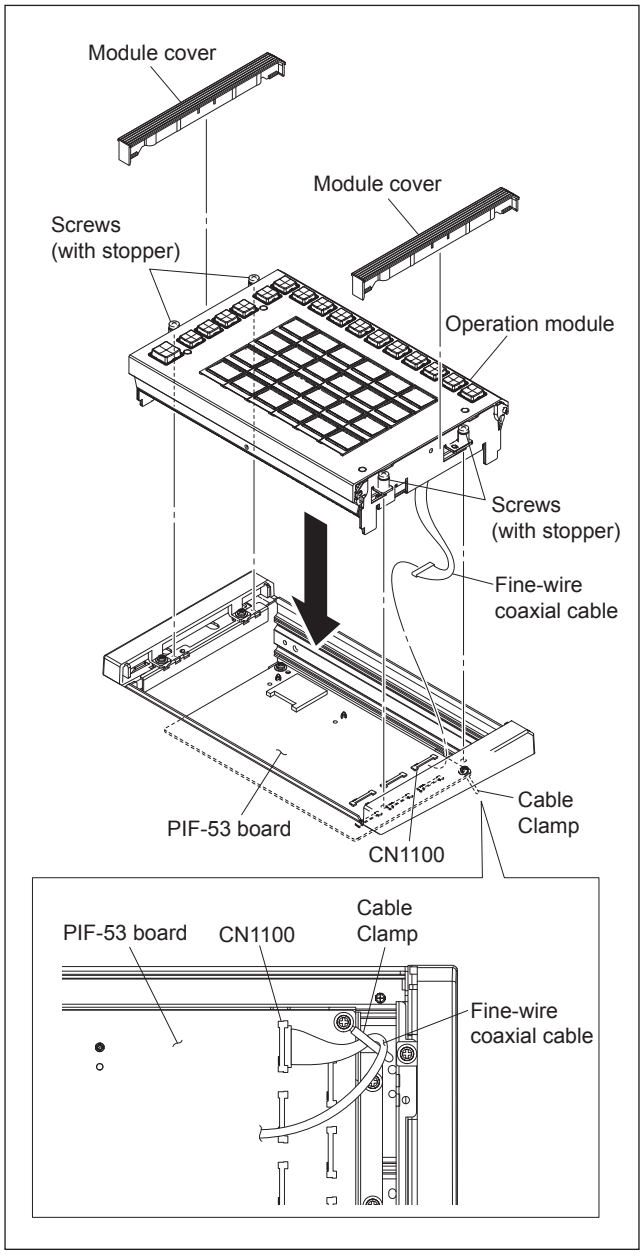
- MKS-X7026 10-Key Pad Module
- MKS-X7031TB Track Ball Module
- MKS-X7032 Key Fader Module
- MKS-X7033 Utility/Shotbox Module
- MKS-X7035 Key Control Module

Installation

1. Remove the module covers on both sides of the operation module to be removed.
2. Loosen the four screws (with stopper) securing the operation module.
3. Hold and remove the two front screws on both sides of the operation module.
4. Disconnect the fine-wire coaxial cable from the connector (CN1100) on the PIF-53 board, and remove the operation module.



5. Connect the fine-wire coaxial cable to the connector (CN1100) on the PIF-53 board, and clamp the cable with a cable clamp.
6. Connect the fine-wire coaxial cable to the operation module.
7. Fit the operation module and tighten the four screws (with stopper) on both sides to secure the operation module.
8. Attach the module covers. (When installing the MKS-X7031TB, refer to the "Installing the trackball" described above.)



2-2. Installing the Connector Board (MKS-X7700)

The following options are available for the MKS-X7700.

Optional board list

Option name	Board name
MKS-X7701 Tally/GPI Output Board	CN0-42 board
MKS-X7702 Serial Interface Board	CNB-32 board

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.

Tip

SLOT1 to SLOT6 of the unit are optional slots, and SLOT7 and SLOT8 are standard slots.

Note

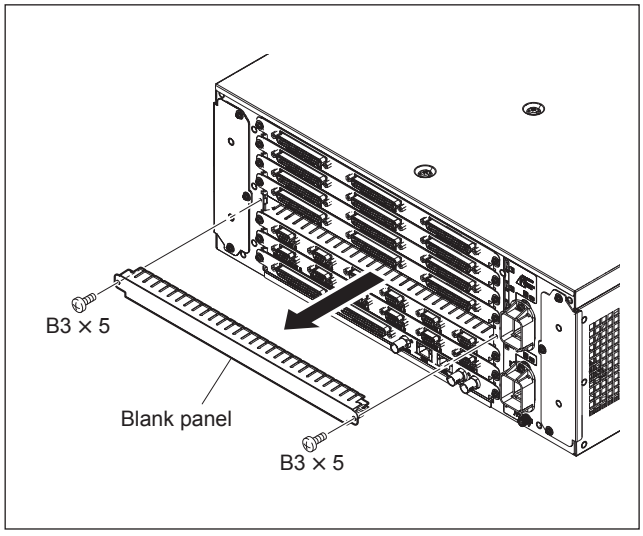
Be sure to install an optional board or a blank panel in each slot on the rear panel.

Installation procedure

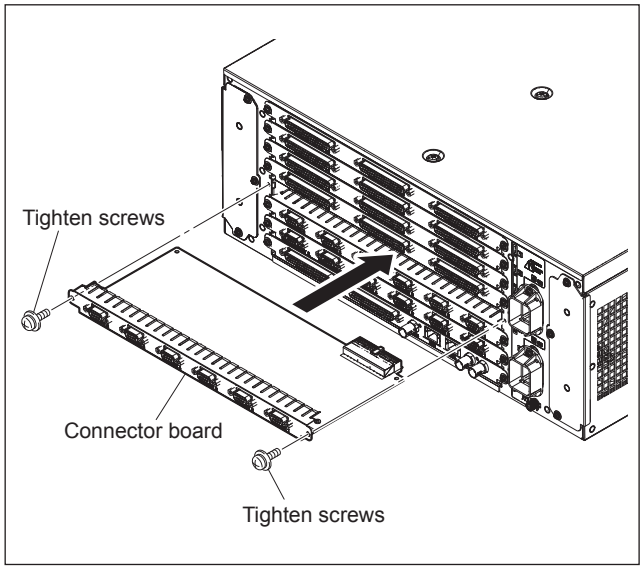
1. Remove the screw of the slot in which the connector board is to be installed or the two screws, and then remove the blank panel or the connector board.

   Note

   Store the removed blank panel in a safe location.



2. Insert the connector board horizontally and tighten the two screws.



2-3. PWS-100SC1 Installing Information

This section describes the installing information for the PWS-100SC1.

2-3-1. Operating Environment and Installation Space

1. Operating Environment

Note

Do not block any air vents of the cabinet and exhaust vents for fans to reduce temperature rise in the unit.
Furthermore, arrange cooling air to flow through the unit sufficiently.

Operating temperature: 5 to 35 °C
Operating humidity: 20 to 90 % (no condensation)
Storage temperature: −20 to 60 °C
Prohibited installation places:

- Places exposed to direct sunlight or intense light
- Places near a heat source
- Dusty places or places subject to constant vibration
- Places in strong magnetic field
- Places subject to much electrical noise
- Places where electrostatic noise is likely to be generated
- Places where specified installation space cannot be provided (Refer to this Section “2. Installation Space”)
- Sealed places

Maximum inclination angle:

30 degrees

Do not incline the unit from front to back at an angle of 30 degrees or more.

CAUTION

Unless you use the unit on horizontal plane, secure it so that it will not slip down.

2. Installation Space

When installing, the installation space must be secured in consideration of the ventilation and service operation.

- Do not block the ventilation slots at the left side and right side panels, and vents of the fans.
- Leave a space around the unit for ventilation.
- Leave more than 40 centimeters of space in the rear of the unit to secure the work area.

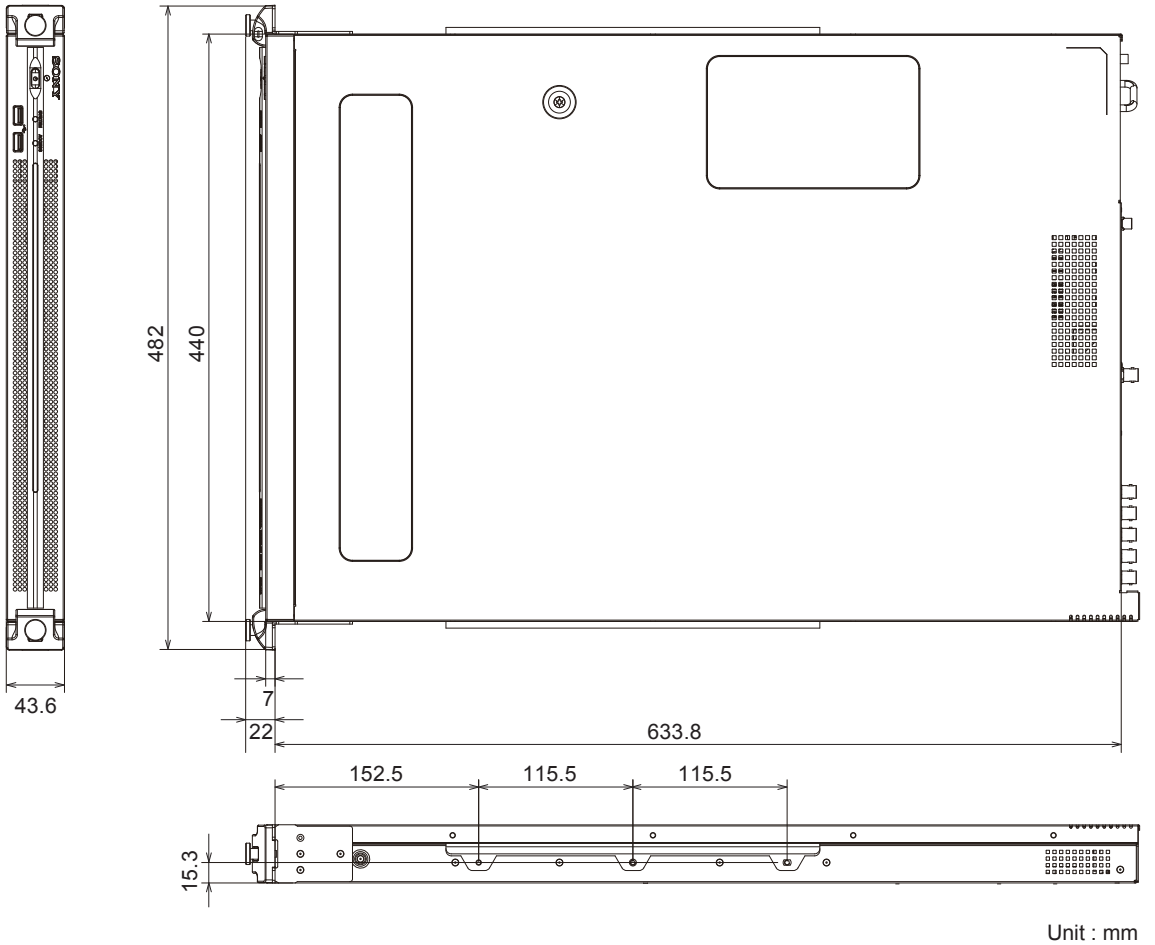
When the unit is installed on the desk or the like, leave at least 4 centimeters of space in the left and right sides. Leaving 40 centimeters or more of space above the unit is recommended for service operation.

Moreover, an air flow that is effective in cooling the unit is essential. If the ventilation is not enough, the unit may be damaged because of an increase of the internal temperature.

Note

This unit is air-cooled by the fans. The operation with the upper lid is removed affects the air cooling by the fans. Complete the work in a short time as possible when operating the unit for inspection with the upper lid removed. In case of a work with the unit turned on for a long time, take an action, such as cooling by electric fan, to avoid rise in temperature.

Mass of this unit (not including option) : approx. 14 kg



Unit : mm

2-3-2. Power Supply

1. Power Supply Specifications

A switching regulator is used in the power supply unit of the unit.

Note

Be sure to use the unit within the following power-supply voltage range.

Power voltage: 100 to 240 VAC (nominal voltage)
Power frequency: 50 or 60 Hz
Power consumption: 235 W max. (including options)
Inrush current: 50 A at 100 VAC

Note

The AC power supply requires capacity including inrush current.
If the AC power capacity is insufficient, the circuit breaker of the AC power supply on the supply side may trip or the unit may malfunction.

2. Recommended Power Cord

This unit 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

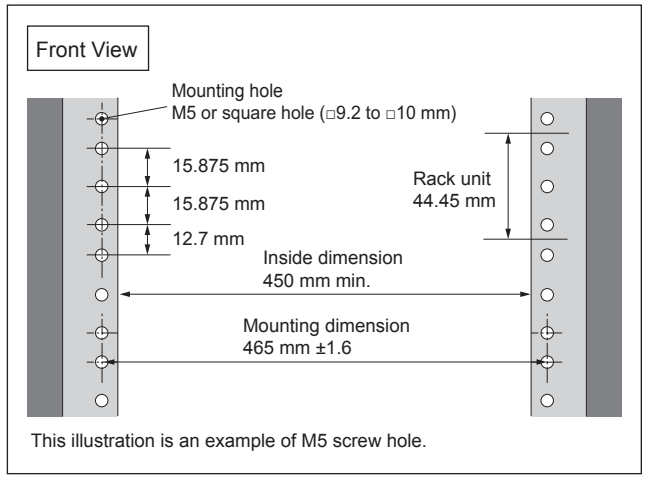
- Never use any damaged power cord.

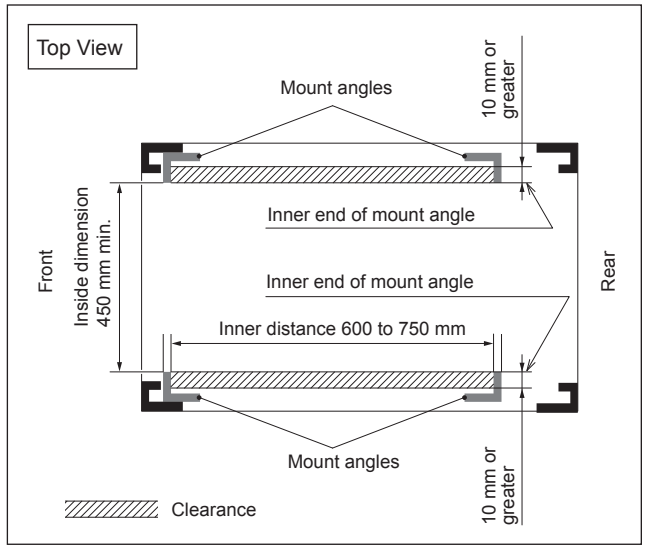
2-3-3. Rack Mounting

This process is not necessary if you do not mount this unit into a rack.

This unit can be mounted to a 19-inch rack conforming to the ANSI/EIA-310-D standard, which meets the following conditions.

1. Hole pitch: Universal pitch
2. Mounting hole: M5 screw hole or square hole (□9.2 to □10 mm)
3. Holes of the front and rear mount angles meet the conditions 1 and 2 above.
4. The inner distance between these mount angles is within a range of 600 to 750 mm.
5. A space of at least 10 mm is provided from the inner end of each mount angle to the right and left sides outward.





Be sure to mount this unit into a rack accurately following the procedure and notes mentioned below.

WARNING

- To prevent toppling over the rack, fix it on the horizontal and firm floor securely with bolts or some anchoring materials.

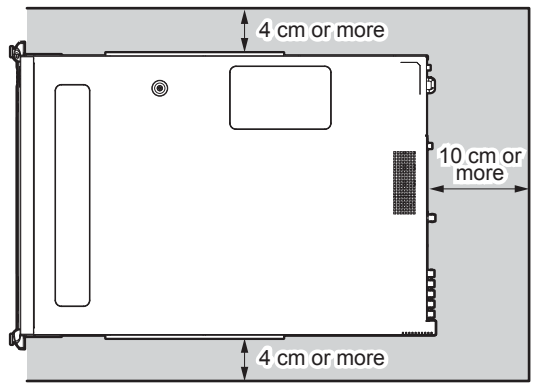
CAUTION

- More than two person for rack mount.
  If you perform rack mount alone, you can hurt your back.
- Use the specified rack mount kit.
  The use of other kit of low strength may drop the unit and cause the risk of injury.
- Fix the rack to the floor.
  When the rack turns over with the heaviness of the unit, it causes the death and the serious injury.
- After rack mounting, fix the unit to the rack securely.
  If the screws of rack angle are not fastened, the unit may slip down and dropped from the rack, and you may get injured. After rack mounting, be sure to tighten the screws.
- Entrust the installation to a specialized contractor.
  When mounting the unit to the rack, confirm the enough strength, if not, the unit may be dropped and you may get injured.
  Installation to the rack, entrust to a specialized contractor.

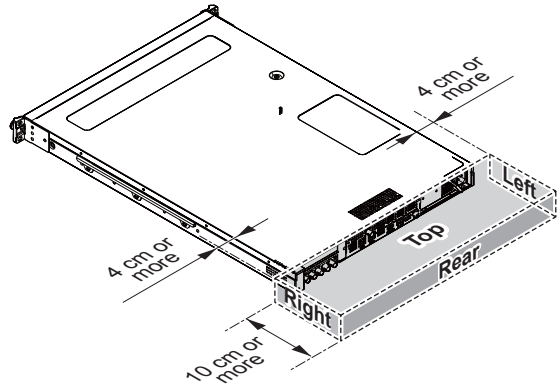
Note

- When other equipment with built-in hard disk drive is already mounted in the same rack to which this unit is going to be mounted. Turn off the power of the equipment before mounting this unit.
- Do not install the unit to the rack without exterior parts.
- Cables connected to the connector panel must be long enough to pull out the unit from the rack.
- To suppress the internal temperature rise of the unit, reserve a space of 4 cm or more on both sides and 10 cm or more on the rear side between the rack and the unit. (Refer to Fig. 1)
  To ensure proper airflow, keep at least one of the four spaces (up, rear, right, and left) at the rear of the unit so as not to block airflow. (Refer to Fig. 2)
- Adjust the temperature inside the rack within the range of the unit's operating temperature.
  (Refer to Section 2-3-1)

(Fig.1)



(Fig.2)



1. Parts Required

Specified Rack Mount Kit

RMM-10 (Optional accessory)

Note

When you use any other rack mount kit than the specified one, you may fail to mount the unit to the specified 19 inch rack.

Parts packed in RMM-10

- Rack bracket ..... 2 pcs
- Rack mount adaptor right ..... 1 pc
  [Including screw (B4 × 6: 7-682-560-09) 2 pcs]
- Rack mount adaptor left ..... 1 pc
  [Including screw (B4 × 6: 7-682-560-09) 2 pcs]
- Rack bracket attachment screw
  (B4 × 6: 7-682-560-09)..... 6 pcs
- Adaptor attachment screw
  (B4 × 10: 7-682-560-10)..... 6 pcs

Screws for Rack Mount

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

Tip

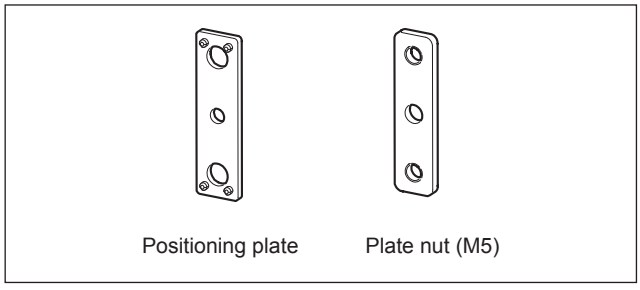
These parts are supplied with this unit.

Parts for square holes

The following part is necessary to mount the unit to the square-hole rack.
Rack mount parts assembly (A-2126-310-A)

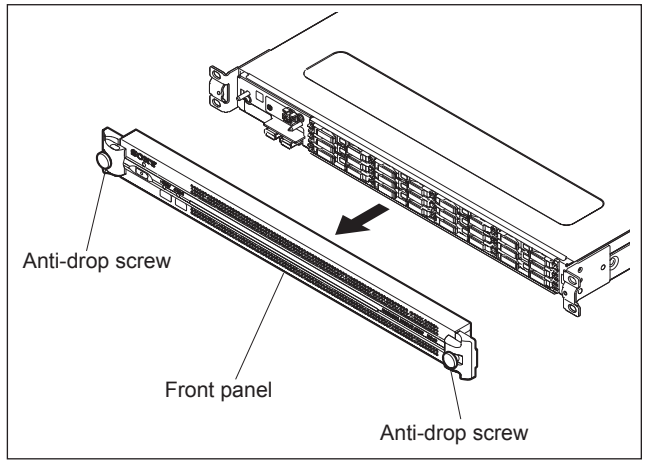
Components of rack mount parts assembly

- Positioning plate. ..... 4 pcs
- Plate nut (M5)..... 2 pcs



2. Removing the Front Panel

Loosen the two anti-drop screws, and remove the front panel.

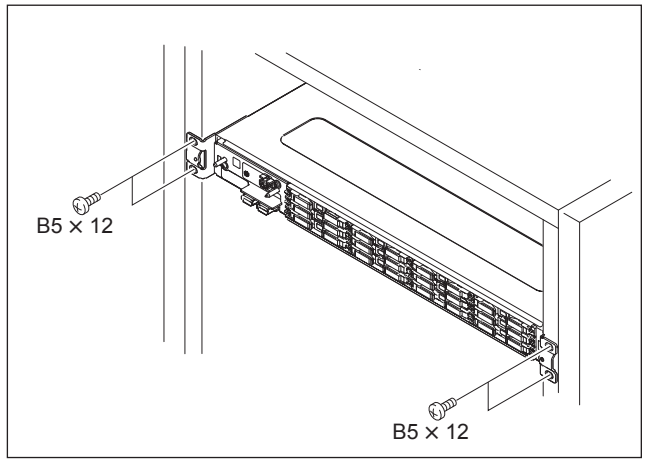


3. Mounting to Rack (M5 Screw Holes)

Refer to the RMM-10 Installation Manual.

Note

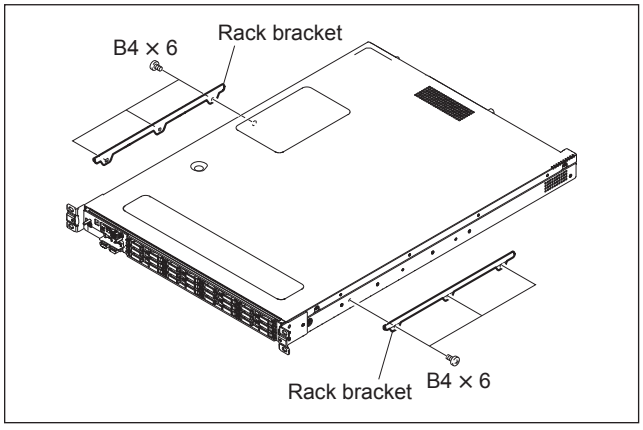
When fixing the rack angles of the unit to the rack, use the screws (B5 × 12) supplied with the unit.



4. Mounting to Rack (Square Holes)

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

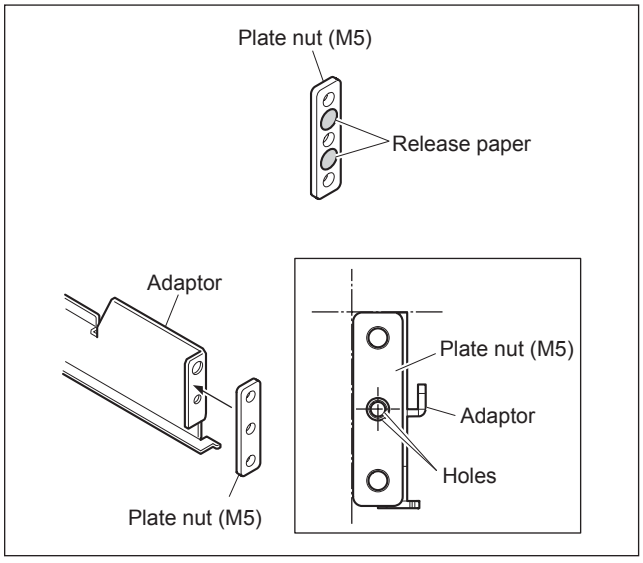
1. Attach the rack brackets in the side panels of the unit with the specified six screws (B4 × 6).



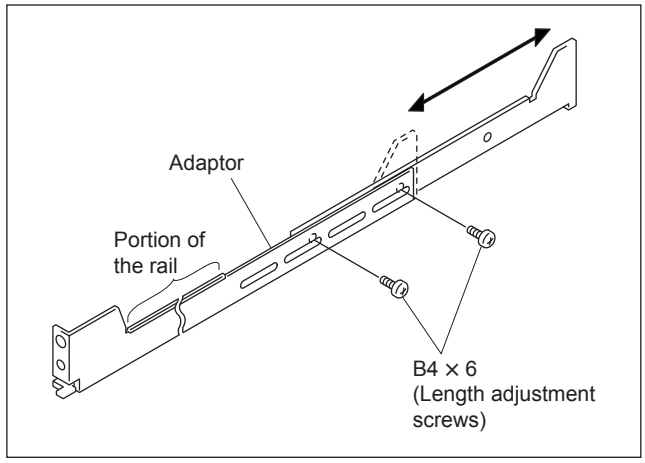
2. Remove the release paper of the plate nut (M5) and stick the plate nut to the front of the adaptor.

Note

- Align the adaptor with the plate nut (M5) at the top edges and at the lateral edges.
- Make sure that the centers of holes of the adaptor and the plate nut (M5) are aligned.
  (The following figure shows the left adaptor.)



3. Loosen the screws at the rear of the each adaptor, and then adjust each adaptor length to the rack depth.
   (The illustration below shows the left adaptor.)



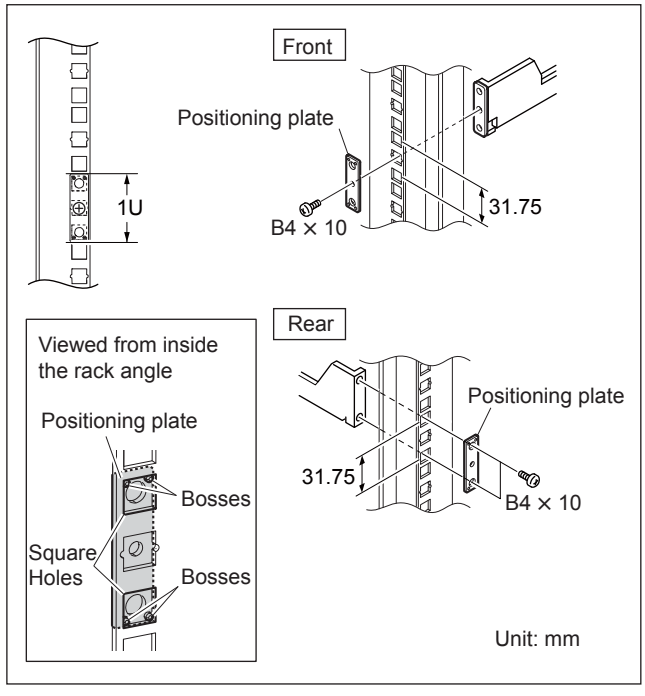
Tip

Maximum depth of adaptor: 750 mm
Minimum depth of adaptor: 600 mm

4. Mount four positioning plates and the right and left adaptors with the specified six screws (B4 × 10).
   (The following figure shows the left adaptor.)

Note

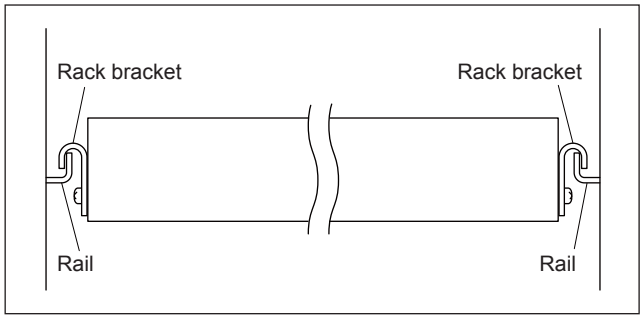
Insert the four bosses on each positioning plate into the square holes of the rack.



5. Tighten the length adjustment screws (B4 × 6, two screws for each bracket) which are loosened in step 3.
6. Align the bent section of the each rack bracket on the side panels of the unit to the rail, and then slide the unit backward.

Tip

Each rack bracket covers the rails as shown in the figure below.



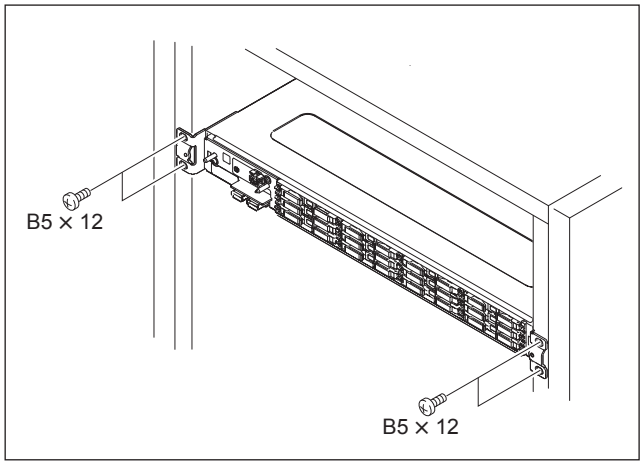
Note

When the unit is pulled out about 270 mm, the rack brackets are disengaged from the rails.
When you pull out the unit, support the bottom of the unit firmly so that you do not drop it.

7. Secure the rack angles to the rack with the specified four screws (B5 × 12).

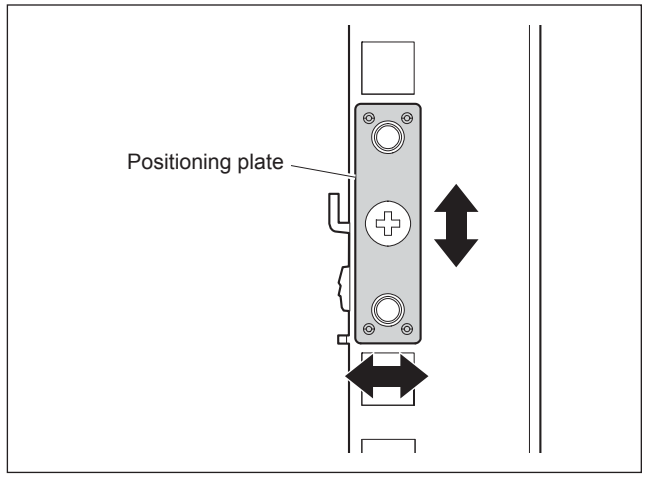
Note

Use the screws (B5 × 12) supplied with the unit.



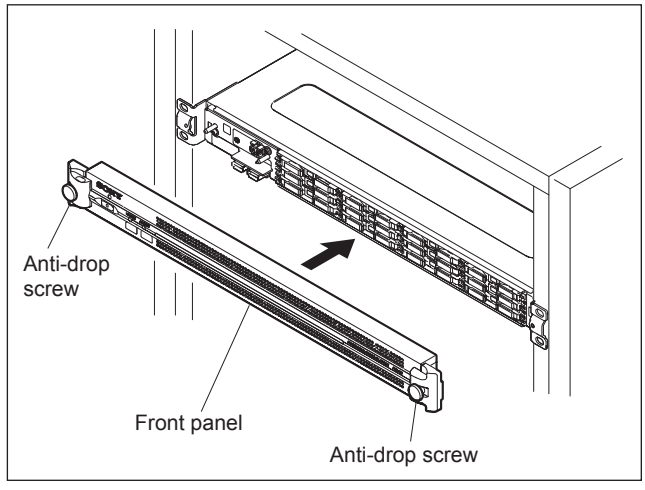
Tip

If you have trouble engaging the rack bracket with the rail or trouble attaching the front panel to the unit, adjust the position of positioning plate.



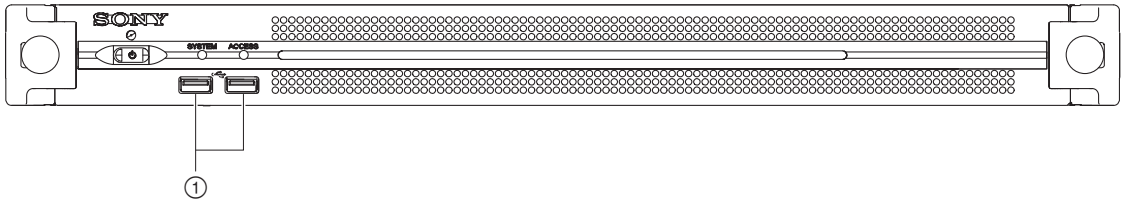
5. Installing the Front Panel

Attach the front panel to the main unit, and tighten the two anti-drop screws.



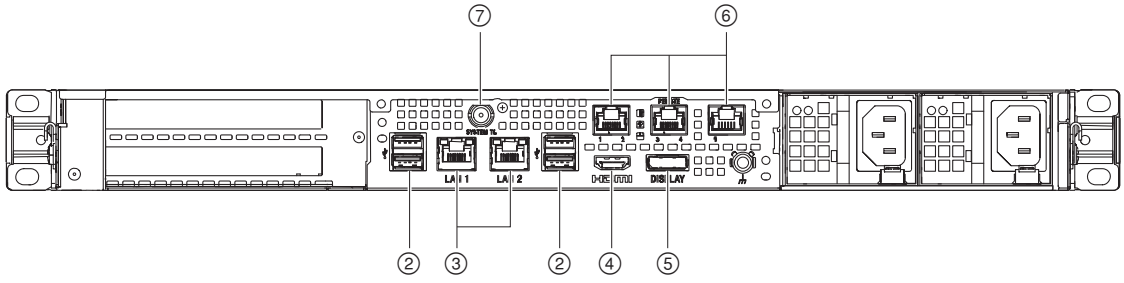
2-3-4. Connector Input/Output Signals

Front panel



No.	Name	Remarks
①	USB	Super Speed USB (USB 3.0) Type A × 2 Power delivery supported

Rear panel



No.	Name	Remarks
②	USB	Super Speed USB (USB 3.0) Type A (4) Among four, right lower connector supports to the power supply. (900 mA) Others do not support to the power supply.
③	LAN1/2	RJ-45 8-pin (2) 1000BASE-T, 100BASE-TX
④	HDMI	Type A (1) HDMI Ver. 1.4a, 1920 × 1200 maximum resolution, 60 Hz
⑤	DisplayPort	DisplayPort (1) Not used
⑥	Remote 1/2, 3/4, 5	RJ-45 (3) Not used
⑦	SYSTEM TC	BNC (1) Not used

2-3-5. Connectors and Cables

Use the following connectors (or cables) or equivalents for cable connection.

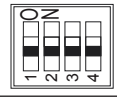
Panel Indication	Applicable Connector (Cable)	Sony Part No.	Remarks
HDMI	HDMI type A Use the cable that meets any of the following specifications. High Speed HDMI Cable, Premium High Speed HDMI Cable	–	–
USB	Use a cable for super speed USB.	–	–
LAN1/2	Network cable STP* cable is recommended	–	Commercially available

*STP: Shielded Twisted Pair

2-3-6. Settings of Onboard Switch

Note

Except for S800-8, do not change the default settings of switches on the MB-1204 board when installing the unit.

Board	Ref No.	Bit	Name	Function	Factory Setting (■: Knob position)
MB-1204	S800	1-7 8	–	Factory use ON: When AC power is supplied to the rear unit, the PWS-100SC1 starts. OFF: When the On/Standby button on the front panel is pressed, the PWS-100SC1 starts.	
	S2201	1-4	CFG	Factory use	

2-4. PWS-110SC1 Installing Information

This section describes the installing information for the PWS-110SC1.

2-4-1. Operating Environment and Installation Space

1. Operating Environment

Note

Do not block any air vents of the cabinet and exhaust vents for fans to reduce temperature rise in the unit.
Furthermore, arrange cooling air to flow through the unit sufficiently.

Operating temperature: 5 to 35 °C
Operating humidity: 20 to 90 % (no condensation)
Storage temperature: −20 to 60 °C
Prohibited installation places:

- Places exposed to direct sunlight or intense light
- Places near a heat source
- Dusty places or places subject to constant vibration
- Places in strong magnetic field
- Places subject to much electrical noise
- Places where electrostatic noise is likely to be generated
- Places where specified installation space cannot be provided (Refer to this Section “2. Installation Space”)
- Sealed places

Maximum inclination angle:

30 degrees

Do not incline the unit from front to back at an angle of 30 degrees or more.

CAUTION

Unless you use the unit on horizontal plane, secure it so that it will not slip down.

2. Installation Space

When installing, the installation space must be secured in consideration of the ventilation and service operation.

- Do not block the ventilation slots at the left side and right side panels, and vents of the fans.
- Leave a space around the unit for ventilation.
- Leave more than 40 centimeters of space in the rear of the unit to secure the work area.

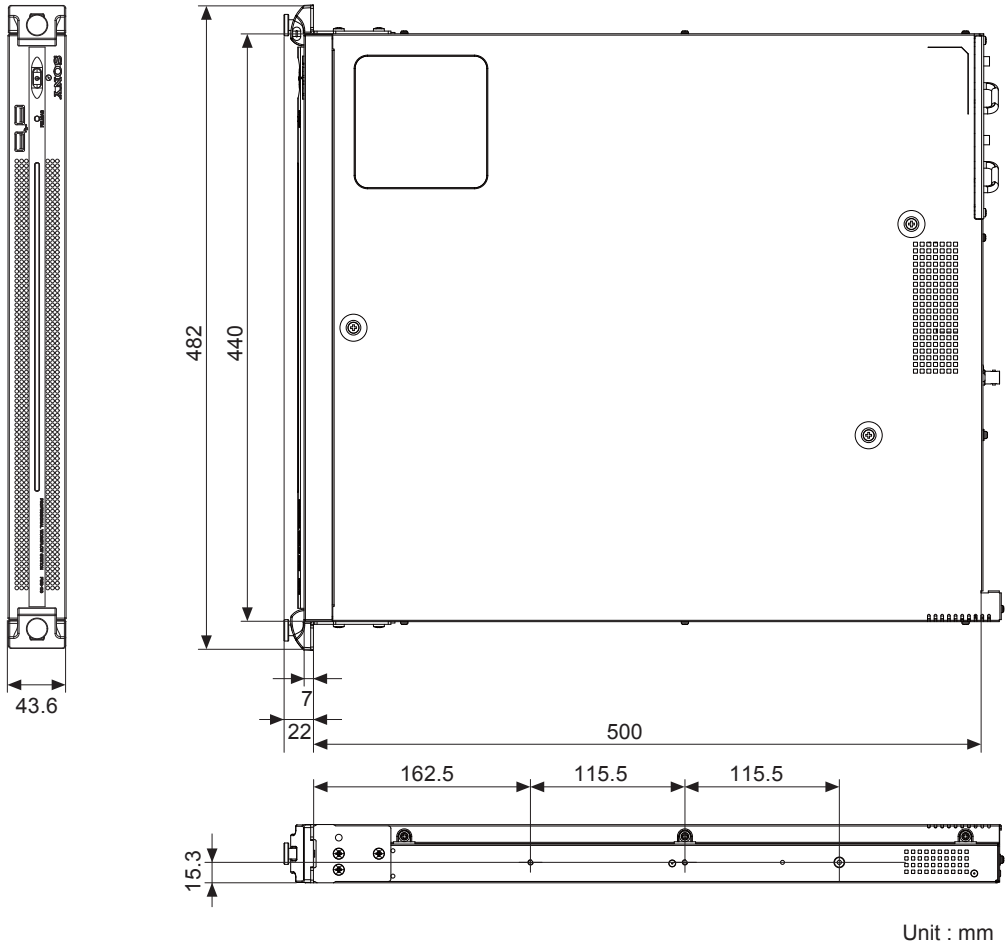
When the unit is installed on the desk or the like, leave at least 4 centimeters of space in the left and right sides. Leaving 40 centimeters or more of space above the unit is recommended for service operation.

Moreover, an air flow that is effective in cooling the unit is essential. If the ventilation is not enough, the unit may be damaged because of an increase of the internal temperature.

Note

This unit is air-cooled by the fans. The operation with the upper lid is removed affects the air cooling by the fans. Complete the work in a short time as possible when operating the unit for inspection with the upper lid removed.
In case of a work with the unit turned on for a long time, take an action, such as cooling by electric fan, to avoid rise in temperature.

Mass of this unit (not including option) : approx. 10.4 kg



Unit : mm

2-4-2. Power Supply

1. Power Supply Specifications

A switching regulator is used in the power supply unit of the unit.

Note

Be sure to use the unit within the following power-supply voltage range.

Power voltage: 100 to 240 VAC (nominal voltage)
Power frequency: 50 or 60 Hz
Power consumption: 235 W max. (including options)
Inrush current: 50 A at 100 VAC

Note

The AC power supply requires capacity including inrush current.
If the AC power capacity is insufficient, the circuit breaker of the AC power supply on the supply side may trip or the unit may malfunction.

2. Recommended Power Cord

This unit 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

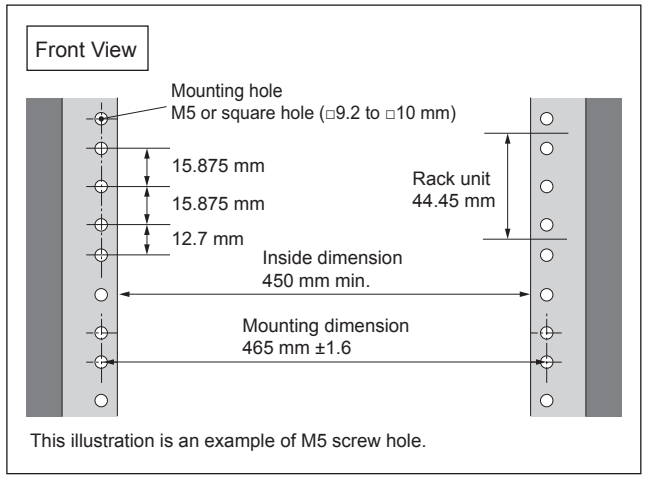
- Never use any damaged power cord.

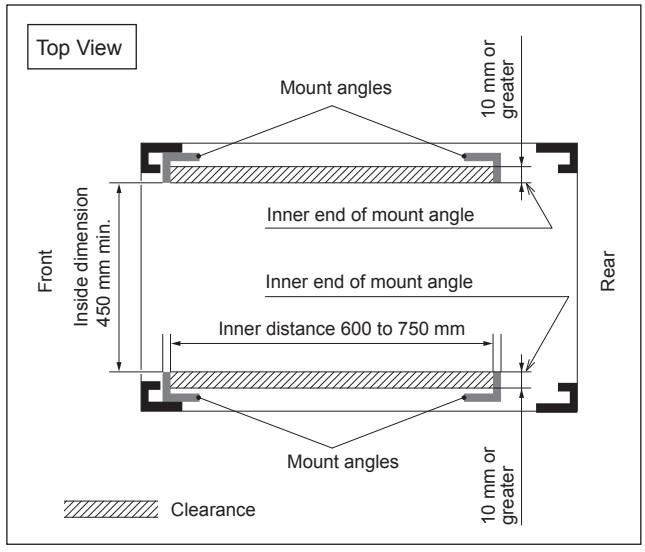
2-4-3. Rack Mounting

This process is not necessary if you do not mount this unit into a rack.

This unit can be mounted to a 19-inch rack conforming to the ANSI/EIA-310-D standard, which meets the following conditions.

1. Hole pitch: Universal pitch
2. Mounting hole: M5 screw hole or square hole (□9.2 to □10 mm)
3. Holes of the front and rear mount angles meet the conditions 1 and 2 above.
4. The inner distance between these mount angles is within a range of 600 to 750 mm.
5. A space of at least 10 mm is provided from the inner end of each mount angle to the right and left sides outward.





Be sure to mount this unit into a rack accurately following the procedure and notes mentioned below.

WARNING

- To prevent toppling over the rack, fix it on the horizontal and firm floor securely with bolts or some anchoring materials.

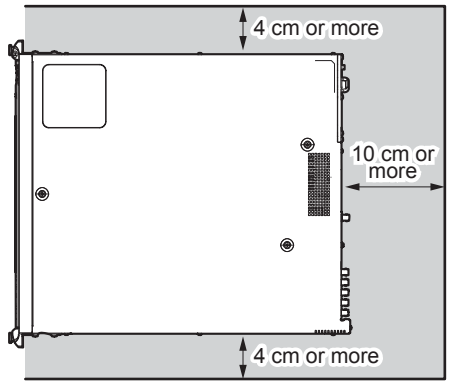
CAUTION

- More than two person for rack mount.
  If you perform rack mount alone, you can hurt your back.
- Use the specified rack mount kit.
  The use of other kit of low strength may drop the unit and cause the risk of injury.
- Fix the rack to the floor.
  When the rack turns over with the heaviness of the unit, it causes the death and the serious injury.
- After rack mounting, fix the unit to the rack securely.
  If the screws of rack angle are not fastened, the unit may slip down and dropped from the rack, and you may get injured. After rack mounting, be sure to tighten the screws.
- Entrust the installation to a specialized contractor.
  When mounting the unit to the rack, confirm the enough strength, if not, the unit may be dropped and you may get injured.
  Installation to the rack, entrust to a specialized contractor.

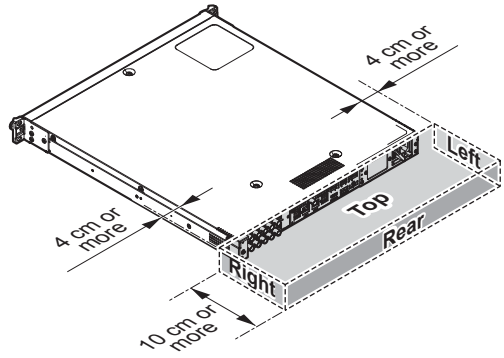
Note

- When other equipment with built-in hard disk drive is already mounted in the same rack to which this unit is going to be mounted. Turn off the power of the equipment before mounting this unit.
- Do not install the unit to the rack without exterior parts.
- Cables connected to the connector panel must be long enough to pull out the unit from the rack.
- To suppress the internal temperature rise of the unit, reserve a space of 4 cm or more on both sides and 10 cm or more on the rear side between the rack and the unit. (Refer to Fig. 1)
  To ensure proper airflow, keep at least one of the four spaces (up, rear, right, and left) at the rear of the unit so as not to block airflow. (Refer to Fig. 2)
- Adjust the temperature inside the rack within the range of the unit's operating temperature.
  (Refer to Section 2-4-1)

(Fig.1)



(Fig.2)



1. Parts Required

Specified Rack Mount Kit

RMM-10 (Optional accessory)

Note

When you use any other rack mount kit than the specified one, you may fail to mount the unit to the specified 19 inch rack.

Parts packed in RMM-10

- Rack bracket ..... 2 pcs
- Rack mount adaptor right ..... 1 pc
  [Including screw (B4 × 6: 7-682-560-09) 2 pcs]
- Rack mount adaptor left ..... 1 pc
  [Including screw (B4 × 6: 7-682-560-09) 2 pcs]
- Rack bracket attachment screw
  (B4 × 6: 7-682-560-09) ..... 6 pcs
- Adaptor attachment screw
  (B4 × 10: 7-682-560-10) ..... 6 pcs

Screws for Rack Mount

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

Tip

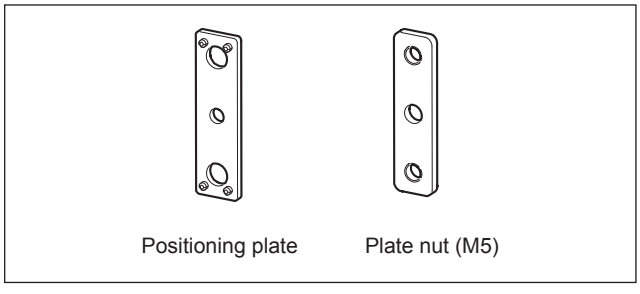
These parts are supplied with this unit.

Parts for square holes

The following part is necessary to mount the unit to the square-hole rack.
Rack mount parts assembly (A-2126-310-A)

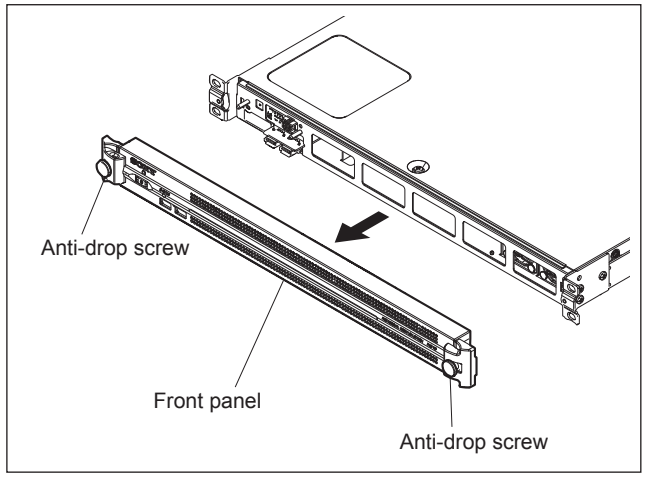
Components of rack mount parts assembly

- Positioning plate. ..... 4 pcs
- Plate nut (M5) ..... 2 pcs



2. Removing the Front Panel

Loosen the two anti-drop screws, and remove the front panel.

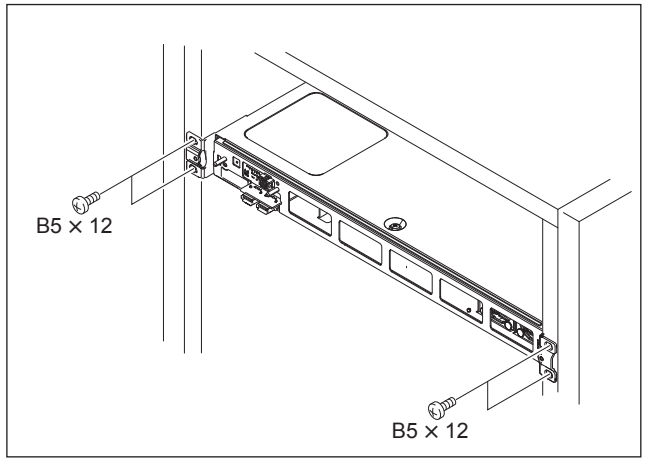


3. Mounting to Rack (M5 Screw Holes)

Refer to the RMM-10 Installation Manual.

Note

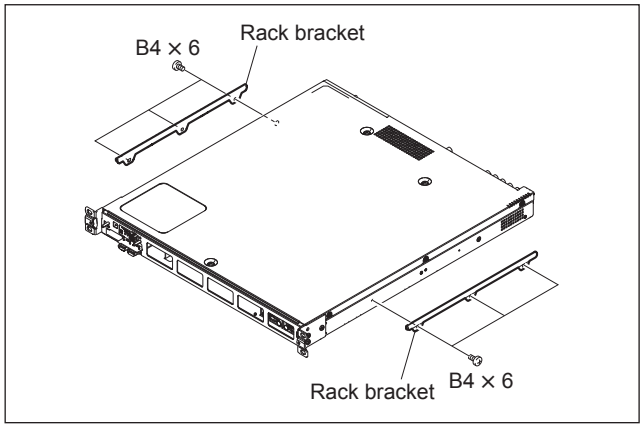
When fixing the rack angles of the unit to the rack, use the screws (B5 × 12) supplied with the unit.



4. Mounting to Rack (Square Holes)

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

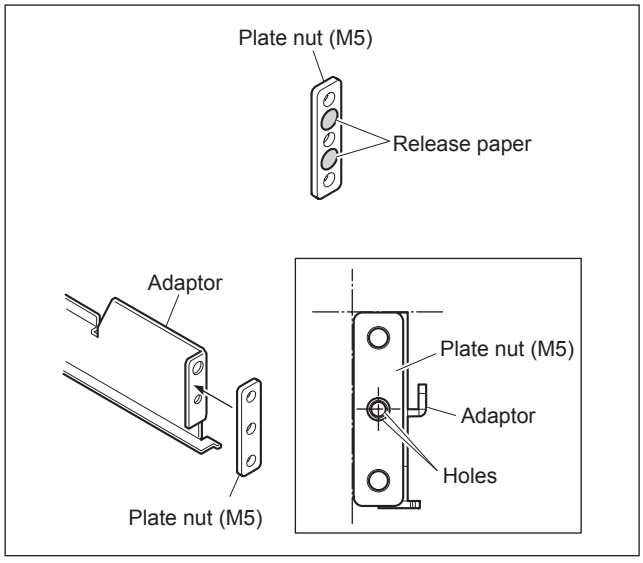
1. Attach the rack brackets in the side panels of the unit with the specified six screws (B4 × 6).



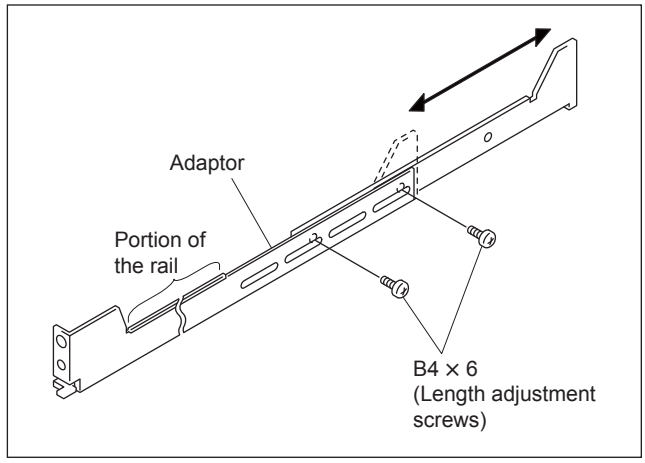
2. Remove the release paper of the plate nut (M5) and stick the plate nut to the front of the adaptor.

Note

- Align the adaptor with the plate nut (M5) at the top edges and at the lateral edges.
- Make sure that the centers of holes of the adaptor and the plate nut (M5) are aligned.
  (The following figure shows the left adaptor.)



3. Loosen the screws at the rear of the each adaptor, and then adjust each adaptor length to the rack depth.
   (The illustration below shows the left adaptor.)



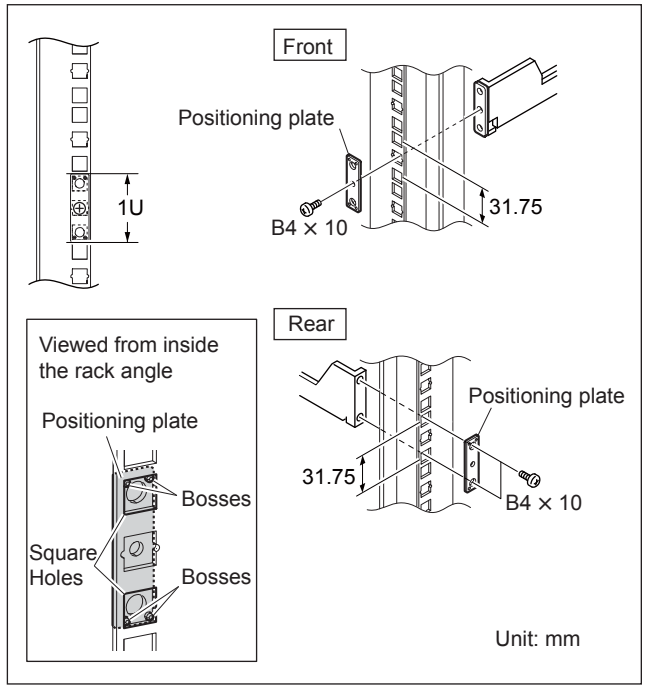
Tip

Maximum depth of adaptor: 750 mm
Minimum depth of adaptor: 600 mm

4. Mount four positioning plates and the right and left adaptors with the specified six screws (B4 × 10).
   (The following figure shows the left adaptor.)

Note

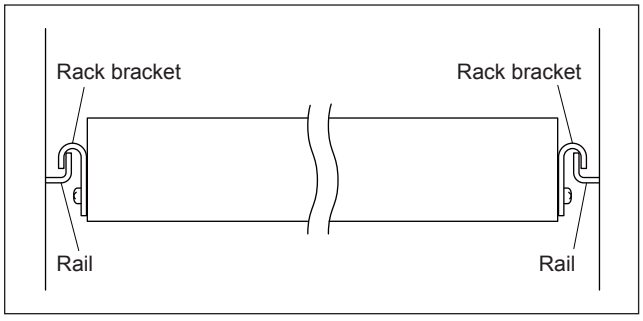
Insert the four bosses on each positioning plate into the square holes of the rack.



5. Tighten the length adjustment screws (B4 × 6, two screws for each bracket) which are loosened in step 3.
6. Align the bent section of the each rack bracket on the side panels of the unit to the rail, and then slide the unit backward.

Tip

Each rack bracket covers the rails as shown in the figure below.



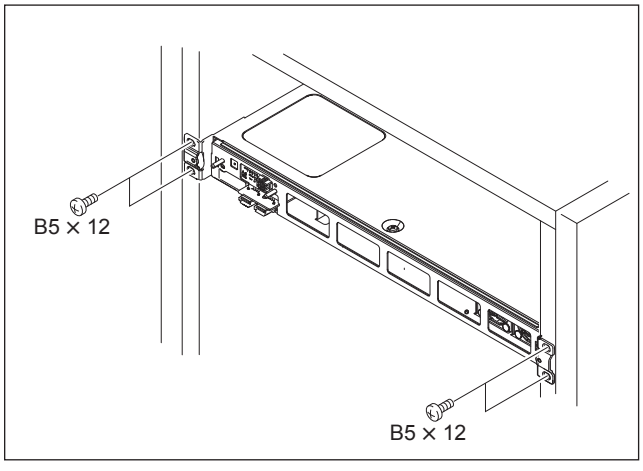
Note

When the unit is pulled out about 270 mm, the rack brackets are disengaged from the rails.
When you pull out the unit, support the bottom of the unit firmly so that you do not drop it.

7. Secure the rack angles to the rack with the specified four screws (B5 × 12).

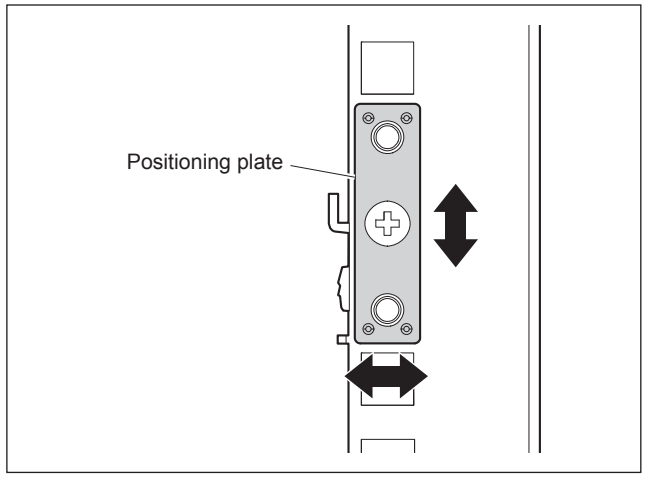
Note

Use the screws (B5 × 12) supplied with the unit.



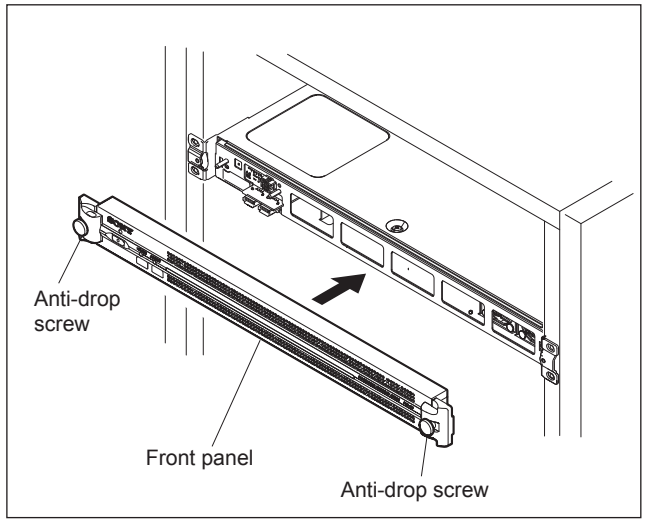
Tip

If you have trouble engaging the rack bracket with the rail or trouble attaching the front panel to the unit, adjust the position of positioning plate.



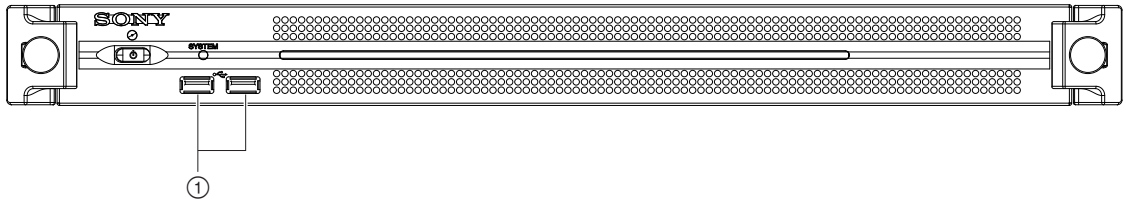
5. Installing the Front Panel

Attach the front panel to the main unit, and tighten the two anti-drop screws.



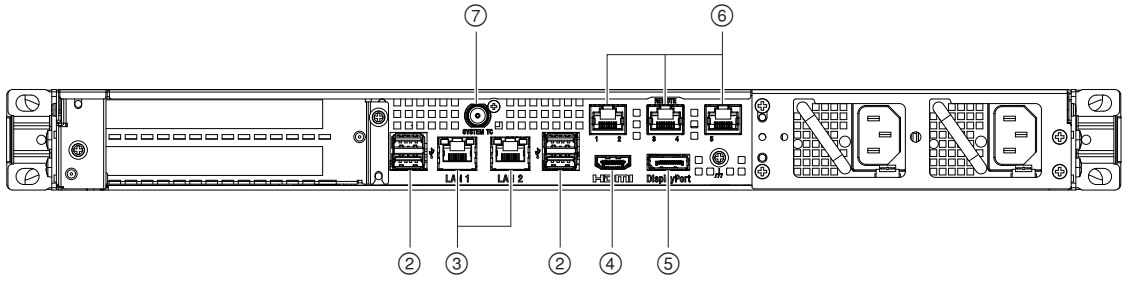
2-4-4. Connector Input/Output Signals

Front panel



No.	Name	Remarks
①	USB	Super Speed USB (USB 3.0) Type A × 2 Power delivery supported

Rear panel



No.	Name	Remarks
②	USB	Super Speed USB (USB 3.0) Type A (4) Among four, right lower connector supports to the power supply. (900 mA) Others do not support to the power supply.
③	LAN1/2	RJ-45 8-pin (2) 1000BASE-T, 100BASE-TX
④	HDMI	Type A (1) HDMI Ver. 1.4a, 1920 × 1200 maximum resolution, 60 Hz
⑤	DisplayPort	DisplayPort (1) Not used
⑥	Remote 1/2, 3/4, 5	RJ-45 (3) Not used
⑦	SYSTEM TC	BNC (1) Not used

2-4-5. Connectors and Cables

Use the following connectors (or cables) or equivalents for cable connection.

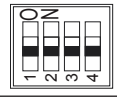
Panel Indication	Applicable Connector (Cable)	Sony Part No.	Remarks
HDMI	HDMI type A Use the cable that meets any of the following specifications. High Speed HDMI Cable, Premium High Speed HDMI Cable	–	–
USB	Use a cable for super speed USB.	–	–
LAN1/2	Network cable STP* cable is recommended	–	Commercially available

*STP: Shielded Twisted Pair

2-4-6. Settings of Onboard Switch

Note

Except for S800-8, do not change the default settings of switches on the MB-1204 board when installing the unit.

Board	Ref No.	Bit	Name	Function	Factory Setting (■: Knob position)
MB-1204	S800	1-7 8	–	Factory use ON: When AC power is supplied to the rear unit, the PWS-110SC1 starts. OFF: When the On/Standby button on the front panel is pressed, the PWS-110SC1 starts.	
	S2201	1-4	CFG	Factory use	

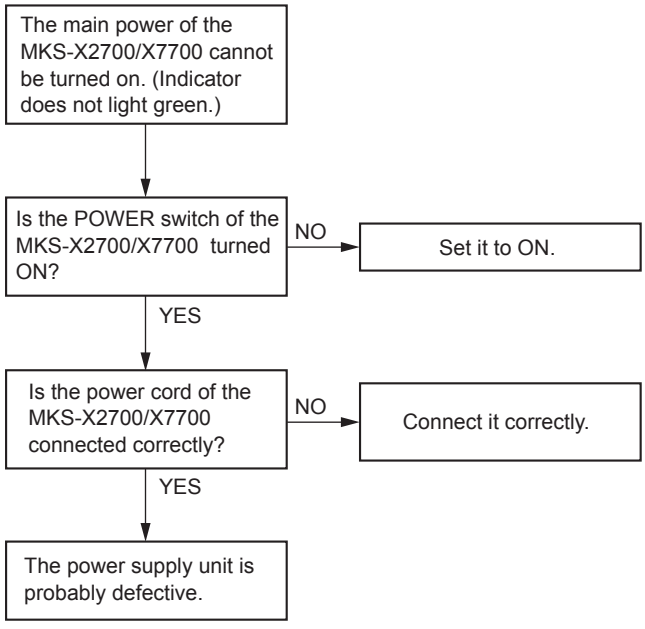
Section 3
Service Overview

3-1. Troubleshooting

3-1-1. MKS-X2700, MKS-X7700

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

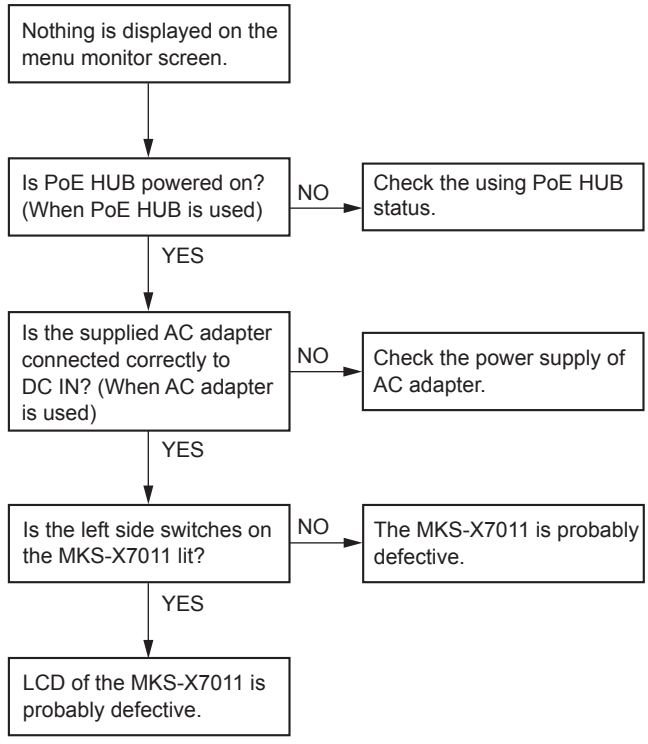
Flow 1



3-1-2. MKS-X7011

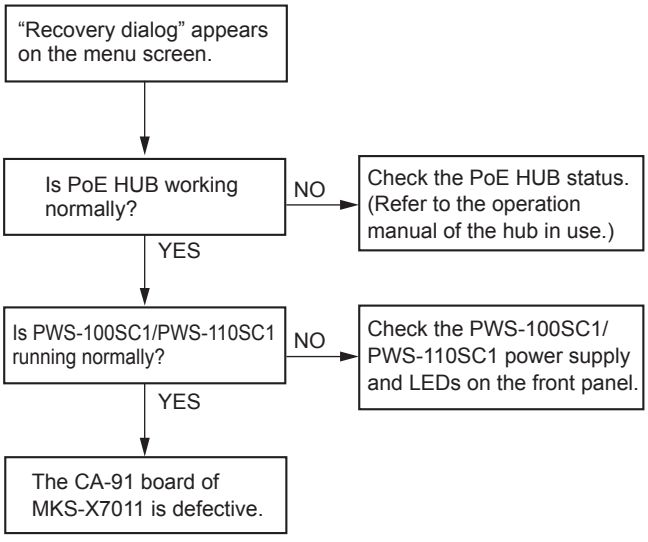
Nothing is displayed on the menu monitor screen.

Flow 2

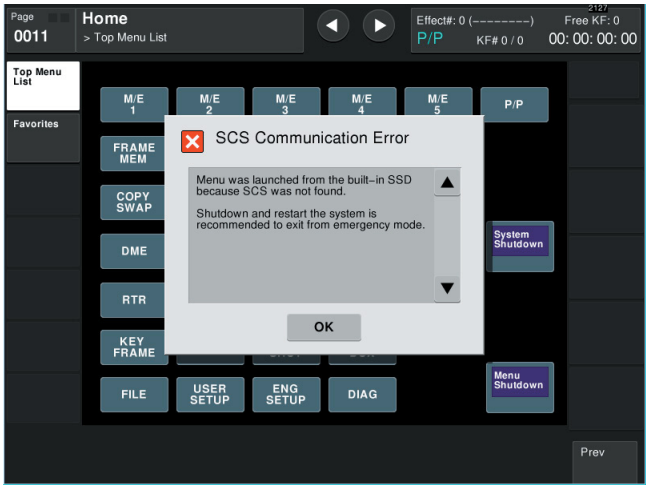


The menu does not start correctly.

Flow 3



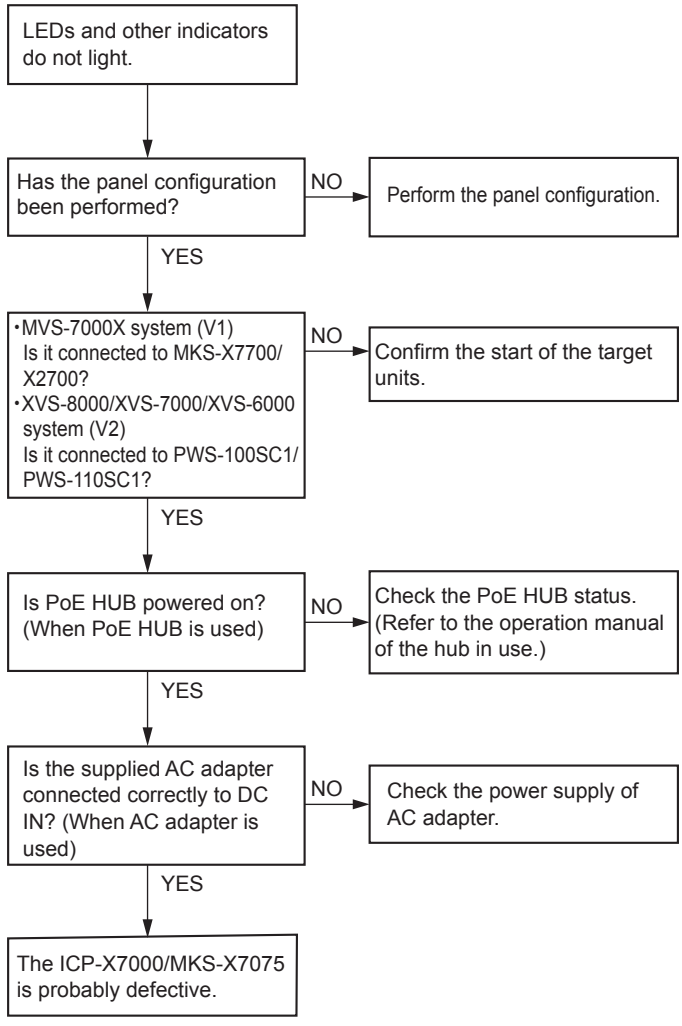
Recovery dialog



3-1-3. ICP-X7000, MKS-X7075

LEDs and other indicators do not light.

Flow 4



3-2. About the Data Backup Capacitor

A large capacitor is installed on the CA-90 board in order to retain the data such as the setup data, shot box, timeline, and macro in the MKS-X2700/MKS-X7700 machine. Leave the main power of the MKS-X2700/MKS-X7700 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.

3-3. To Use Indicators Long

In the ICP-X7000, RGB LEDs are used for lighting switches and organic EL display devices are used for source name indicators. The brightness of these devices gradually decreases and burn-in of display patterns is generated in proportion to the operating time or the brightness of these devices.
The ICP-X7000 provides the following settings for long use of these devices.
For details of the settings, refer to Section 18 “Settings Relating to Control Panel Configuration” of the User's Guide.

- Panel sleep mode
  This mode suppresses the brightness in the idle mode to use display devices efficiently.

- Adjustment of brightness
  Proper brightness can be set for each organic EL display device and RGB LED.

ICP-X7000 (SY)
ICP-X7000 (CN) J, E
9-932-666-01

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