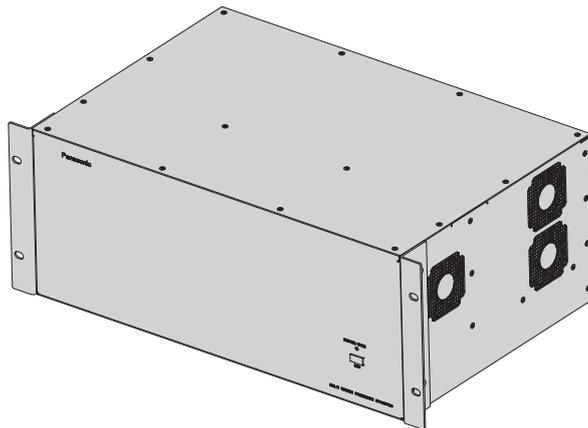# Operating Instructions
Functional Manual

Multi Window Processor | Commercial Use

Model No. ET‑MWP100G

Thank you for purchasing this Panasonic product.

- ■ This product is used together with the optional Interface Board.
  Purchase the Interface Board according to the equipment to be connected and install it to this product. Be sure to ask a qualified technician or your dealer when installing it.

- ■ Before operating this product, please read the instructions carefully and save this manual for future use.

- ■ Before using this product, be sure to read "Read this first!" (➡ pages 2 to 7).

- ■ Before setting up this product, be sure to read "Setting up" (➡ page 22).

Read this first!

WARNING:	THIS APPARATUS MUST BE EARTHED.

WARNING:	TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DONOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

WARNING:
1. Remove the plug from the mains socket when this unit is not in use for a prolonged period of time.
2. To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.
3. Do not remove the earthing pin on the mains plug. This apparatus is equipped with a three prong earthingtype mains plug. This plug will only fit an earthing-type mains socket. This is a safety feature. If you are unable to insert the plug into the mains socket, contact an electrician. Do not defeat the purpose of the earthing plug.
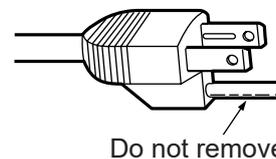
WARNING:
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

CAUTION:	To assure continued limit compliance, follow the attached operating instructions, which include using the provided power cord and shielded interface cables when connecting to computer or peripheral device. If DVI-D interface cable is to be used, the user must use only shielded DVI-D interface cable with ferrite cores to avoid potential harmful interference. Any unauthorized changes or modifications to this equipment will void the user's authority to operate.

CAUTION (USA and Canada)

CAUTION:	This equipment is equipped with a three-pin grounding-type power plug. Do not remove the grounding pin on the power plug. This plug will only fit a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician. Do not defeat the purpose of the grounding plug.	Do not remove

WARNING (USA and Canada)

- Not for use in a computer room as defined in the Standard for the Protection of Electronic Computer/Data Processing Equipment, ANSI/NFPA 75.
- For permanently connected equipment, a readily accessible disconnect device shall be incorporated in the building installation wiring.
- For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.

FCC NOTICE (USA)

Verification

Model Number: ET-MWP100G
Trade Name: Panasonic
Responsible Party: Panasonic Corporation of North America
Address: Two Riverfront Plaza, Newark, NJ 07102-5490
Telephone number: (877)803-8492
E-mail: projectorsupport@us.panasonic.com

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

To assure continued compliance, follow the attached installation instructions and do not make any unauthorized modifications.

Caution:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

NOTIFICATION (Canada)

This class A digital apparatus complies with Canadian ICES-003.

Product information (for Turkey only)

EEE Yönetmeliğine Uygundur.
EEE Complies with Directive of Turkey.

IMPORTANT: THE MOULDED PLUG (U.K. only)

FOR YOUR SAFETY, PLEASE READ THE FOLLOWING TEXT CAREFULLY.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 13 amp fuse is fitted in this plug. Should the fuse need to be replaced, please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark ⬦ or the BSI mark ▽ on the body of the fuse.

If the plug contains a removable fuse cover, you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover, the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from an Authorised Service Center.

If the fitted moulded plug is unsuitable for the mains socket in your home, then the fuse should be removed and the plug cut off and disposed of safely. There is a danger of severe electrical shock if the cut off plug is inserted into any 13 amp socket.

If a new plug is to be fitted, please observe the wiring code as shown below.
If in any doubt, please consult a qualified electrician.

WARNING: THIS APPLIANCE MUST BE EARTHED.

IMPORTANT: The wires in this mains lead are coloured in accordance with the following code:
          Green - and - Yellow: Earth
   Blue: Neutral
          Brown: Live

As the colours of the wire in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire which is coloured GREEN - AND - YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the Earth symbol ⏚ or coloured GREEN or GREEN - AND - YELLOW.

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

How to replace the fuse: Open the fuse compartment with a screwdriver and replace the fuse.
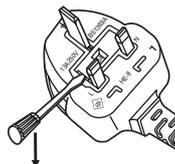
WARNING:

■ POWER

The wall outlet or the circuit breaker shall be installed near the equipment and shall be easily accessible when problems occur. If the following problems occur, cut off the power supply immediately.
Continued use of the device in these conditions will result in fire or electric shock.
● If foreign objects or water get inside the device, cut off the power supply.
● If you notice smoke, strange smells or noise coming from the device, cut off the power supply.
Please contact an Authorized Service Center for repairs, and do not attempt to repair the device yourself.

During a thunderstorm, do not touch the device or power plug.
Failure to observe this will result in electric shocks.

Do not do anything that might damage the power cord or power plug.
If the power cord is used while damaged, electric shocks, short-circuits or fire will result.
● Do not damage the power cord, make any modifications to it, place it near any hot objects, bend it excessively, twist it, pull it, place heavy objects on top of it or wrap it into a bundle.
Ask an Authorized Service Center to carry out any repairs to the power cord or power plug that might be necessary.

Completely insert the power plug into the wall outlet, the power connector into the device terminal.
If the plug is not inserted correctly, electric shocks or overheating will result.
● Do not use plugs which are damaged or wall outlets which are coming loose from the wall.

Do not use anything other than the provided power cord.
Failure to observe this will result in fire or electric shocks caused by a short circuit or overheating. Please note that if you do not use the provided power cord to ground the device on the side of the outlet, this may result in electric shocks.

Clean the power plug regularly to prevent it from becoming covered in dust.
Failure to observe this will cause a fire. If dust builds up on the power plug, the resulting humidity can damage the insulation.
● Pull the power plug out from the wall outlet and wipe it with a dry cloth regularly.

Do not handle the power plug or power connector with wet hands.
Failure to observe this will result in electric shocks.

Do not overload the wall outlet.
If the power supply is overloaded (ex., by using too many adaptors), overheating may occur and fire will result.

The AC power cord or adaptor furnished with the device should conform to the type in use in your country. Please compare the plug on your cord or adaptor with the power socket where the device will be installed.
If you did not receive the correct plug, DO NOT attempt to modify it. Instead, immediately contact an Authorized Service Center and request the proper plug.

WARNING:

■ **ON USE/INSTALLATION**

Do not place the device on soft materials such as carpets or sponge mats.
Doing so will cause the device to overheat, which can cause burns, fire or damage to the device.

Do not set up the device in humid or dusty places or in places where the device may come into contact with oily smoke or steam, ex. a bathroom.
Using the device under such conditions will result in fire or electrical shock.

Do not block the air intake/exhaust ports or cover them with cloth, paper, etc.
Doing so will cause the device to overheat, which can cause fire or damage to the device.
- Set the device in a location where the air intake/exhaust ports will not be blocked.

Never attempt to remodel or disassemble the device.
High voltages can cause fire or electric shocks.
- For any inspection, adjustment and repair work, please contact an Authorized Service Center.

Do not allow metal objects, flammable objects, or liquids to enter inside of the device. Do not allow the device to get wet.
Doing so may cause short circuits or overheating, and result in fire, electric shock, or malfunction of the device.
- Do not place containers of liquid or metal objects near the device.
- If liquid enters inside of the device, consult your dealer.
- Particular attention must be paid to children.

CAUTION:

■ POWER

When disconnecting the power cord, be sure to hold the power plug and power connector.
If the power cord itself is pulled, the lead will become damaged, and fire, short-circuits or serious electric shocks will result.

When not using the device for an extended period of time, disconnect the power plug from the wall outlet.
Failure to do so may result in fire or electric shock.

Disconnect the power plug from the wall outlet before carrying out any cleaning of the device.
Failure to do so may result in electric shock.

Be sure to turn off the power and disconnect the power plug from the wall outlet before carrying out servicing work such as installing or removing optional accessories.
Failure to do so may result in electric shock.

If both POWER SUPPLY units are installed, be sure to turn off both of the power before carrying out servicing work.
Failure to do so may result in electric shock.

■ ON USE/INSTALLATION

Do not place heavy objects on top of the device.
Failure to observe this will cause the device to become unbalanced and fall, which could result in damage or injury. The device will be damaged or deformed.

Do not put your weight on this device.
You could fall or the device could break, and injury will result.
● Be especially careful not to let young children stand or sit on the device.

Do not place the device in extremely hot locations.
Doing so will cause the outer casing or internal components to deteriorate, or result in fire.
● Take particular care in locations exposed to direct sunlight or near stoves.

Ask a qualified technician or your dealer when installing or removing the optional accessories.
Failure to do so may result in electric shock.

Installation work such as installing the device on the rack must be performed by 2 or more persons.
Failure to observe this will cause the device to fall, which could result in damage or injury. The device will be damaged or deformed.

Always disconnect all cables before moving the device.
Moving the device with cables still attached can damage the cables, which will cause fire or electric shocks to occur.
Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

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- SD and microSD are trademarks of SD-3C, LLC.
- VGA and XGA are trademarks of International Business Machines Corporation in the United States.
- SVGA is a trademark or registered trademark of Video Electronics Standards Association.
- All other names, company names, and product names mentioned in this manual are trademarks or registered trademarks of their respective owners.
  Please note that the ® and ™ symbols are not specified in this manual.

■ Illustrations in this manual

- Illustrations of the Multi Window Processor, screens, and other optional accessories may vary from the actual product.

■ Reference pages

- Reference pages in this manual are indicated as (➡ page 00).

Features of the Device

Input/output module support

▶ Input and output circuits are all modularized. By attaching interface boards to this device, the device can support various analog signals. Input and output can be configured according to the purpose.

Flexible image layout

▶ A wide variety of input images can be flexibly laid out on the screen by treating multiple display images as one. The individual images can also be resized and rotated.

Edge blending

▶ This device has an edge blending function which can piece together projected images from multiple projectors to produce one image in a multiple screen display independent from the other projectors' functions.

Quick Steps

For details, refer to the corresponding pages.

1. **Attach optional accessories to the device.**
   (➡ page 71)
   - Make sure to ask a qualified technician or your dealer when installing the product.

2. **Set up the device.**
   (➡ page 22)

3. **Connect with external devices.**
   (➡ page 23)

4. **Install the software.**
   (➡ page 31)
   - Take this step when you install and use the control software on the control computer of the device for the first time after purchase.

5. **Connect the power cord.**
   (➡ page 36)

6. **Switch on the device.**
   (➡ page 36)

7. **Prepare the control computer.**
   (➡ page 38)

8. **Start the control software.**
   (➡ page 38)

Contents

Chapter 1 Preparation

This chapter describes things you need to know or check before using the device.

Precautions for use

Cautions when transporting

- When transporting this device, avoid excessive vibration and impacts. Doing so may damage the internal components and result in malfunctions.

Cautions when installing

■Do not install this device outdoors.

This device is designed for indoor use only.

■Do not install this device in the following locations.

- Places where vibration and impacts occur such as in a car or vehicle: Doing so may cause damage to internal components or malfunction.
- Near high-voltage power lines or near motors: Doing so may interfere with the operation of this device.

■Do not install the device at elevations of 2 700 m (8 858') or higher above sea level.

Doing so may shorten the life of the components and result in malfunctions.

■Ask a qualified technician or your dealer when installing optional accessories to the device.

Be sure to ask a qualified technician or your dealer when installing optional accessories such as the interface board or the POWER SUPPLY since static electricity from these devices may damage the device.

■Ask a qualified technician or your dealer to install the cable wiring for DIGITAL LINK connection.

Image and sound may be disrupted if cable transmission characteristics cannot be obtained due to inadequate installation.

■Before using the device, take sufficient shielding measures when installing it in a location which is prone to static electricity.

- When this device is used at a location, where static electricity occurs often, such as on a carpet, communications of the DIGITAL LINK and the wired LAN are disconnected more often.
  In such cases, use an anti-static mat and keep possible sources of noise and static electricity away from the device and cables.
- In rare cases, the LAN connection is disabled due to static electricity or noise.
  In such cases, turn off the device and connected devices once before turning them back on.

■The device may not work properly due to strong radio wave from the broadcast station or the radio.

If there are any equipment or devices that generate strong radio waves near the installation location, install the device at a location sufficiently far from these sources of the radio waves, or cover the LAN cable that is connected to the <DIGITAL LINK> or <LAN> terminal with metallic foil or piping which is grounded at both ends.

Cautions on use

■Computer and external device connections

- Carefully read this manual when connecting a computer or an external device, including content regarding the use of power cords and shielded cables.
- To assure continued performance and FCC compliance, use only high quality DVI-D interface cable with two ferrite cores for connecting with the <DVI-U INPUT> and <DVI-U SCALED OUTPUT> terminals.

■Power cord

- Use the supplied power cord only with this device.

■Interface board for input and output

To use the device, you need to install at least one interface board for input and one interface board for output.

■Empty slots

● Make sure to attach a slot cover on the empty slot at the back of the device where the optional interface board is not installed. Secure the cover using screws with toothed lock washers.

    Make sure to use the slot cover and screws with toothed lock washers that have been attached the device. Also attach the cover to the POWER SUPPLY attachment section if the optional POWER SUPPLY is not installed.

■Precautions against damage due to static electricity

● Do not touch the connecting terminal directly. Doing so may damage parts due to static electricity.

    Touch a metal object to discharge your body's static electricity before connecting signal cables to the device, the display (projector or flat panel display), or external devices such as a video player.

Security

When using this product, take safety measures against the following incidents.

● Unauthorized operation of this product by a malicious third party

● Interfering or stopping of this product by a malicious third party

Take sufficient security measures.

● The connecting network must be secured by a firewall, etc.

● Panasonic Corporation or its affiliate companies will never ask for your password directly. Do not divulge your password in case you receive such inquiries.

DIGITAL LINK

"DIGITAL LINK" is a technology that uses a twisted-pair-cable to transmit video, audio, Ethernet, and serial control signals.

This device supports connection to DIGITAL LINK-compatible displays (projector, flat panel display) or to twisted-pair-cable transmitters (receiver).

For DIGITAL LINK-compatible projectors and twisted-pair-cable transmitters of other manufacturers of which the operation has been verified, refer to the Panasonic website (https://panasonic.net/cns/projector/), and for DIGITAL LINK-compatible flat panel displays, refer to the Panasonic website (https://panasonic.net/cns/prodisplays/).

Note that the verification for devices of other manufacturers has been made for the items set by Panasonic Corporation, and not all the operations have been verified. For operation or performance problems caused by the devices of other manufacturers, contact the respective manufacturers. The device does not support transmitting serial control signals.

DVI-U

The DVI-U terminal has the same connector type as the DVI-I terminal so it supports DVI digital, DVI analog, YC_BC_R/YP_BP_R, S-Video (Y/C), and video (CV) signals[*1]. You will need a separately-sold conversion adaptor depending on the external device that you will be connecting.

To assure continued performance and FCC compliance, use only high quality DVI-D interface cable with two ferrite cores for connecting with the <DVI-U INPUT> and <DVI-U SCALED OUTPUT> terminals.

*1 The optional Interface Board for DVI-U 2output (Model No.: ET-MCQDV150) does not support S-Video (Y/C) and video (CV) signal output.

Disposal

To dispose of the product, ask your local authorities or dealer for correct methods of disposal.

Accessories

Make sure that the following accessories are provided with your Multi Window Processor. Numbers enclosed in < > show the number of accessories.

Power cord <1>
(For USA)
(K2CGYY00116)
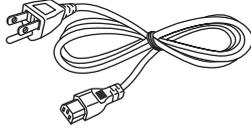
Power cord <1>
(For U.K.)
(K2CT3YY00054)
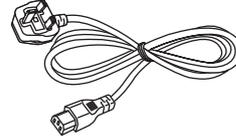
Power cord <1>
(For Europe)
(K2CM3YY00029)
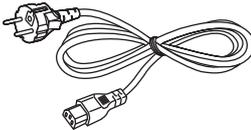
CD-ROM <1>
(TXFQB02VLM4)

Attention

● After unpacking this device, discard the power cord cap and packaging material properly.
● Use the supplied power cord only with this device.
● For missing accessories, consult your dealer.
● Store small parts such as screws with toothed lock washers, which are removed from the device, in an appropriate manner, and keep them away from small children.

Note

● The model numbers of accessories are subject to change without prior notice.

Contents of the supplied CD-ROM

The contents of the supplied CD-ROM are as follows.

Instruction/list (PDF)	Operating Instructions – Functional Manual	
Software	Control Software for Multi Window Processor (Windows)	This is the control software for setting and controlling the functions of Multi Window Processor.

Optional accessories

Optional accessories (product name)	Model No.	Remarks
Interface Board for DVI-U 2input	ET-MCYDV100	This is the interface board with 2 inputs for DVI-U signals.
Interface Board for DVI-U 2output	ET-MCQDV150	This is the interface board with 2 outputs for DVI-U signals.
Interface Board for 3G-SDI 2input	ET-MCYSD200	This is the interface board with 2 inputs for 3G-SDI signals.
Interface Board for HD/SD-SDI 4input	ET-MCYSD210	This is the interface board with 4 inputs for HD/SD-SDI signals.
Interface Board for Digital Link 2output	ET-MCQDL350	This is the interface board with 2 outputs for DIGITAL LINK signals.
POWER SUPPLY	ET-RPS100G	This unit is the same as POWER SUPPLY installed in the device. By additionally installing to the device, you can form a redundant power supply system configuration.

Note

● The model numbers of optional accessories are subject to change without prior notice.
● The optional accessories mentioned above are the latest as of July 2013. Optional accessories may be added or changed without prior notice.
  For the latest information, visit the Panasonic website (https://panasonic.net/cns/projector/).

Software Licensing Agreement

Use of "Control Software for Multi Window Processor" (collectively "Software") is governed by the terms defined in this Software Licensing Agreement.

■ Article 1 License

Licensee is granted the right to use the Software, including the information recorded or described on the CD-ROM and in the operating instructions and any other media provided to the Licensee bundled with Panasonic's Multi Window Processor ("the Panasonic's MWP"), but copyrights and all other intellectual property rights in the Software belong to Panasonic or third parties and will not be transferred to the Licensee.

■ Article 2 Use by a Third Party

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■ Article 6 After-sales Service

If a problem should occur with the Software while Licensee is using the Software and Licensee notify Panasonic of the problem by telephone or letter, Panasonic will make a best effort to notify such Licensee of necessary information to solve the problem to Panasonic's knowledge including the way to correct errors in the program or the alternative or improved method for using the Software.

Furthermore, the Software is subject to revision without prior notice.

■ Article 7 Indemnification

Panasonic's liability with respect to this Software is limited to its After-sales Service provided in Article 6 herein. Panasonic or any of its distributors or dealers shall not be liable for any damage suffered by Licensee, either directly or through claims from a third party, arising from or in connection with Licensee's use of the Software. Furthermore, Panasonic makes absolutely no warranty for the use of this Software for any purpose other than the use with the Panasonic's MWP with which this Software is bundled.

■ Article 8 Legal System

This document shall be governed by and construed and enforced in accordance with the laws of Japan, without regard to its conflict of laws provisions.

■ Article 9 Conflict Resolution

Any dispute arising out of or in relation to the Software shall be subject to the exclusive jurisdiction of the Osaka District Court of Japan.

■ Article 10 Export Control

Licensee agrees not to export or re-export the Software to any county in any form without the appropriate export licenses under the regulations of the country where Licensee resides or of any other country as may be required by such export or re-export.

About your device

Main body

■ Front
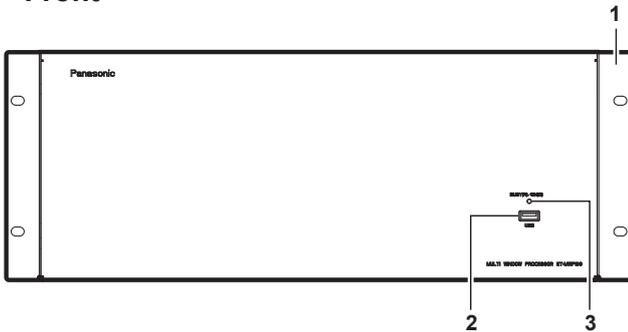
■ Side
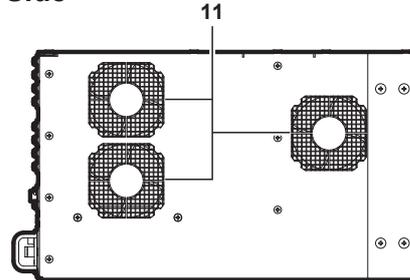
■ Rear
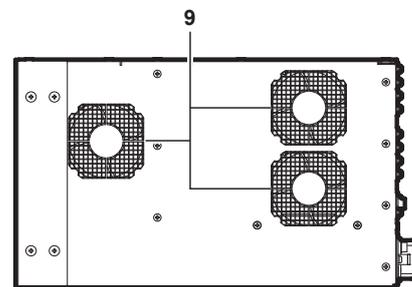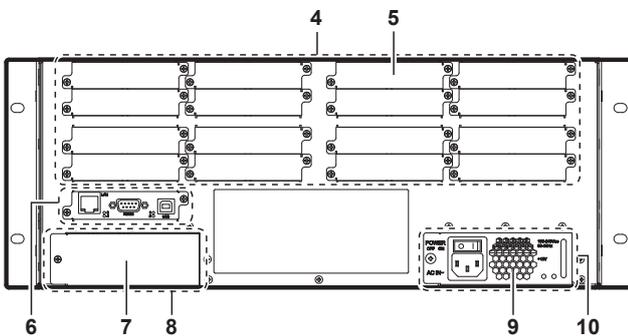
1 Rack mount bracket

2 USB connector (Type A)
This terminal is used by the service personnel.
A cover is attached to the USB connector. Do not remove the cover.

3 Power indicator <BUSY (R)/ON (G)>
Displays the status of the power.

4 Slot section
There are 16 slots for internally installing optional interface boards.

5 Slot cover

6 CPU board section

7 Cover for the POWER SUPPLY attachment section

8 POWER SUPPLY attachment section
Space for installing the optional POWER SUPPLY.

9 Air exhaust port

10 POWER SUPPLY section

11 Air intake port

■ CPU board section
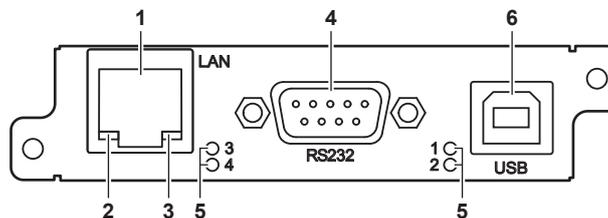
1 <LAN> terminal
This is the LAN terminal to connect to a network or computer. You can control this device using a computer.

2 LAN LINK/ACT indicator
Turns on when connected and flashes when sending and receiving signals.

3 LAN10/100 indicator
Turns on when connected to the 100Base-TX.

4 <RS232> terminal
This is an RS-232C compatible terminal to externally control the device by connecting a computer.

5 Status indicator of CPU board
Displays the status of the CPU board.
Turns on when the device is switched on and turns off when startup is complete.
This turns off when an error occurs.

6 USB connector (Type B)
This terminal is used by the service person.

■ POWER SUPPLY section
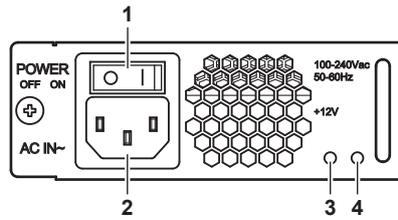
1 <POWER> switch
Turns the power on/off.

2 <AC IN> terminal
Connects the supplied power cord.

3 Power input indicator
Displays the power input status.
Turns on at all times while the device is on and turns off when the power is switched off.

4 Power output indicator
Displays the power output status.
Turns on when DC voltage is output.

Slot and input/output terminal numbering

■ Slots

This device has 16 slots for installing optional interface boards for signal input and output. From the top left, the slots are numbered **Slot1**, **Slot2**, up to **Slot16**.
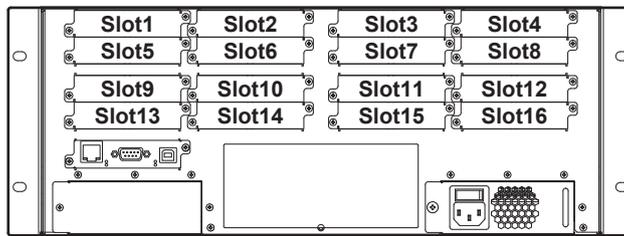
Note

● **Slot1** and **Slot2** are exclusively used by input interface boards while **Slot15** and **Slot16** are exclusively used by output interface boards. The 12 slots from **Slot3** to **Slot14** can be used by either input or output interface boards. For details on possible installation locations, refer to "Installing optional accessories" (➡ page 71).

■ Input/output terminals

The input terminals are numbered **in1**, **in2**, and so on in order from the left. Similarly, the output terminals are numbered **out1**, **out2**, and so on.

in1　　　in2　　　in3　　　in4
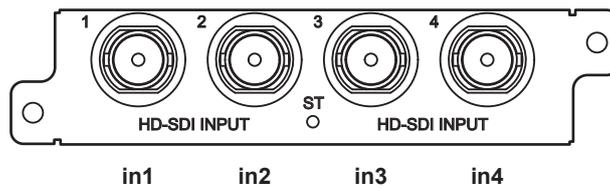
(Example 1: In the case of Interface Board for HD/SD-SDI 4input)

out1　　　　　out2
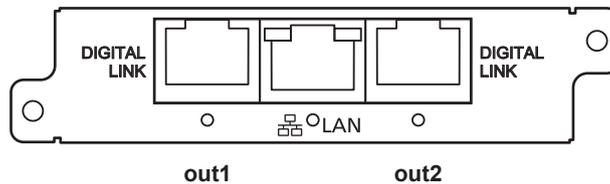
(Example 2: In the case of Interface Board for Digital Link 2output)

Note

● The Control Software for Multi Window Processor shows individual input and output terminals ([Input Fixed Name]/[Output Fixed Name]) by combining the slot number ([Slot Index]) and input/output terminal number ([Input Index]/[Output Index]).
Example 1: The [Input Fixed Name] of [in1] on the left end of the input board installed in **Slot1** is [Slot1.In1].
Example 2: The [Output Fixed Name] of [out1] on the left end of the output board installed in **Slot15** is [Slot15.Out1].

About optional accessories

■ Interface Board for DVI-U 2input (Model No.: ET-MCYDV100)
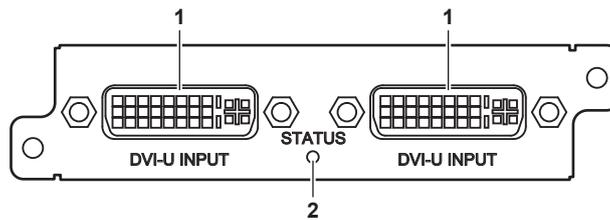
1   **<DVI-U INPUT> terminal**
     This terminal is used for digital, analog RGB, YC_BC_R/YP_BP_R,
     S-Video (Y/C), and video (CV) signal input.

2   **Status indicator of the interface board (➡ page 20)**

■ Interface Board for DVI-U 2output (Model No.: ET-MCQDV150)
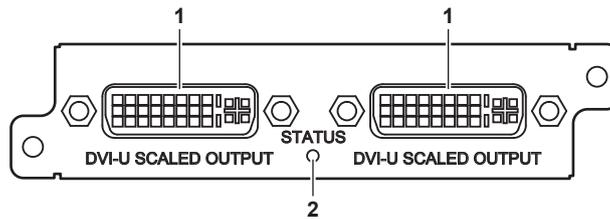
1   **<DVI-U SCALED OUTPUT> terminal**
     This terminal is used for digital, analog RGB, and $YC_BC_R/$
     YP_BP_R signal output.

2   **Status indicator of the interface board (➡ page 20)**

■ Interface Board for 3G-SDI 2input (Model No.: ET-MCYSD200)
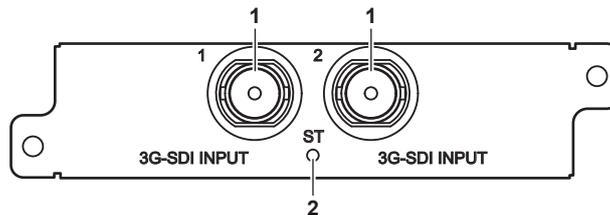
1   **<3G-SDI INPUT> terminal**
     This terminal is used for 3G-SDI (including HD/SD-SDI) signal
     input.

2   **Status indicator of the interface board (➡ page 20)**

■ Interface Board for HD/SD-SDI 4input (Model No.: ET-MCYSD210)
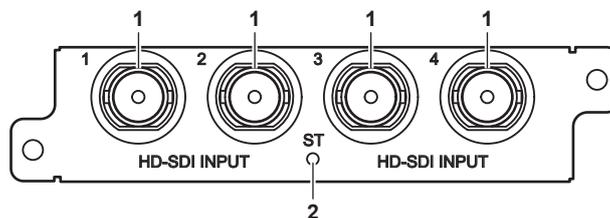
1   **<HD-SDI INPUT> terminal**
     This terminal is used for HD-SDI/SD-SDI signal input.

2   **Status indicator of the interface board (➡ page 20)**

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■ Interface Board for Digital Link 2output (Model No.: ET-MCQDL350)
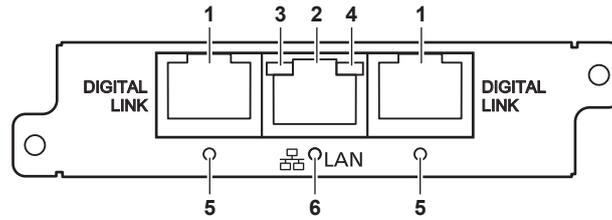
1 <DIGITAL LINK> terminal
Connects to a DIGITAL LINK-compatible display (projector or flat panel display) or a Panasonic-recommended twisted-pair-cable transmitter (receiver) using a CAT5e cable or higher (➡ page 29).

2 <LAN> terminal
This terminal is used for connecting to the network.
Using a computer on the network, you can monitor and control a display (projector or flat panel display) connected to the device through DIGITAL LINK.

3 LAN10/100 indicator
Turns on when connected to the 100Base-TX.

4 LAN LINK/ACT indicator
Turns on when connected and flashes when sending and receiving signals.

5 DIGITAL LINK indicator
Displays the status of the link with an external device.
Green: Connected to an external device via a cable.
Orange: An HDCP signal is being input.
Orange flashing: A non-HDCP signal is being input.

6 Status indicator of the interface board (➡ page 20)

■ POWER SUPPLY (Model No.: ET-RPS100G)
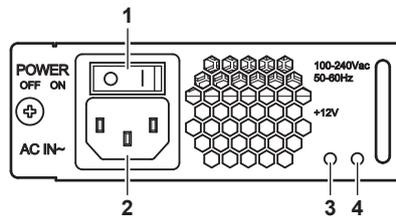
1 <POWER> switch
Turns the power on/off.

2 <AC IN> terminal
This terminal is used for connecting the supplied power cord.

3 Power input indicator
Displays the power input status.
Turned on at all times while the device is on and turns off when the power is switched off.

4 Power output indicator
Displays the power output status.
Turns on when DC voltage is output.

Status indicator of the interface board

Displays the status of the interface board.

Indicator status		Interface board status
Green	On	In operation.
Red	On	Preparing.
Off		Power is off or an error has occured.

Note

● If the status indicator of the interface board does not light in green even a few seconds after switching on the device, ask your dealer to inspect or repair the device.

Chapter 2   Getting Started

This chapter describes things you need to do before using this device such as the setup and connections.

Attach optional accessories before installing the device at a location. Be sure to ask a qualified technician or your dealer when attaching optional accessories to the device. (➡ page 71)

Setting up

Rack

This device is designed to be put on a rack. It can be installed on an EIA (ANSI/EIA-310-D) standard rack.

Installing the device on the rack

Use supplied or rack-specified installation screws and support angles to attach the device to the rack. Install the device as according to the rack specification.
Firmly install the device to the rack using the four rack installation screws.
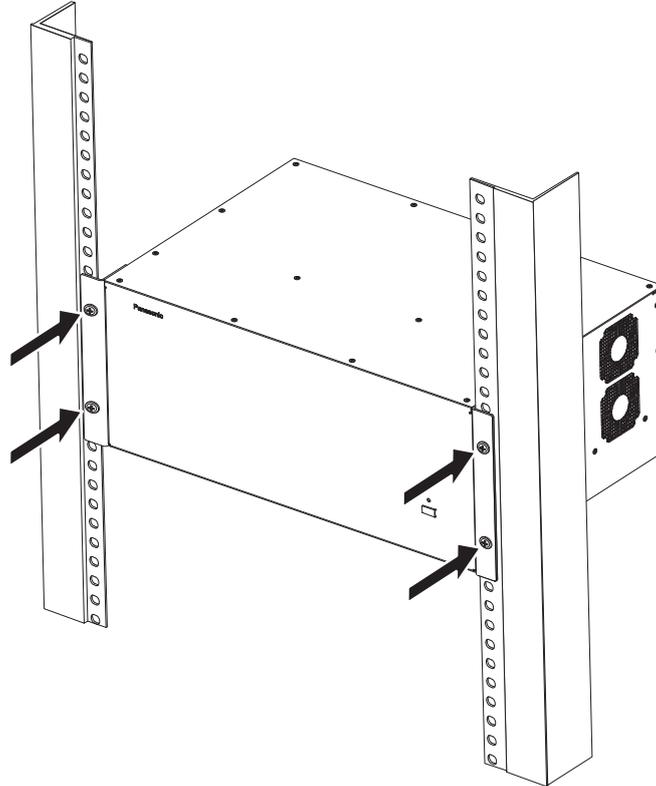
Attention

- Make sure to turn off the power before installing the device on the rack.
- When switching off the device, make sure to follow the procedures in "Switching off the device" (➡ page 37).
- Installation of the device on the rack must be performed by two or more persons.
- Be careful not to let the device slip and fall during installation.
- The temperature around the device inside the rack where the device is installed should be within the following range.
  - When using at a location lower than 1 400 m (4 593') above sea level: between 0 °C (32 °F) and 40 °C (104 °F)
  - When using the device between 1 400 m (4 593') and 2 700 m (8 858') above sea level: 0 °C (32 °F) to 35 °C (95 °F).
- Do not install the device near other devices that produce a considerable amount of heat such as power amps. If such conditions cannot be avoided, set a space of 1U or more between this device and other devices.
- Do not use the device under the condition with the intake/exhaust ports of the device blocked or intake/exhaust air interfered.
- After installing the device on the rack make sure to open up some space around the rack for installing or removing power cords and signal cables.
- To easily form a 2-POWER SUPPLY configuration by installing the optional POWER SUPPLY, perform the following procedure.
  - Carefully check the Caution label at the back of the device.
  - Remove the power cord connector from the <AC IN> terminal.
  During installation, after confirming that the <POWER> switches of both POWER SUPPLY units are on the <○> side, fully isolate them from the power supply by removing the power cord connector from the <AC IN> terminal.

Caution

When two power-supply units are inserted, be certain to turn off both power supplies before starting the servicing.

Description on the caution label

Connecting

Before connecting

- Before connecting, carefully read the operating instructions of the devices to be connected.
- When connecting to an external device, such as a video input/output device or a computer, use the power cord supplied for each of the devices.
- If cables necessary for connection are not supplied with each external devices as accessories or not available as an option, use a commercially-available shielded cable according to the input and output terminals of the external devices to be connected.
- Turn off the power of all devices before connecting cables.
- Take note of the following points before connecting the cables. Failure to do so may result in malfunctions.
  - Before connecting a cable to the device, displays (projector or flat panel display), or external devices such as a video player, touch any nearby metallic objects to eliminate static electricity from your body.
  - Do not use unnecessarily long cables when connecting the device and the displays (projector or flat panel display). Longer the cable is, easier to be influenced by a noise. Since using a cable while it is wound makes it act like an antenna, it is more susceptible to noise.
  - When connecting a cable, insert it to the connecting terminals of the device perpendicularly, connecting to GND first.
- Video signals containing too much jitter may cause the images on the screen to randomly wobble or wafture. In this case, a time base corrector (TBC) must be connected.
- Some computer models are not compatible with the device.
- Use a cable compensator when you connect external devices such as a video player to the device using long cables. Otherwise, the device may not display the image properly.
- Signals that can be input to the device are digital, analog RGB (synchronization signals at TTL level), YC_BC_R/YP_BP_R, S-Video (Y/C), and video (CV) signals. Signals that can be output from the device are digital, analog RGB (synchronization signals at TTL level), and YC_BC_R/YP_BP_R signals. To do this, you will need to install the corresponding interface board in the device.
- Prepare a commercially available conversion adaptor as necessary.
- Refer to "Compatible signals" (➡ page 66) for the types of video input and output signals that can be used with the device.

<DVI-U INPUT> terminal pin assignments and signal names

Outside view	Pin No.	Signal name	Pin No.	Signal name
	(1)	T.M.D.S data 2–	(16)	Hot plug detection
	(2)	T.M.D.S data 2+	(17)	T.M.D.S data 0–
	(3)	T.M.D.S data 2 shield	(18)	T.M.D.S data 0+
	(4)	—	(19)	T.M.D.S data 0 shield
	(5)	—	(20)	—
	(6)	DDC clock	(21)	—
	(7)	DDC data	(22)	T.M.D.S clock shield
	(8)	Analog VERT.SYNC	(23)	T.M.D.S clock+
	(9)	T.M.D.S data 1–	(24)	T.M.D.S clock–
	(10)	T.M.D.S data 1+	C1	Analog R, R, C_R/P_R, C, —
	(11)	T.M.D.S data 1 shield	C2	Analog G, G SYNC, Y, —, CV
	(12)	—	C3	Analog B, B, C_B/P_B, Y, —
	(13)	—	C4	Analog HORI.SYNC
	(14)	+5 V	C5	Analog GND
	(15)	GND		

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<DVI-U SCALED OUTPUT> terminal pin assignments and signal names

Outside view	Pin No.	Signal name	Pin No.	Signal name
	(1)	T.M.D.S data 2–	(16)	Hot plug detection
	(2)	T.M.D.S data 2+	(17)	T.M.D.S data 0–
	(3)	T.M.D.S data 2 shield	(18)	T.M.D.S data 0+
	(4)	—	(19)	T.M.D.S data 0 shield
	(5)	—	(20)	—
	(6)	DDC clock	(21)	—
	(7)	DDC data	(22)	T.M.D.S clock shield
	(8)	Analog VERT.SYNC	(23)	T.M.D.S clock+
	(9)	T.M.D.S data 1–	(24)	T.M.D.S clock–
	(10)	T.M.D.S data 1+	C1	Analog R, R, C_R/P_R
	(11)	T.M.D.S data 1 shield	C2	Analog G, G SYNC, Y
	(12)	—	C3	Analog B, B, C_B/P_B
	(13)	—	C4	Analog HORI.SYNC
	(14)	+5 V	C5	Analog GND
	(15)	GND		

Note

● The <DVI-U SCALED OUTPUT> terminal does not support S-Video (Y/C) and video (CV) signal output.

<RS232> terminal pin assignments and signal names

Outside view	Pin No.	Signal name	Details
	(1)	—	NC
	(2)	TXD	Transmitted data
	(3)	RXD	Received data
	(4)	—	NC
	(5)	GND	Earth
	(6)	—	NC
	(7)	CTS	Clear to send
	(8)	RTS	Request to send
	(9)	—	NC

Communication conditions for the <RS232> terminal

Signal level	RS-232C-compliant
Baud rate	115 200 bps
Parity	None
Character length	8 bits
Stop bit length	1 bit
Flow control	None

Connecting equipment to this device

The device has slots for connecting input and output interface boards. By installing various types of optional interface boards that are compatible with the external device to be connected, you can configure inputs and outputs according to your preference.

The bracket for input interface boards has a black background. Interface boards are attached in ascending order from **Slot1**. The bracket for output interface boards has a white background. Interface boards are attached in descending order from **Slot16**.

Connecting example: Video input devices

The following examples show the optional Interface Board for DVI-U 2input (Model No. ET-MCYDV100) attached to **Slot1** and **Slot2**, Interface Board for 3G-SDI 2input (Model No. ET-MCYSD200) to **Slot3**, and Interface Board for HD/SD-SDI 4input (Model No. ET-MCYSD210) to **Slot4** on the slot section of this device.

For <DVI-U INPUT> terminal

Attention

- Always use one of the following when connecting a VCR.
    - A VCR with built-in time base corrector (TBC)
    - A time base corrector (TBC) between the device and the VCR
- If nonstandard burst signals are connected, the image may be distorted. In such case, connect the time base corrector (TBC) between the device and the external devices.
- To assure continued performance and FCC compliance, use only high quality DVI-D interface cable with two ferrite cores for connecting with the <DVI-U INPUT> terminal.

Note

- Besides S-Video (Y/C), and video (CV) signal inputs, the <DVI-U INPUT> terminal also supports connections with HDMI and DVI-I-compatible devices. However, images may not appear or may not be displayed properly on some devices.
- For an HDMI cable, use an HDMI High Speed cable that conforms to HDMI standards. If a cable that does not conform to HDMI standards is used, image may be interrupted or may not be displayed.

For SDI terminal

Digital VCR for commercial use

Digital VCR for commercial use

3G-SDI signals

SD-SDI signals or HD-SDI signals

Note

● Use a connection cable of 5CFB or higher (such as 5CFB or 7CFB), or Belden 1694A or higher to transmit images properly. Use a connection cable of 100 m (328'1") length or shorter.

Connecting example: Computers

The following example shows the optional Interface Board for DVI-U 2input (Model No. ET-MCYDV100) attached to **Slot1** and **Slot2**, Interface Board for Digital Link 2output (Model No. ET-MCQDL350) to **Slot15** and **Slot16** on the slot section of this device.

Computer

Computer

Computer

Computer

DVI - D-Sub conversion adaptor (commercially available)

DVI - HDMI conversion adaptor (commercially available)

DVI - RGBHV (5 BNC) conversion adaptor (commercially available)

Hub

Hub

Computer for controlling this device

Computer for controlling this device

Computer for display control

Attention

● To assure continued performance and FCC compliance, use only high quality DVI-D interface cable with two ferrite cores for connecting with the <DVI-U INPUT> terminal.

Note

● The <DVI-U INPUT> terminal can be connected to HDMI and DVI-I-compatible devices. However, images may not appear or may not be displayed properly on some devices.
● For an HDMI cable, use an HDMI High Speed cable that conforms to HDMI standards. If a cable that does not conform to HDMI standards is used, image may be interrupted or may not be displayed.
● The <DVI-U INPUT> terminal (for digital input) only supports a single link.
● For the serial cable that would connect to the <RS232> terminal, use a straight-through cable.
● When connecting the control computer to the <LAN> terminal on the CPU board section and the <LAN> terminal on the Interface Board for Digital Link 2output (Model No. ET-MCQDL350) via a LAN cable, use a crossover cable. When using network devices, such as a hub, use straight-through cables.

Connecting example: Displays (using the method other than DIGITAL LINK connection)

The following example shows the optional Interface Board for DVI-U 2output (Model No. ET-MCQDV150) attached to **Slot13** and **Slot14** on the slot section of this device.

Non-DIGITAL LINK-compatible flat panel display

Non-DIGITAL LINK-compatible flat panel display

DVI - HDMI conversion adaptor (commercially available)

DVI - HDMI conversion adaptor (commercially available)

Non-DIGITAL LINK-compatible projector

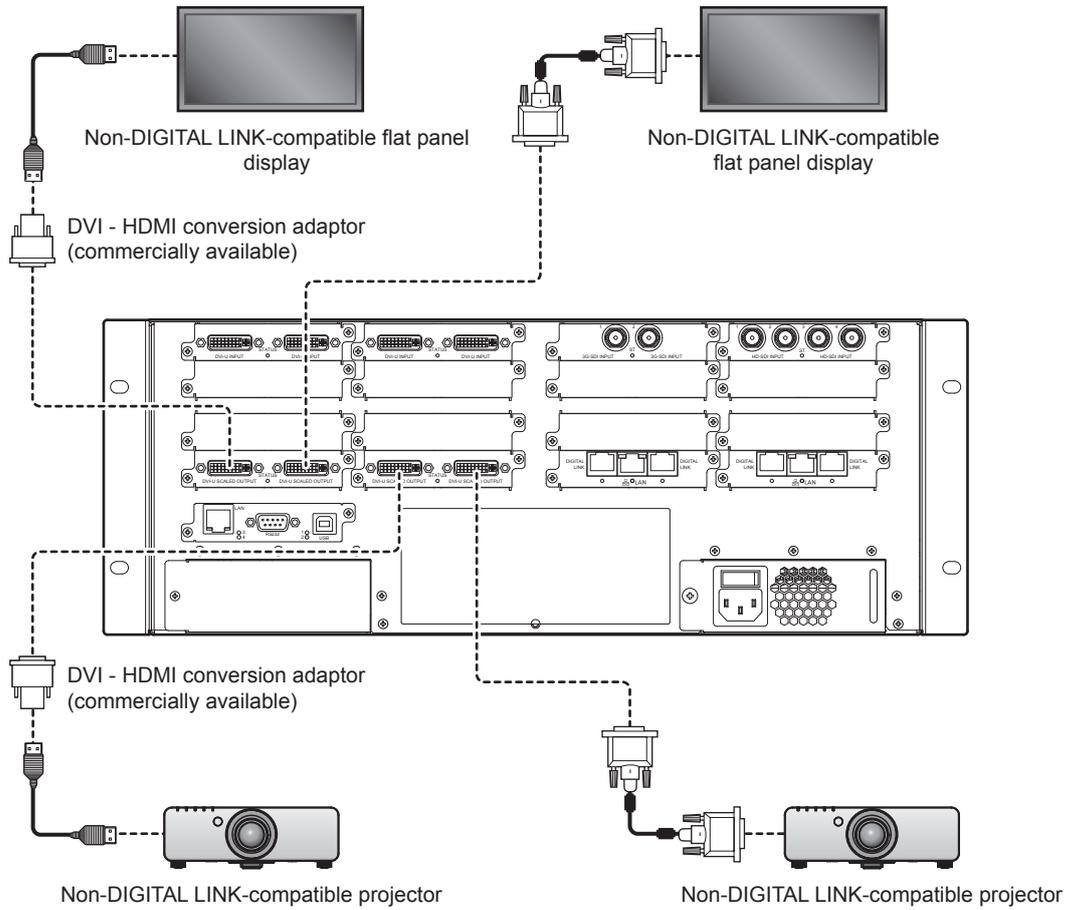Non-DIGITAL LINK-compatible projector

Attention

● To assure continued performance and FCC compliance, use only high quality DVI-D interface cable with two ferrite cores for connecting with the <DVI-U SCALED OUTPUT> terminal.

Note

● The <DVI-U SCALED OUTPUT> terminal can be connected to HDMI and DVI-I-compatible devices. However, images may not appear or may not be displayed properly on some devices.
● For an HDMI cable, use an HDMI High Speed cable that conforms to HDMI standards. If a cable that does not conform to HDMI standards is used, image may be interrupted or may not be displayed.

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Connecting example: DIGITAL LINK-compatible devices

The following example shows the optional Interface Board for DVI-U 2output (Model No. ET-MCQDV150) attached to **Slot13** and **Slot14**, Interface Board for Digital Link 2output (Model No. ET-MCQDL350) to **Slot15** and **Slot16** on the slot section of this device.
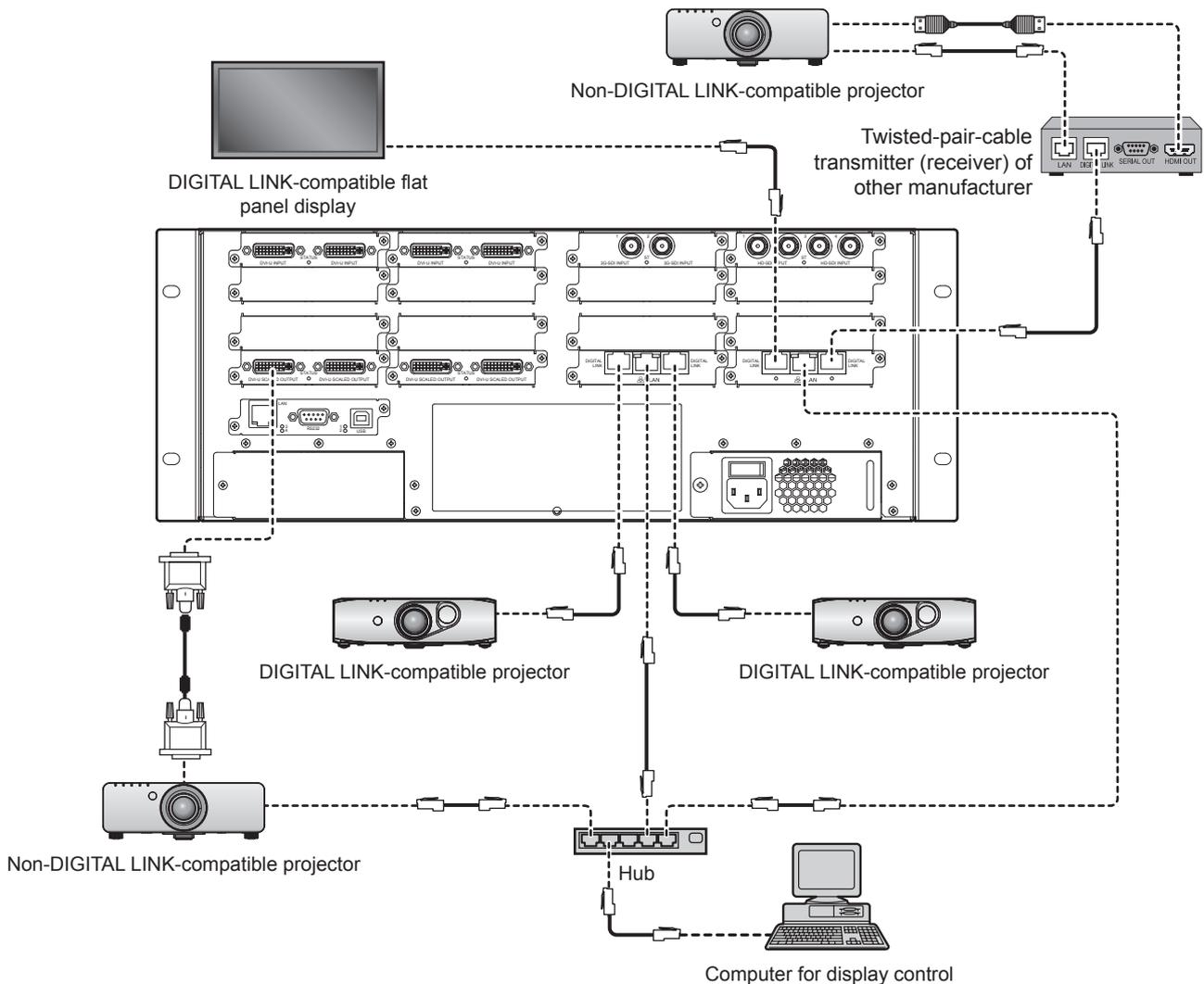

Attention

● When using this device by connecting with displays (projector or flat panel display) through DIGITAL LINK connection, set the setup menu "DIGITAL LINK MODE" to "DIGITAL LINK". When it is set to something other than "DIGITAL LINK", there might be a delay before images of DIGITAL LINK input will appear.
　Setup procedure of the display is as follows. Menu names may differ depending on the model of the display.
　　－ Projector setup procedure
　　　Set "DIGITAL LINK MODE" of the "NETWORK" menu to "DIGITAL LINK".
　　－ Flat panel display setup procedure
　　　Set "DIGITAL LINK mode" of the "Setup" menu → "Network Setup" to "DIGITAL LINK".
● Ask a qualified technician or your dealer to laying the cable for DIGITAL LINK connection. Image and sound may be disrupted if cable transmission characteristics cannot be obtained due to inadequate wiring.
● For DIGITAL LINK connection, use a LAN cable that conforms with the following conditions.
　　－ Compatible with the CAT5e or a higher standard
　　－ Shielded type (including connectors)
　　－ Straight wire connection
　　－ Single wire
● When laying the cable for DIGITAL LINK connection, confirm that the cable specification satisfies the characteristics of CAT5e or higher by using a cable tester or a cable analyzer.
　When a relay connector is used midway, include it in the measurement.
● Do not use a hub on the DIGITAL LINK connection path between the device and DIGITAL LINK-compatible display (projector or flat panel display), and between the device and a twisted-pair-cable transmitter (receiver).
● When connecting the device to the display (projector or flat panel display) using a twisted-pair-cable transmitter (receiver) of other manufacturer, do not place another twisted-pair-cable transmitter between the twisted-pair-cable transmitter of other manufacturer and DIGITAL LINK-compatible display. This may cause image and sound to be disrupted.
● Do not pull the cable with a strong force. In addition, do not bend or fold forcedly.
● To reduce the effects of noise, stretch out the cable for DIGITAL LINK connection without any loops.
● Lay the cable for DIGITAL LINK connection away from other cables, particularly power cables.
● When laying multiple cables, run them side by side along the shortest distance possible without bundling them together.

Note

- The maximum transmission distance between the device and DIGITAL LINK-compatible display (projector or flat panel display), and between the device and a twisted-pair-cable transmitter (receiver) is 100 m (328'1"). If this distance is exceeded, image and sound may be disrupted and may cause a malfunction in LAN communication. If the device is used with the distance longer than the specified maximum transmission distance, the operation will be out of warranty.
- A Panasonic-recommended twisted-pair-cable transmitter (receiver) is required when connecting the device to Panasonic's display (projector or flat panel display) that is not compatible with DIGITAL LINK. For twisted-pair-cable transmitters (receivers) of other manufacturers of which the operation has been verified, refer to the Panasonic website (https://panasonic.net/cns/projector/). Note that the verification for devices of other manufacturers has been made for the items set by Panasonic Corporation, and not all the operations have been verified. For operation or performance problems caused by the devices of other manufacturers, contact the respective manufacturers.

Installing/uninstalling the software

Installing the control software

The functions of this device can be configured and controlled using the control software (Control Software for Multi Window Processor). Install the control software on the computer you will connect the device to.

System requirements

To use the control software, the computer must meet the following system requirements.
- OS (with Japanese, English, and Chinese support)
  - Microsoft Windows 8: Windows 8 32/64-bit, Windows 8 Pro 32/64-bit
  - Microsoft Windows 7 (up to SP1): Ultimate 32/64-bit, Professional 32/64-bit, Home Premium 32/64-bit
  - Microsoft Windows XP (SP3): Professional 32-bit, Home Edition 32-bit
- Software library
  - Microsoft.NET Framework 4 or later
- Application framework
  - Microsoft Silverlight 5 or later
- Other
  - Meet various system requirements of Silverlight and the corresponding OS.
  - LAN terminal and serial terminal (RS-232C-compliant) of a wired LAN (10Base-T/100Base-TX).
  - A display with the number of pixels of at least 900 vertical lines is recommended.

Note

- Please note that performance is not guaranteed if the system requirements mentioned above are not met, or if the computer used is custom-built.

Performance on all computers that meet the above requirements is not completely guaranteed.

Required computer environment for connection

Before connecting the device to your computer, make sure to check the following settings.

■ LAN settings

Computer with a built-in LAN function
- Is the LAN function enabled?

Computer without a built-in LAN function
- Is the LAN adaptor properly recognized by the system?
- Is the LAN adaptor enabled?
- Install the driver for the LAN adaptor beforehand.
  Check the operating instructions of the LAN adaptor on how to install the driver.

Note

- The computer may not be able to connect to this device if the security software (firewall) or utility software for the LAN adaptor is installed. (➡ page 63)
- Performance is not guaranteed for all internal and external LAN adaptors.

Before installing

To use the control software, you need to have the following software installed in your computer.
If you have not installed them yet, download them from the Microsoft homepage.
- Microsoft.NET Framework 4 or later
- Microsoft Silverlight 5 or later

Installation procedure

1) **Run the installer.**
   - Follow the steps below to run the installer.

Installing from the supplied CD-ROM	• Insert the supplied CD-ROM into the CD drive. The application launcher will run automatically. If the application launcher does not launch, double-click "Launcher.exe" in the CD-ROM. (When the auto play screen is displayed, select the relevant option to run "Launcher.exe".) • Click either "Install Control Software for Multi Window Processor (32bit)" or "Install Control Software for Multi Window Processor (64bit)" on the menu, depending on the operating system your computer is using.

Installation using the file downloaded from the Internet	• Uncompress the file which was downloaded from the Internet. • Double-click "Control Software for Multi Window Processor.exe" (32-bit) or "Control Software for Multi Window Processor -x64.exe" (64-bit) within the uncompressed folders.

• When the installer launches, the installation screen (English) is displayed.

2)   Click the [Next] button.

• The licensing agreement is displayed.
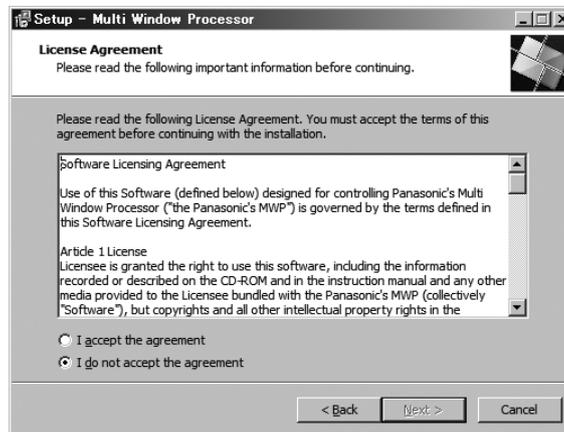
3)   Read the licensing agreement.

• Be sure to read [Software Licensing Agreement] displayed on the installation screen or "Software Licensing Agreement" (➡ page 16).

4)   Agree to the licensing agreement.

• Select [I accept the agreement] and click the [Next] button.

5) Click the [Install] button.

6) Click the [Finish] button.

- When the installation is complete, a shortcut is created on the desktop.

Note

- For the latest version of the control software, please see the support information on the Panasonic website (https://panasonic.net/cns/projector/).
- The illustrations and screenshots found in this document may vary with the actual objects.
- Before starting the installation, exit all running Windows applications. The installation may not proceed if other software is left running.
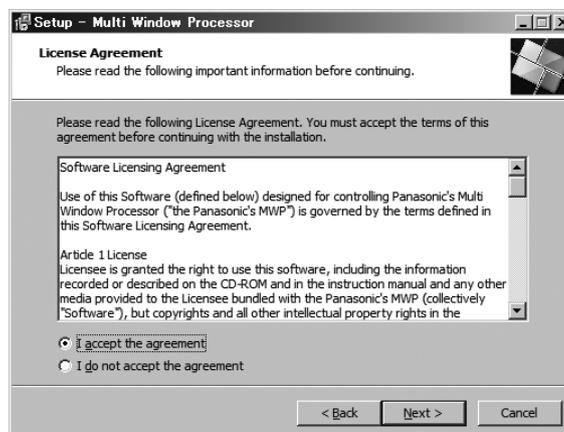
Uninstalling the control software

Attention

- The setting data saved on the control computer is not deleted even when the control software is uninstalled.
  Before uninstalling the control software, click [General] → [Local Data Management] on the [Settings] page to delete all setting data saved on the control computer.

Uninstallation procedure

■ Windows 8

1) While pressing the "Windows Logo" key on the keyboard, press "X". Select "Control Software for Multi Window Processor" from "Control Panel" → "Uninstall a program", and click "Uninstall".

2) Uninstall the control software by following the instructions on the screen (English).

■ **Windows 7**

1) **Select "Control Software for Multi Window Processor" from "Start" → "Control Panel" → "Uninstall a program", and click "Uninstall".**

2) **Uninstall the control software by following the instructions on the screen (English).**

■ **Windows XP**

1) **Select "Control Software for Multi Window Processor" from "Start" → "Control Panel" → "Add or remove programs", and click "Delete".**

2) **Uninstall the control software by following the instructions on the screen (English).**

Chapter 3   Basic Operations

This chapter describes basic operations to start with.

Switching on/off the device

Connecting the power cord

Use the supplied power cord and make sure that it is securely fixed to the device to prevent it from being removed easily.

Confirm that the <POWER> switch of the device is on the <○> side before connecting the power cord. For details on power cord handling, refer to "Read this first!" (➡ page 2).

Attaching the power cord

1) **Check the shape of the power cord connector and the <AC IN> terminal at the back of the device, and plug the connector securely in the correct direction.**

Removing the power cord

1) **Confirm that the <POWER> switch is on the <○> side before removing the power plug from the outlet.**

2) **Remove the power cord connector from the <AC IN> terminal on the rear of the device.**

Switching on the device

Check the connection of the external device before turning on the power.
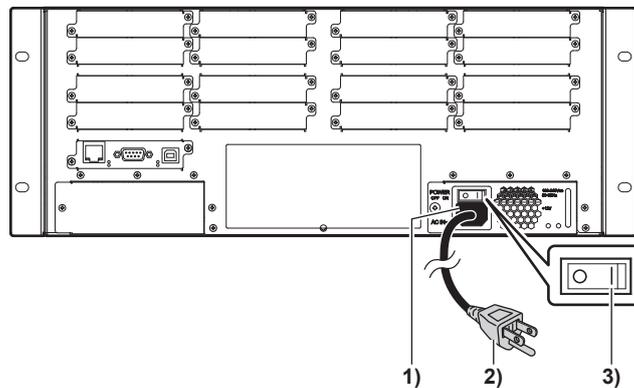
1) **Connect the power cord to the device.**

2) **Connect the power plug to an outlet.**
   - AC 100 V - 240 V, 50 Hz/60 Hz

3) **Press the <POWER> switch towards the <│> side to turn on the power.**
   - The power indicator <BUSY (R)/ON (G)> will light in red, and after a while, will light in green.

Note

- When installing the optional POWER SUPPLY to form a 2–POWER SUPPLY configuration, turn on both POWER SUPPLY units.
- When the power indicator <BUSY (R)/ON (G)> is red, it means that the device is performing an internal check. When the indicator turns green, start the control software on the control computer that is connected to the device.
- More you attach interface boards, longer it takes to change the power indicator <BUSY (R)/ON (G)> in green. It will take approximately three minutes.
  When there is a problem with the CPU board or interface board, the power indicator <BUSY (R)/ON (G)> stays red. When it does not turn green even after a while, turn off the device, then turn it on again.
  If the problem persists, consult your dealer.
- The device's cooling fans (in the air intake/exhaust ports) will spin at maximum speed a short while after the device is turned on. This is not a malfunction.

Switching off the device

2)
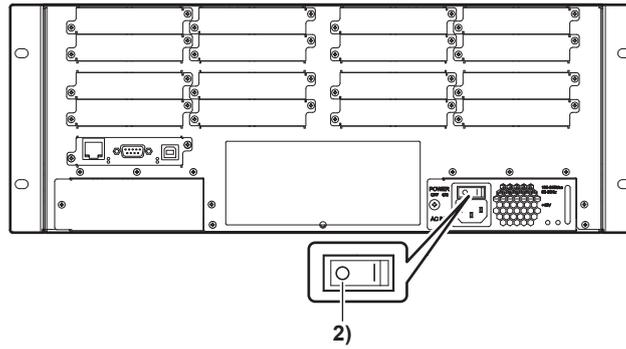
1)   **Close the control software on the control computer.**

2)   **Press the <POWER> switch towards the <○> side to turn off the power.**
   ● Confirm that the power indicator <BUSY (R)/ON (G)> is turned off.

Attention

● When installing the optional POWER SUPPLY to form a 2-POWER SUPPLY configuration during the device installation, remove the power cord connector from the <AC IN> terminal after turning off both POWER SUPPLY units to fully isolate them from the power supply.

<POWER> switch

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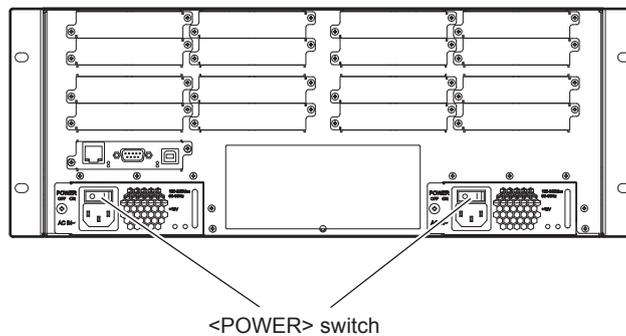
Preparing the control computer

There are two ways to connect the device to the control computer of the device: LAN connection and serial connection.

■ LAN connection

Connect the device to the control computer using a LAN cable.

1)   Connect the control computer.

● When connecting the device to the control computer using a LAN cable, use a crossover cable. When using network devices, such as a hub, use straight-through cables.

2)   Configure the network settings of the control computer.

● Match the IP address, subnet mask, and default gateway with that of the environment you are using.
     For details, please ask your network administrator.

● If "Use automatic configuration script" is checked in your web browser's settings, uncheck it.

● If "Use a Proxy Server for your LAN" is checked in your web browser's settings, uncheck it or alternatively, set the IP address of the projector to "Exceptions" in the proxy detailed settings.

■ Serial (RS-232C) connection

Connect the device to the control computer using a serial cable.

1)   Connect the control computer.

● Connect the device to the control computer using an RS-232C-compliant straight-through cable.

2)   Configure the control computer's communication settings.

● Refer to "Communication conditions for the <RS232> terminal" (➡ page 24) for setting details.

Note

● The IP address of the <LAN> terminal on the CPU board section of the device is set to (192.168.0.10) by default.
     To use the device with LAN connection, use a serial cable to connect the device to the control computer, and then make necessary settings for LAN connection from [Ethernet] on the [Settings] page. Ask your network administrator about the IP address, subnet mask, and default gateway to be set to the device.
     When the device is connected to the control computer using the LAN cable, the [Ethernet] setting on the [Settings] page cannot be changed.

Starting the control software

1)   Turn on the device.

● Wait until the power indicator <BUSY (R)/ON (G)> lights in green.

2)   Double-click the shortcut on your desktop.

● When the control software starts, a login screen will be displayed.

Note

● The administrative rights are required to start the control software. Use the administrator account to log onto Windows.

Description of the login screen

Login screen

The login screen is displayed by double-clicking the shortcut on the desktop to start the control software.
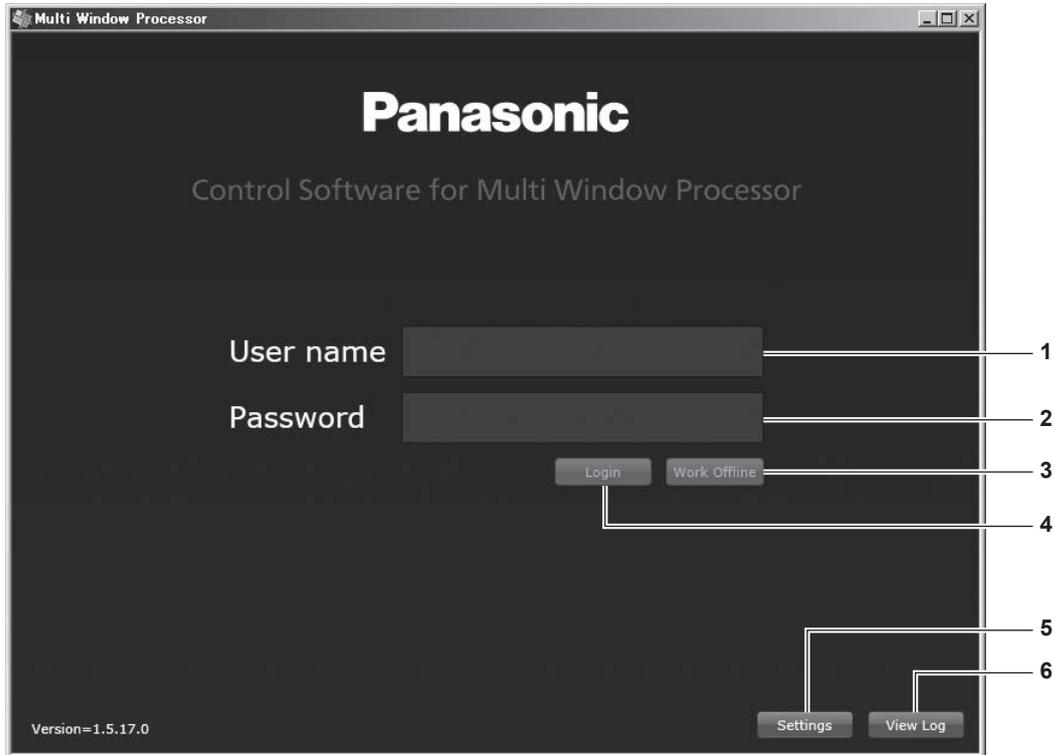
1   [User name]
Enter the user name. There are five usable user names: **admin**, **user1**, **user2**, **user3**, and **user4**.

2   [Password]
Enter a password. The usable password is the user name + pw. For example, if the user name is **admin**, the password will be **adminpw**.

3   [Work Offline]
Starts the control software in offline mode. Operations will be limited. This can be selected when the setting data is saved on the control computer.
In this case, you do not need to enter [User name] and [Password].

4   [Login]
After entering the user name and password, click this to log in.

5   [Settings]
Configures the connection method between the device and the control software.

6   [View Log]
Displays the communication log between the device and the control software.

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[Settings] screen

The following explains the settings that are required when you use the control software for the first time.

1) Click the [Settings] button on the login screen.

- The **[Settings]** screen will be displayed.
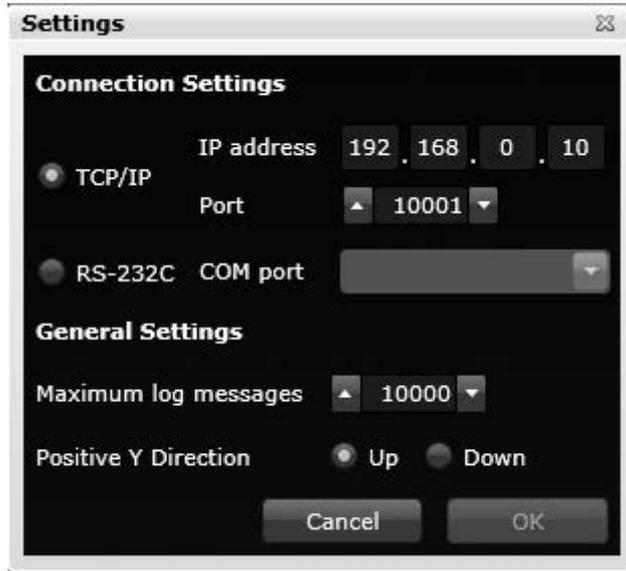
2) Configure [Connection Settings].

- Set the connection method between the device and the control computer where the control software is installed from [TCP/IP] or [RS-232C].

[TCP/IP]	[IP address]	Set this when the device is connected using a LAN cable. Enter the IP address of the device.
	[Port]	Enter **10001**. You cannot put any other value since the port is fixed.
[RS-232C]	[COM port]	Set this when the device is connected using the serial cable. When the serial port available on the control computer is displayed, select the port for serial connection with the device.

3) Configure [General Settings].

[Maximum log messages]	Set the number of communication log items to be displayed. You can set a number from 1 000 to 100 000.
[Positive Y Direction]	Select the direction of the [Layouts] and [Canvases] coordinates (Y-axis). Selecting [Up] will make the upper direction of the control software screen positive. Selecting [Down] will make the lower direction of the control software screen positive.

4) Click the [OK] button.

- This confirms the changes to the settings.

Note

- The IP address of the <LAN> terminal on the CPU board section of the device is set to (192.168.0.10) by default.
  To use the device with LAN connection, use a serial cable to connect the device to the control computer, and then make necessary settings for LAN connection from [Ethernet] on the [Settings] page. Ask your network administrator about the IP address, subnet mask, and default gateway to be set to the device.
- In [Maximum log messages], the number of displayed communication logs is 10 000 by default. You can display a specified number of logs from the latest log. All communications between the device and the control computer are recorded in the log. The recorded communication log can be saved as a text file. If you set the smaller number of communication logs to be displayed, the text file size will be smaller.
- The settings of [General Settings] can be made from [General] → [Maximum log messages] and [Positive Y Direction] in the [Settings] page.
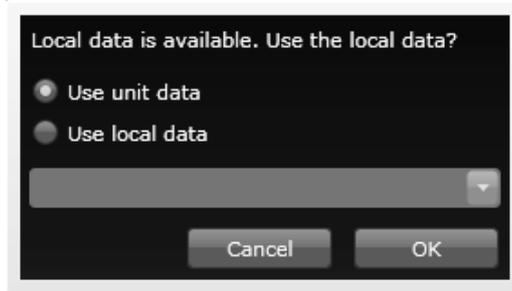
Login to the control software

1) **Enter the user name and the password on the login screen.**

   ● Enter [User name] and [Password].

2) **Click the [Login] button.**

   ● When the saved data selection screen is displayed, proceed to Step **3)**.
   If the selection screen is not displayed, the setting data saved on the device is loaded. It takes some time to load the setting data.

3) **Select the saved data.**

[Use unit data]	Uses the setting data saved on the device.
[Use local data]	Uses the setting data saved on the control computer. Select the setting data to use from the drop-down list, and click [OK].

4) **Log into the control software.**

   ● The control software starts, and the [Layouts] page will be displayed.
   Refer to "Settings" (➡ page 43) for details on how to use the control software.
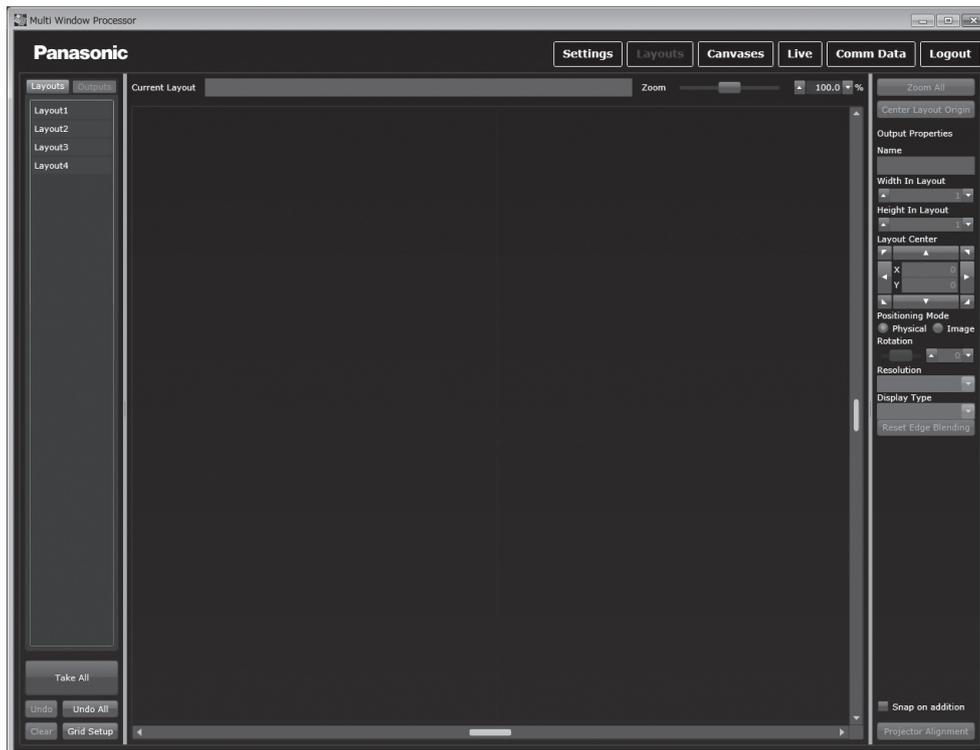
Note

● If you use the setting data saved on the device, it takes some time to load the setting data. Therefore it takes for a while to make the software operation available. You can reduce the time to load the data by saving the setting data in the control computer as local data, and selecting that data when logging in.
For methods of saving data in a computer, refer to "Closing the control software" (➡ page 42).
● To operate the control software in offline mode (the state where the device is not connected), click [Work Offline] on the login screen. When selecting the setting data to use from the drop-down list and clicking [OK], the [Canvases] page is displayed.

Closing the control software

When exiting the control software, you can save current working setting data on the control computer. If saving the data as a new file, you can load the saved data to use at the next login or in offline mode.

1) **Click the [Logout] button on the top right of the control software screen.**
   - The **[Logout]** screen will be displayed.
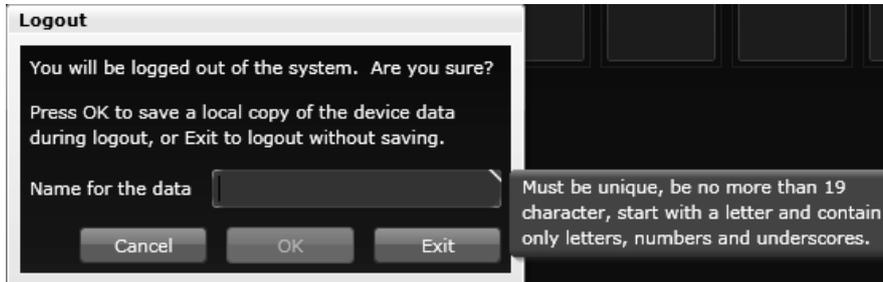
2) **Enter a name for the data to be saved.**
   - Use single-byte alphabets, numeric digits, and underbars (_) for a name. Up to 19 characters can be entered. Use the alphabets for the first character.
   - As a name for the setting data to be saved, the serial number of the device is automatically added before the entered string.

3) **Click the [OK] button.**
   - The current working setting data is saved to log out.
   - Click the [Exit] button to log out without saving the setting data.
   - Click the [Cancel] button to close the **[Logout]** screen and go back to the working screen without saving the setting data.

4) **Click the [X] button at the upper right of the login screen.**
   - The control software ends.

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Chapter 4   Settings

This chapter describes the settings and adjustments you can make using the control software.

Overview of operation

Operation flow with the control software

There are six buttons on the upper right of the control software screen, namely, [Settings], [Layouts], [Canvases], [Live], [Comm Data], and [Logout]. Click a button to switch the page to the corresponding operation. The name of the button for the currently selected page is displayed in red.

1)   **Click the [Settings] button.**
   ● The [Settings] page will be displayed.

2)   **Change settings such as the input source or output device. (➡ page 45)**

3)   **Click the [Layouts] button.**
   ● The [Layouts] page will be displayed.

4)   **Set the output device layout. (➡ page 49)**

5)   **Click the [Canvases] button.**
   ● The [Canvases] page will be displayed.

6)   **Set the screen configuration by combining the input source with the layout. (➡ page 55)**

7)   **When the screen configuration setting is complete, click the [Take All] button. (➡ page 44)**
   ● All settings will be sent to the device.

8)   **Click the [Save All Settings] button on the [Settings] page. (➡ page 44)**
   ● All settings will be saved in the non-volatile memory of the device.

Note

● When a system error occurs, you can check the communication log between the device and the control software on the [Comm Data] page. (➡ page 59)
● You can quickly switch and arrange the image layout to be displayed by clicking the [Live] button. (➡ page 58)
● You can exit the control software by clicking the [Logout] button. (➡ page 42)

Sending commands to the device

After logging into the control software, most commands are not sent to the device until you click the [Take All] button. If the [Undo] button is clicked, the displayed items return to the settings at the moment when the [Take All] button was last clicked. If the [Undo All] button is clicked, all items return to the settings at the moment when the [Take All] button was last clicked. The [Take All] button is used to send all data related to the current screen mode. It is used only when details displayed on the computer screen are different from the actual output, or when the device is reporting a synchronization error.

Saving current settings to the device

Click the [Save All Settings] button at the upper of the screen on the [Settings] page to save the current settings on the device (settings of [Ethernet], [Inputs], and [Outputs] on the [Settings] page, as well as settings of the [Layouts] page and the [Canvases] page) to the non-volatile memory. When you perform this operation, a confirmation screen will be displayed. If you allow the operation to continue, the device will copy all settings. This may take some time to complete.

Note

● Settings saved on the device can be deleted by the execution of the command.
   On the [Comm Data] page, enter **system.ClearSavedSettings()** to the command entry column. Click the [Send] button to send a command to the device, then turn the power off and back on again. For the [Comm Data] page, refer to [Comm Data] (➡ page 59).

[Settings]

Click the [Settings] button to display the [Settings] page.

There are four buttons displayed in the [Settings] page: [General], [Ethernet], [Inputs], and [Outputs]. Click a button to switch the page and set the necessary items. Set the inputs and outputs before installing the device at a location. By setting all inputs and outputs, all functions for properly operating the device can be set through this screen. In the input source or output device list, a small yellow key symbol is displayed, indicating that the HDCP source is supported in the channel with the HDCP function.

[General]

Click the [General] button on the [Settings] page. You can check basic information.
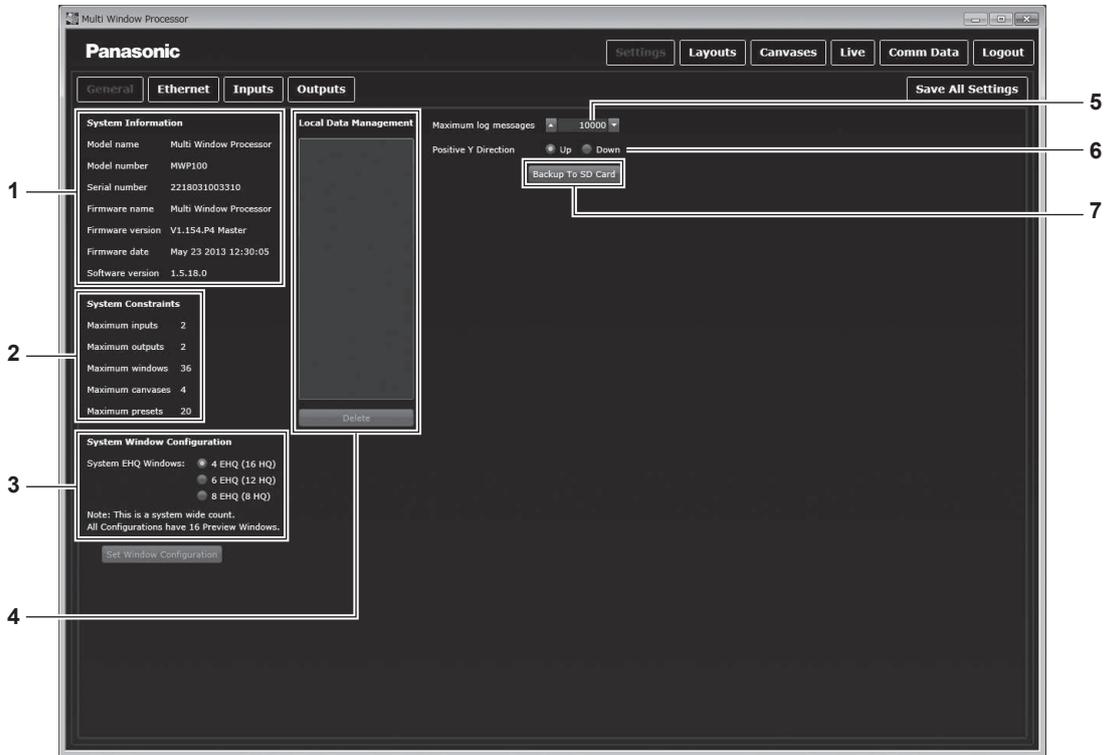
1 **[System Information]**
Enables you to check the device and control software information.

2 **[System Constraints]**
Enables you to check the system usage status.

3 **[System Window Configuration]**
Enables you to set the EHQ number.
After you change the settings, click the [Set Window Configuration] button to apply the changes.
The device needs to restart. Note that all unsaved information in the device will be lost when restarting.

4 **[Local Data Management]**
Displays the setting data saved in the control computer. Clicking the [Delete] button will delete the data.

5 **[Maximum log messages]**
Sets the number of communication log items to be displayed.
You can set a number from 1 000 to 100 000.

6 **[Positive Y Direction]**
Select the direction of the [Layouts] and [Canvases] coordinates (Y-axis).
Selecting [Up] will make the upper direction of the control software positive.
Selecting [Down] will make the lower direction of the control software positive.

7 **[Backup To SD Card]**
This function is used by the service personnel.

[Ethernet]

Click the [Ethernet] button on the [Settings] page. Perform this setting when connecting to the device via LAN. You can also view the MAC address of the CPU board section on the device.

Set the IP address at [IP address], subnet mask at [Subnet mask], and default gateway at [IP gateway], and then click the [Take] button. The settings will be sent to the device.

Click the [Undo] button when you want to go back to the previous state, before the setting was changed.

Note

● To change the [Ethernet] setting, connect the device to the control computer using a serial cable. When connected using the LAN cable, the [Ethernet] setting on the [Settings] page cannot be changed.

[Inputs]

Click the [Inputs] button on the [Settings] page. Sets the input source.

On the left side of the screen, a list of input sources detected by the device are displayed. You can select an input signal format and color scale setting by clicking the displayed input source. You can also adjust the luminance and contrast of an image.

1)   Click the [Inputs] button on the [Settings] page.

2)   Select the input source to be used from the input source list.
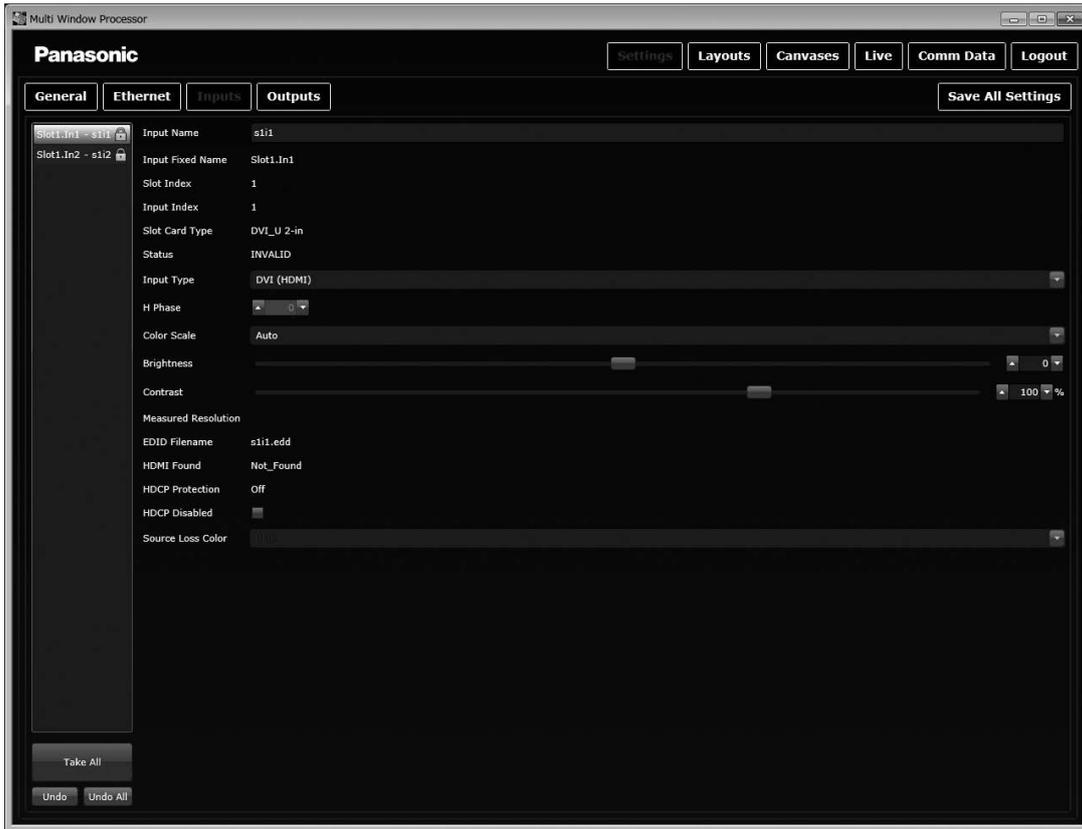
3)   Configure the input source.

[Input Name]	Sets the input source name.
[Input Fixed Name]	Displays the input terminal name. (➡ page 18)
[Slot Index]	Displays the slot number of the installed input board.
[Input Index]	Displays the input board terminal number.
[Slot Card Type]	Displays the installed input board type.
[Status]	Displays the input board connection status.
[Input Type]	Enables you to set the input signal format from the digital input DVI or several other analog inputs. Use a conversion adaptor that supports analog input when inputting analog signals from the DVI-U terminal on the input board. DVI-U can be selected from multiple [Input Type]. For SDI, [Input Type] is fixed to [SDI], and the setting cannot be changed.
[H Phase]	Enables you to correct deviations in video synchronization. Adjust this when RGBHV, RGsB, and YC_BC_R/YP_BP_R in [Input Type] are selected.
[Color Scale]	Enables you to correct the color by converting the scale when the color scale of the input source is not appropriate. If you set this to [Auto], the most appropriate color conversion according to the input method will be selected. If the color scale is not appropriate even when [Auto] is set, select a suitable color scale other than [Auto]. For SDI, [Color Scale] is fixed to [Auto], and the setting cannot be changed.
[Brightness]	Adjusts the brightness.
[Contrast]	Adjusts the contrast.
[Measured Resolution]	Displays the resolution of the input set.
[EDID Filename]	Identifies the file sent to the input source and changes to the most appropriate resolution for the connected device.
[HDMI Found]	Displays whether the input source is connected through HDMI. This will be set to [Found] when the input source is connected through HDMI.
[HDCP Protection]	Displays the HDCP status.
[HDCP Disabled]	When [HDCP Disabled] is enabled, HDCP contents are not displayed.
[Source Loss Color]	Specifies the background color when there are no input signals.

4)   Click the [Take All] button.

- The set details will be sent to the device.

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Note

● You can adjust the [Contrast] and [Brightness] for both analog and digital inputs.
● The input signal is detected, and when it is properly locked, [Status] will be changed to [OK]. The resolution of the input source is detected and displayed on the screen of the control software.

Naming the input

It is recommended to set a name for the input source to make operation easier. Use single-byte alphabets, numeric digits, and underbars (_) for a name. Up to 19 characters can be entered. Use the alphabets for the first character.
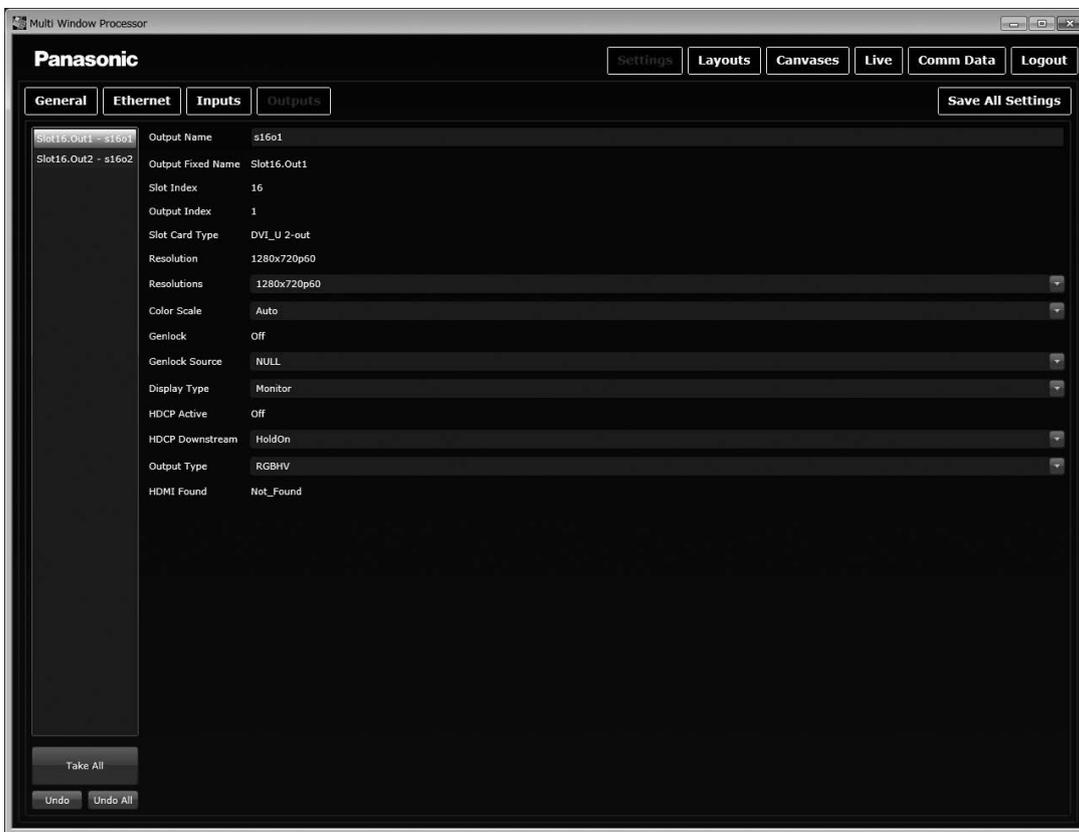A name related to a slot in the device is preset.

[Outputs]

Click the [Outputs] button on the [Settings] page. Set the output device. Set the resolution and format of the output to the device connected to the device.
On the left side of the screen, a list of output devices detected by the device are displayed.
In [Resolutions] of each output, select the output signal which the monitors or projectors that are connected to this device support. If you configure multiple windows on multiple monitors or projectors, set the same resolutions for output devices on the same output boards.

1) **Click the [Outputs] button on the [Settings] page.**

2) **Select the output device to be used from the output device list.**
   ● Here, a DVI-U output device is selected.

3) **Configure the output device.**

[Output Name]	Sets the output device name.
[Output Fixed Name]	Displays the output terminal name. (➡ page 18)
[Slot Index]	Displays the slot number of the installed output board.
[Output Index]	Displays the output board terminal number.
[Slot Card Type]	Displays the installed output board type.
[Resolution]	Displays the output signal name.
[Resolutions]	Selects the signal to be output to the monitors or projectors connected to the device.
[Color Scale]	Enables you to correct the color by converting the scale when the color scale of the output device is not appropriate. If you set this to [Auto], the most appropriate color conversion according to the output method will be selected.
[Genlock]	Allows you to enable or disable [Genlock]. (➡ page 48)

[Genlock Source]	When [Genlock] is enabled, the same resolution as the input source you specified here will be set in [Resolutions]. (➡ page 48)
[Display Type]	Enables you to select the device type that is connected to the output terminal of the device. You can adjust edge blending only if the output device selected is a [Projector].
[HDCP Active]	Indicates whether you can send HDCP contents between the device and a connected device.
[HDCP Downstream]	Enables you to always allow HDCP content output.
[Output Type]	Selects the signal to output.
[HDMI Found]	When the output destination device is DVI-D or HDMI, this becomes [Found]. In all other cases, this shows [Not_Found].

4) Click the [Take All] button.

- The set details will be sent to the device.

Note

- Outputs on the same output terminal cannot be used on different layouts. It is recommended to set all unused outputs to [None].

Naming the output

It is recommended to set a name for the output device to make operation easier. Use single-byte alphabets, numeric digits, and underbars (_) for a name. Up to 19 characters can be entered. Use the alphabets for the first character.
A name related to a slot in the device is preset.

[Genlock]

Each output will normally free run at the chosen output resolution. In many situations, you may want to have these outputs co-timed. The device therefore permits an output to be locked to an input of the same resolution.
There are the [Genlock] button and [Genlock] source selection for each output. The source selection is usually set to [NULL].

1) Click the [Outputs] button on the [Settings] page.

2) Select the output source to be used from the output device list.

3) Click the setting field of [Genlock Source] and select the source to synchronize.

- When [Genlock] is enabled, [Locked] will be displayed.
- A confirmation screen will appear when there is not valid signal input or when the input resolution does not match the output resolution. If you select [Yes], the output resolution in the device will change to match [Genlock Source].

HDCP

The DVI inputs and outputs are fully compliant with HDCP. This however can cause serious operational issues.

On each DVI input, you can disable HDCP communications with the source. This is strongly recommended to be used when connecting to a computer that has HDCP capability but will not be playing out protected material. Otherwise the channel will become encrypted and limit system functionality.

In [Outputs], you can set [HDCP Downstream] to [HoldOn], [KeepOff], or [Follow Sources]. [KeepOff] disables HDCP key transfers, and is recommended when using an HDCP non-compliant device. When using compliant monitors and projectors, set this to [HoldOn]. If [Follow Sources] is set, the setting will be automatically adjusted according to the HDCP status of the input signal.

[Layouts]

Display the [Layouts] page by clicking the [Layouts] button.

On the [Layouts] page, set the layout of output devices. Up to four layouts can be set.

1 Source area
Allows selection of either the [Layouts] tab or the [Outputs] tab.

2 [Current Layout]
Displays the name of the currently selected layout. The layout name can be changed. Use single-byte alphabets, numeric digits, and underbars (_) for a name. Up to 19 characters can be entered. Use the alphabets for the first character.

3 [Zoom]
Zooms in or out the display in a layout window. Slide the zoom bar or input a value to adjust.
Quick zoom in and out is possible using a mouse with a scroll wheel.

4 [Clear]
Undoes changes made on the [Layouts] page.

5 [Grid Setup]
Displays grid lines in the layout window. (➡ page 51)

6 Layout window
Lays out output devices.

7 Setting area
Adjusts a layout. (➡ page 51)

Creating layouts

Position output devices similar to the actual positioning.

1) Click the [Layouts] tab in the source area.
● A list of layouts is displayed.

2) Select the layout to set.

3) Click the [Outputs] tab.
● A list of available output devices is displayed.

4)   Click the box next to an output device to be used.

● The **[Add Output]** screen will be displayed.
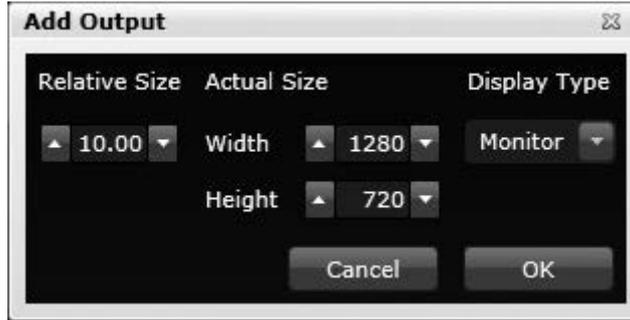
5)   Set output devices to be positioned on the layout.

[Relative Size]	[Relative Size] can be changed. (It is not displayed when [Base Size] (➡ page 51) is set to 0.) Enter the size ratio for [Base Size].
[Actual Size]	The values of output resolution preset on the [Settings] page are displayed in [Width] and [Height]. If the values are changed, the size of the output device will be changed.
[Display Type]	Select [Monitor], [Projector], or [None] according to the device connected to an output terminal of this device.

6)   Click the [OK] button.

● The positioned output devices are displayed in the layout window of which the center is at the 0,0 point.

7)   Adjust the layout of the positioned output devices.

● Refer to "Layout auxiliary functions" (➡ page 51) for the operation of adjustment.

[Zoom All]	Adjusts the size of the layout so that all positioned output devices are visible.
[Center Layout Origin]	Lays out a new output device in the layout window, taking the X-Y coordinate (0,0) as the center.
[Name]	Sets the output device name.
[Width In Layout], [Height In Layout]	Sets the display area of an output device in the layout window. The available range is 1 to 8192.
[Layout Center]	To position an output device accurately, input values in the [X] and [Y] columns. It is also possible to position the output device closer to the actual position in the layout window by moving the arrows minutely to make fine adjustment.
[Positioning Mode]	When adjusting positioning, select [Physical] to move the layout window. Select [Image] to move positioned output devices.
[Rotation]	Rotates the positioned output devices. Slide the bar or input the angle of rotation to adjust.
[Resolution]	Set the resolution of an output device.
[Display Type]	Select [Monitor], [Projector], or [None] according to the device connected to an output terminal of this device.
[Reset Edge Blending]	Returns the adjusted area of the image set to edge blending to its pre-adjustment state.
[Snap on addition]	When positioning the second output device and after, positions a new output device in contact with the output device positioned closest in the layout window.
[Projector Alignment]	Locks the position of output devices so that they cannot be dragged with the mouse. (➡ page 51)

8)   Click the [Take All] button.

● The set details will be sent to the device.

Note

● An output device is assigned to a layout in units of interface board. When 1 interface board output device is positioned on the layout, it is removed from the output device list of a separate layout. When assignment to the separate layout is canceled, then the output devices are displayed in the list again and become available.
● Multiple output devices on one output board are handled as a group. The output devices cannot be used separately in multiple layouts at the same time. It is recommended that you change the names of output devices not used to indicate that they are not in use.

Layout auxiliary functions

Auxiliary functions that can be used to configure layout have been added to the control software.

Layout grid

On a normal positioning screen, layout grid option is available. Click the [Grid Setup] button in the layout window to display the pop-up window that allows setting of the horizontal and vertical grid size and angle of rotation. It is also possible to set an offset, but use the setting only for advanced operation to generate grid patterns for absolute positioning.

Grid values within the pop-up window can be changed, and if the [Apply] button is click while [Enable Grid] is selected, all outputs on the layout move to the newly set center position. When the setting of positioning is completed, click the [OK] button to close the pop-up window. To send the new position information to this device, click the [Take All] button.
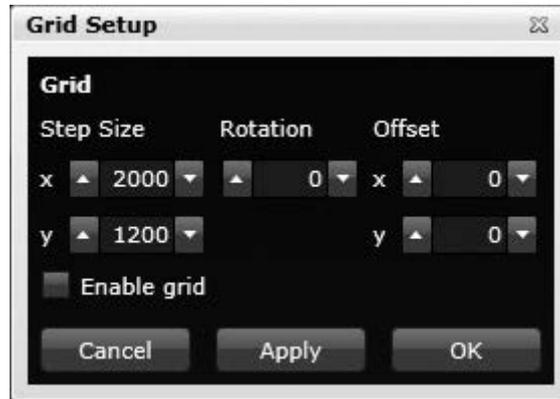
[Base Size]

Using the [Base Size] function, you can lay out multiple output devices in different sizes easily.

Set any number for a base output device (except for 0.00) to [Base Size] on the [Outputs] tab in the source area, and enter the size ratio for the opposed output device to [Relative Size] on the [Add Output] screen. With this operation, you can adjust the image size to fit the one displayed on another output device.

[Actual Size] for the output device should not exceed the resolution of the output device.

This is set to 0.00 by default and the [Base Size] function is disabled.

To use multiple output devices with the same size, the [Base Size] function is not required.
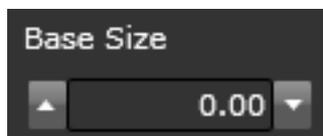
For example, when the size of the base output device is 3 m (9'10") and the resolution is 1 920 x 1 080, the image with 1 280 x 720 is upscaled to 1 920 x 1 080 if the output device of 2 m (6'7") is laid out.

[Projector Alignment]

The layout grid can be used when the edge blending on a projector is set. In such a case, the space between the grid lines should be narrower than the resolution of the projector so that the output is to be overlapped on the layout.

Before setting edge blending, check that [Display Type] is set to [Projector].

1) **Click the [Projector Alignment] button in the setting area.**
   - The display items in the setting area change, and the **[Projector Alignment]** screen is displayed.
   - The positions of output devices in the layout window are locked so that they cannot be dragged with the mouse.

2) **Adjust [Edge Alignment]. (➡ page 52)**
   - Arrange projectors correctly, and perform the initial setting of blending for the overlapping portion of images.

3) **Click the [Linearity Correction] button.**
   - The setting items of [SCurve] are displayed in the setting area.

4) **Perform S-curve correction with [SCurve]. (➡ page 53)**

5) **When S-curve correction is completed, click the [SCurve] button.**
   - The setting items of [SCurve] in the setting area change to the setting items of [Gamma].

6) **Perform gamma correction with [Gamma]. (➡ page 54)**

7) **Click the [Black Level Boost] button.**
   - The setting items of [Black Level Boost] are displayed in the setting area.

8) **Adjust [Black Level Boost]. (➡ page 54)**

9) **Click the [Projector Alignment] button.**
   - When all adjustments are completed, release the lock performed in Step **1)**.

10) **Click the [Take All] button.**
   - All settings of the newly configured layout are sent to this device. If there are other outputs, a maximum four layouts can be configured.

[Edge Alignment]

Arrange projectors correctly, and perform the initial setting of blending for the overlapping portion of images. Each time an output device is clicked, active (red) and inactive (green) switch.

When two adjacent output devices are activated (red), they are displayed as one group of arrangement in the output list. The outer border line is displayed in green for both the selected output devices, and the inner red line is displayed at the joint between projectors.

Perform position adjustment or lens adjustment of each projector automatically using these lines to correct the arrangement of projectors. Perform this operation to confirm that the size of projection images are the same using the green box, and that the red and green lines are parallel to each other and they are projected on the screen making one yellow line.

Fine adjustment of the red line is possible by fine adjusting the output position in the setting area. However, use this method only for making small corrections.

[SCurve]

When arrangement of all projectors is completed, correct luminance so that the images blend naturally at the blending portion.

You should now feed in a flat brightness image onto the whole layout. (Currently this will require an external video source to set up a canvas with this layout and place a large single window of this source to cover the whole layout.)

The software for S-curve projection enables selection of any output device on the layout. Since it enables S-curve correction for each active output (red), it is recommended that all output devices be selected in this process. When all output devices to be corrected are selected, and the source is evenly displayed in white for the output of the projector, then S-curve parameters can be adjusted. This operation adjusts luminance of all blending portions. With careful adjustment, the optimal setting value to adjust the portions where luminance was too high or too low on the initially projected image can be found.

Slide the bar or input a value to adjust [SCurve].

[Gamma]

Correct variability in gamma values among projectors. For the setting items of [Gamma], R, G, and B gamma values are displayed separately. Change the input source from white to red, green, or blue. If there is a projector output with different luminance, then select the output in the layout window (only the output becomes red), and input the appropriate gamma value to adjust the luminance and solve the variability in images.

To adjust [Gamma], slide the bar or input a value for each item of [Red], [Green], and [Blue].

## [Black Level Boost]

Position the input of black on the projector. When edge blending portions are checked in dark, sometimes light at the level that has not been eliminated can be found. When [Black Level Boost] is adjusted, the luminance level of the center part of each output increases and matches the joint parts.

Slide the bar or input a value to adjust [Black Level Boost].

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[Canvases]

Display the [Canvases] page by clicking the [Canvases] button.

After setting the layout on the [Layouts] page, configure the display of canvas on the [Canvases] page. Up to four canvases can be set.

First, apply a layout to the canvas window with the [Layouts] tab on the source area, and use the [Zoom] button to adjust the display.

In the canvas window, the layout of which output has been specified is displayed in gray area.
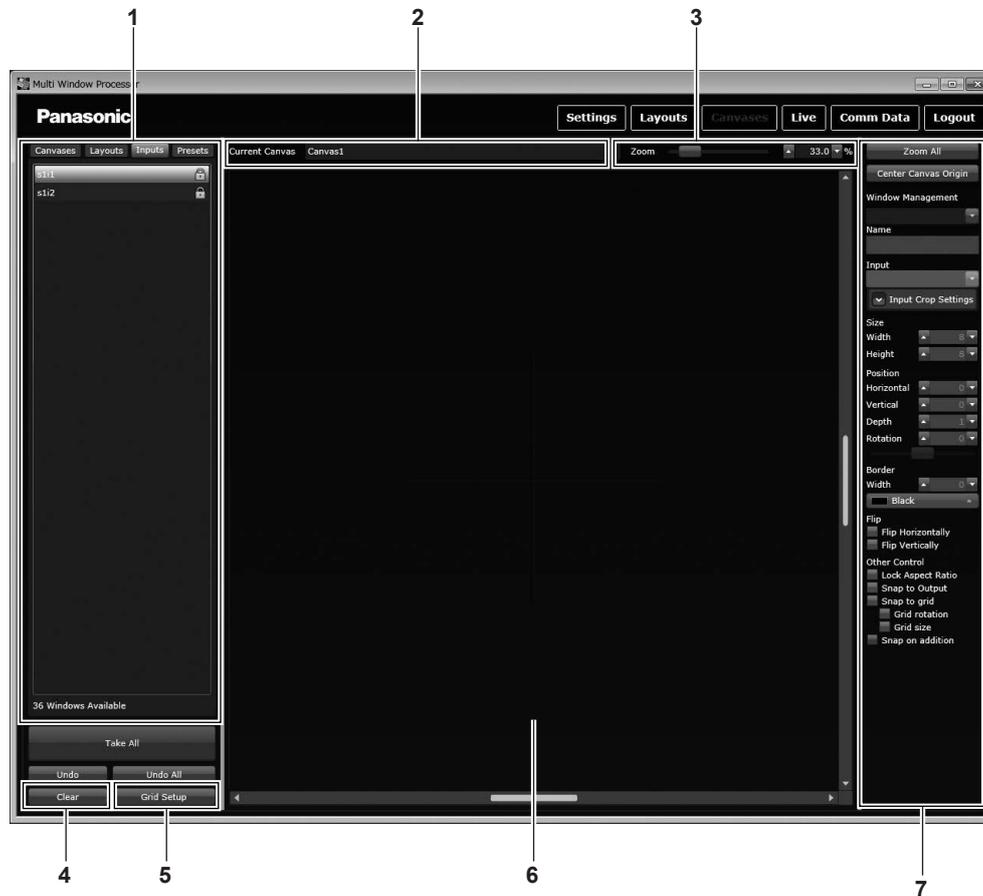
1 Source area
Allows selection between the [Canvases] tab, [Layouts] tab, [Inputs] tab, and [Presets] tab.
On the [Presets] tab, save set system configuration, or load and use a setting saved before. (➡ page 57)

2 [Current Canvas]
Displays the name of the currently selected canvas. The canvas name can be changed. Use single-byte alphabets, numeric digits, and underbars (_) for a name. Up to 19 characters can be entered. Use the alphabets for the first character.

3 [Zoom]
Zooms in or out the display in the canvas window. Slide the zoom bar or input a value to adjust.
Quick zoom in and out is possible using a mouse with a scroll wheel.

4 [Clear]
Undoes changes made on the [Canvases] page.

5 [Grid Setup]
Displays grid lines in the canvas window. (➡ page 57)

6 Canvas window
Position windows.

7 Setting area
Adjust a canvas.

Creating windows

Create windows by positioning input sources in the canvas window.

1) Click the [Canvases] tab in the source area.
- A list of canvases is displayed.

2) Select the canvas to set.

3) Click the [Layouts] tab.
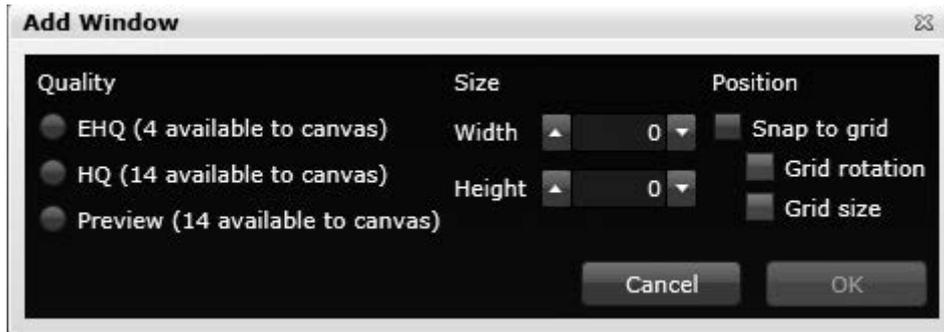- A list of layouts is displayed.

4) Click the box of a layout to set.

5) Click the [Inputs] tab.
- A list of available input sources is displayed.

6) Drag the input source to be used and drop it to a desired position.

- The **[Add Window]** screen will be displayed.

7) Set the window to be created on the canvas.

[Quality]	[EHQ]	Loads input signals at current resolution status (dot-by-dot high resolution).
	[HQ]	Samples and loads input signals at 1/2 the resolution (mid-resolution).
	[Preview]	Loads input signals at low resolution. This is used for preview.
[Size]		Set the size of the window to be created by inputting a value.
[Position]		Set whether to snap to grid when positioning a new window using [Snap to grid] (➡ page 56).

- Refer to "Number of windows that can be combined" (➡ page 57) for the number of windows that can be combined.

8) Click the [OK] button.

- The window is displayed in the canvas window of which the center is at the 0,0 point.

9) Adjust the positioned window.

[Zoom All]		Adjust the display size of the canvas window so that all windows positioned are visible.
[Center Canvas Origin]		Position a new window in the canvas window, taking the 0,0 point as the center.
[Window Management]		Select a window placed in the canvas window.
[Name]		Sets the name of the the selected window. Use single-byte alphabets, numeric digits, and underbars (_) for a name. Up to 19 characters can be entered. Use the alphabets for the first character.
[Input]		Change the input source of the selected window.
[Input Crop Settings]		When the picture quality of edge portions are poor in the input source image, pixels and lines can be cut out. Click [Input Crop Settings], and display the setting items and input values. The image of which edges are cut out is automatically enlarged to fit the window. The aspect ratio of the image before the edges are cut out is not maintained.
[Size]		Set the size of the window by inputting a value.
[Position]	[Horizontal]	Set the distance between the horizontal center of the window and the 0 point on the X axis in the canvas window by inputting a value.
	[Vertical]	Set the distance between the vertical center of the window and the 0 point on the Y axis in the canvas window by inputting a value.
	[Depth]	Set the order of overlap of the windows positioned.
	[Rotation]	Rotates the placed window. Slide the bar or input the angle of rotation to adjust.
[Border]		Set a border line in the window displayed on an output device. Set the pixel width with [Width] to set the window border. Click the button under [Width] to select a color from the color table. After selecting a color, click the [Done] button to save the color.
[Flip Horizontally]		Flips the window in the horizontal direction.
[Flip Vertically]		Flips the window in the vertical direction.
[Lock Aspect Ratio]		Fixes the aspect ratio of the window.
[Snap to Output]		Select whether to snap to the output screen when positioning a new window overlapping on the output screen. This operation changes the aspect ratio by resizing the window, and positions it on the canvas by matching the pixels at the output position in the associated layout.
[Snap to grid]		Snaps the center of the new window to the intersection of the current grids. Grids do not appear until this option is selected and the window is activated. Drag the window close to the desired position, then the window snaps to the position. [Snap to grid] has two suboptions. It is possible to set whether to snap to the rotation of the grids, or to enable free adjustment by rotating operation. It is also possible to set to resize the window to the size of the current grid window.

[Snap on addition]	When placing the second window and after, positions a new window in contact with the window positioned closest in the canvas window. It is convenient when using the preview window for checking images in layout.

10) Click the [Take All] button.

- The set content is sent to this device, and the window is displayed on the output device.

Number of windows that can be combined

The number of windows that can be combined is as follows.

Number of [EHQ] windows	2	4	6	8
Number of [HQ] and [Preview] windows	12	8	4	0
Total number of displayable windows	**14**	**12**	**10**	**8**

Canvas grid

To supplement the setting of window positioning, grids can be set and used. Grids are available only in windows selected to use grids. Multiple grids can be used to set a window, but grids not operated will not move to a new grid. In addition, the setting will be changed or lost at each logout from the control software because window grids cannot be saved.

The method to set grids is the same as the layout configuration. The grid size in the horizontal and vertical directions, and angle of rotation can be set. Here, offset is very important because the center of grid is positioned associated with the output position already placed.

A final setting is a default window size. This can be set so that no matter what the input window resolution may be the window will be resized to the grid window size.

When a new window is selected and a grid is set, whether to position the window with automatic positioning function or position it at any place in the canvas window by drag-and-drop operation can be selected.

[Presets]

When the canvas window is used, information of windows positioned on the [Canvases] page can be saved and called back later. Presets can be called any time from the [Presets] tab in the source area, and applied to the window being edited on the canvas. It is also possible to reflect a change in window position in the called preset by overwrite. Furthermore, the preset of which position has been changed can be saved as another preset. When the tab is clicked for the first time, no presets are registered. To use presets, click the [Get All Presets] button first to load presets information saved in this device. When loading is completed, the list of presets ([Preset2] to [Preset21]) is displayed. Presets are numbered starting from 2 because 0 and 1 are used by the system.

Saving presets

When editing of the canvas is completed, click any preset ([Preset2] to [Preset21]) button in the [Save] column to save the screen configuration. If the data of the preset is not saved, the [Restore] column is displayed in gray. When saving of the preset is completed, click the [Send All Presets] button to send the saved preset information to this device.

Note

- Presets saved on the device can be deleted by the execution of the command.
  On the [Comm Data] page, enter **routing.preset.RemovePresetFiles()** to the command entry column. Click the [Send] button to send a command to the device, then turn the power off and back on again. For the [Comm Data] page, refer to [Comm Data] (➡ page 59).

[Live]

Display the [Live] page by clicking the [Live] button.

Use of presets created on the [Canvases] page will make the live window for operating the display more effective.

1 [Presets]

Displays available presets. If presets have not been loaded, load presets from this device. (➡ page 57)

Loaded presets are displayed at the top of the screen and can be selected. When any of the buttons is clicked, the device calls the preset, and the output window position recreates the preset condition.

2 [Window Inputs]

[Current]

Displays which input is being displayed in each window in the current preset.

[Required]

Inputs are displayed in alphabetical order. You can change inputs for windows. This operation is performed by moving a window to a new window.

3 [Switching mode]

[Immediate]

Sends changed content to this device in real time.

[Synchronized]

Sends changed content to this device at any timing. Click the [Take] button to send changes to this device.

4 [Other live control]

[Cut To Black]

Sets all outputs to black.

[Comm Data]

Display the [Comm Data] page by clicking the [Comm Data] button.

On the [Comm Data] page, you can view the communication log between the device and control software, send commands, and synchronize with the settings of the device. If a communication error occurs, the background color of the [Comm Data] button changes. In such a case, open the page to check what kind of problem has occurred.
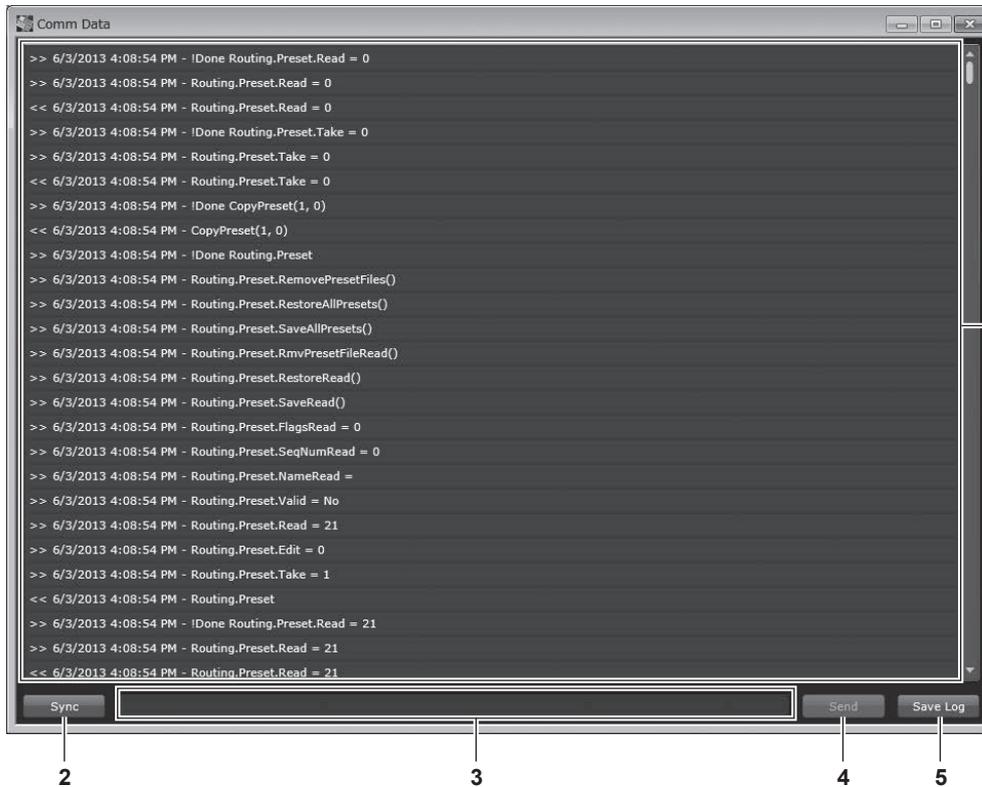
1 Communication log
Displays information of all commands sent to this device and their responses in a list. Each line begins with a time stamp to indicate the date and time the respective command was sent. The latest command is displayed at the top.

2 [Sync]
Click the [Sync] button when logged in from RS-232C and multiple TCP/IP, then the settings of each application are synchronized with this device so that the setting status becomes the same as that of the device.

3 Command input column
Input commands.

4 [Send]
Sends commands input in the command input column to this device.

5 [Save Log]
Saves communication log. Data is all saved in a simple text file.

Note

● The device will reply to commands in various ways. A successful command may be replied by the [!Info : ………] where the text after the colon provides information on how the device has interpreted the command, the [!Error –nnn : ………] gives information on an unsuccessful command execution. If the [!Error] message is displayed the device has not carried out the command requested.

● Saving communication logs is recommended in case system failure occurs. When contacting Panasonic, the text file that saves the communication logs will be a great help for finding the cause. With the complete communication log of operations after startup, it is also possible to recreate the same operation using a machine with a similar environment.

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[Logout]

Log out from the control software. Refer to "Closing the control software" (➡ page 42) for details on operation.

Chapter 5   Maintenance

This chapter describes inspection when there are problems, and maintenance methods.

Maintenance

Before maintaining the device

- Make sure to turn off the power before maintaining the device.
- When switching off the device, make sure to follow the procedures in "Switching off the device" (➡ page 37).

Maintenance

- Wipe off dirt and dust on the front face of the device with a soft, dry cloth.
    - If the dirt is persistent, wipe with a cloth moistened with water and well wrung out, and then dry off with a dry cloth.
    - Do not use benzene, thinner, or rubbing alcohol, other solvents or household cleaners. Doing so may deteriorate the outer case.
    - When using chemically treated dust cloths, follow the instructions written on the packaging.
- When the device is used for a prolonged time, dirt and dust may adhere to the air intake and exhaust ports of the device, causing a clog. Clean the air intake and exhaust ports periodically.
    - When removing dirt and dust, be careful not to drop them inside the device.

Troubleshooting

For the device

Review the following points. For details, refer to the corresponding pages.

Problems	Points to be checked	Page
Power does not turn on.	● Is the power switched off?	—
	● Is the power plug firmly inserted into the outlet?	—
	● Is the wall outlet supplying electricity?	—
	● Have the circuit breakers tripped?	—
Cannot control with the control software.	● Check whether the LAN or serial cable is connected properly.	—
	● Check whether the items on the [Settings] screen are set correctly.	40
	● Is the power indicator <BUSY (R)/ON (G)> lighting in red?	—
Images are not displayed correctly.	● Check whether the external devices are connected properly.	—
	● On the [Settings] page, check whether [Inputs] and [Outputs] settings are performed correctly.	45

Attention

● If problems persist even after checking the preceding points, consult your dealer.

For the control software

Review the following points.

Cannot install control software
Is Microsoft .NET Framework 4 or a later version installed on the computer you are using?
If you have not installed it yet, download it from the Microsoft homepage.
Cannot start control software
Is Microsoft Silverlight 5 or a later version installed on the computer you are using?
If you have not installed it yet, download it from the Microsoft homepage.
Cannot connect to ET-MWP100G from a computer
When Windows firewall has been detected

Windows XP	Is the control software registered in "Start" → "Control Panel" → "Security Center" → "Windows Firewall" → "Exceptions" tab? Register the control software in the exception application list of the firewall.
	1) Click "Start" → "Control Panel". 2) When the "Control Panel" window appears, click "Security Center" → "Windows Firewall". 3) When the "Windows Firewall" window is displayed, click "Exceptions" tab → "Add Program....". 4) When the "Add Program...." window is displayed, click "Multi Window Processor". If "Multi Window Processor" is not in the program list, click "Browse..." to select "PJMC.exe", and then click "Open" and click "OK". 5) "Multi Window Processor" is displayed in the "Programs and Services" field. 6) Select "Multi Window Processor" and click "Edit" to open the "Edit a Program" window. 7) Click "Change Scope" at the lower left of the window. 8) When the "Change Scope" window is displayed, select the network to allow the connection from "Any computer (including those on the Internet)". 9) Click "OK". 10) Click "OK" in the "Edit a Program" window. 11) Click "OK" in the "Windows Firewall" window. 12) The control software is registered as an application in the in the Windows firewall exception list.
Windows 7	Is the control software registered in "Start" → "Control Panel" → "System and Security" → "Windows Firewall" → "Allowed programs and features"? Register the control software in "Allowed programs and features".
	1) Click "Start" → "Control Panel". 2) When the "Control Panel" window is displayed, click "System and Security" → "Windows Firewall". 3) When the "Allow programs to communicate through Windows Firewall" window is displayed, click "Change settings" → "Allow another program...". 4) When the "Add Program...." window is displayed, select "Multi Window Processor" and click "Add". ● If "Multi Window Processor" is not in the list, click "Browse..." and select "PJMC.exe", and then click "Open". "Multi Window Processor" is displayed in the program list. 5) "Multi Window Processor" is displayed in the "Allowed programs and features" list. 6) Select the network to allow the connection from "Home/Work (Private)" or "Public", and click to select the check box. 7) Click "OK" in the "Allow programs to communicate through Windows Firewall" window. 8) The control software is registered as an application in the in the Windows firewall exception list.

Windows 8	Is the control software registered in "Start" → "Control Panel" → "System and Security" → "Windows Firewall" → "Allowed apps and features"? Register the control software in "Allowed apps and features".
	1) While pressing the "Windows Logo" key on the keyboard, press "X", and then click "Control Panel". 2) When the "Control Panel" window is displayed, click "System and Security" → "Windows Firewall". 3) When the "Allow apps to communicate through Windows Firewall" window is displayed, click "Change settings" and then "Allow another app...". 4) When the "Add an app" window is displayed, select "Multi Window Processor" and click "Add". ● If "Multi Window Processor" is not in the list, click "Browse..." and select "PJMC.exe", and then click "Open". "Multi Window Processor" is displayed in the application list. 5) "Multi Window Processor" is displayed in the "Allowed apps and features" list. 6) Select the network to allow the connection from "Private" or "Public", and click to select the check box. 7) Click "OK" in the "Allow apps to communicate through Windows Firewall" window. 8) The control software is registered as an application in the in the Windows firewall exception list.
When another firewall has been detected	
Are any firewall-containing applications installed? If any applications which contain firewalls are installed, the connection may be disabled. (The firewall function may activate without launch of the application if the application has already been installed.) If this occurs, firewall settings must be changed in order to allow connection to the network. Refer to the operating instructions for each application to perform the firewall settings.	

Chapter 6   Appendix

This chapter describes how to attach optional accessories, and the specifications and after-sales service of the device.
Be sure to ask a qualified technician or your dealer when installing optional accessories such as the interface board or the POWER SUPPLY.

Specifications

The specifications of this device are as follows.

Power supply		AC 100 V - 240 V, 50 Hz/60 Hz
Power consumption		160 W*1
Dimensions	Width	482.4 mm (19")
	Height	177.3 mm (6-31/32")
	Depth	313.3 mm (12-11/32")
Weight*2		Approx. 9.6 kg (21.2 lbs.)
Operating environment	Operating environment temperature*3	0 °C (32 °F) to 40 °C (104 °F)
	Operating environment humidity	10 % to 85 % (No condensation)

*1 When the optional POWER SUPPLY (Model No.: ET-RPS100G) is attached, the power consumption is 180 W.
*2 The power cord and optional accessories are not included.
*3 When using the device at high altitudes (1 400 m (4 593') or higher - lower than 2 700 m (8 858') above sea level), the operating environment temperature should be between 0 °C (32 °F) - 35 °C (95 °F).

Compatible signals

List of compatible signals (Input)

The following table specifies the video signals that can be input to this device.
The input range is within 15.6 kHz to 82.2 kHz for the horizontal scanning frequency, 24.0 Hz to 85.1 Hz for the vertical scanning frequency, and 162 MHz or less for the dot clock frequency.

● Symbols that indicate signal formats are as follows.
  − D: Digital*1
  − R: Analog RGB
  − Y: YC_BC_R/YP_BP_R
  − V: Video/S-Video
  − G:3G-SDI*2
  − S: HD-SDI*3/SD-SDI*4

Compatible signal	Signal name	Resolution (Dots)	Scanning freq.		Dot clock freq. (MHz)	Compatible signal format*5					
			Horizontal (kHz)	Vertical (Hz)		D	R	Y	V	G	S
NTSC	720 x 480i60	720 x 480i	15.7	59.9	—	—	—	—	✓	—	—
PAL	720 x 576i50	720 x 576i	15.6	50.0	—	—	—	—	✓	—	—
525i (480i)	720 x 480i60	720 x 480i	15.7	59.9	13.5	—	✓	✓	—	—	✓
625i (576i)	720 x 576i50	720 x 576i	15.6	50.0	13.5	—	✓	✓	—	—	✓
525i (480i)	1440 x 480i60	720 (1 440) x 480i *6	15.7	59.9	27.0	✓	—	—	—	—	—
625i (576i)	1440 x 576i50	720 (1 440) x 576i *6	15.6	50.0	27.0	✓	—	—	—	—	—
525p (480p)	720 x 480p60	720 x 483	31.5	59.9	27.0	✓	✓	✓	—	—	—
625p (576p)	720 x 576p50	720 x 576	31.3	50.0	27.0	✓	✓	✓	—	—	—
750 (720)/60p	1280 x 720p60	1 280 x 720	45.0	60.0	74.3	✓	✓	✓	—	—	✓
		1 280 x 720	45.0	59.9	74.2	✓	✓	✓	—	—	✓
750 (720)/50p	1280 x 720p50	1 280 x 720	37.5	50.0	74.3	✓	✓	✓	—	—	✓
1125 (1080)/60i	1920 x 1080i60	1 920 x 1 080i	33.8	60.0	74.3	✓	✓	✓	—	—	✓
		1 920 x 1 080i	33.7	59.9	74.2	✓	✓	✓	—	—	✓
1125 (1080)/50i	1920 x 1080i50	1 920 x 1 080i	28.1	50.0	74.3	✓	✓	✓	—	—	✓
1125 (1080)/24p	1920 x 1080p24	1 920 x 1 080	27.0	24.0	74.3	✓	✓	✓	—	—	✓
		1 920 x 1 080	27.0	24.0	74.2	✓	✓	✓	—	—	✓
1125 (1080)/25p	1920 x 1080p25	1 920 x 1 080	28.1	25.0	74.3	✓	✓	✓	—	—	✓
1125 (1080)/30p	1920 x 1080p30	1 920 x 1 080	33.8	30.0	74.3	✓	✓	✓	—	—	✓
		1 920 x 1 080	33.7	30.0	74.2	✓	✓	✓	—	—	✓
1125 (1080)/60p	1920 x 1080p60	1 920 x 1 080	67.5	60.0	148.5	✓	✓	✓	—	✓	—
		1 920 x 1 080	67.4	59.9	148.4	✓	✓	✓	—	✓	—

Compatible signal	Signal name	Resolution (Dots)	Scanning freq.		Dot clock freq. (MHz)	Compatible signal format[5]					
			Horizontal (kHz)	Vertical (Hz)		D	R	Y	V	G	S
1125 (1080)/50p	1920 x 1080p50	1 920 x 1 080	56.3	50.0	148.5	✓	✓	✓	—	✓	—
VGA	640 x 480p60	640 x 480	31.5	59.9	25.2	✓	✓	—	—	—	—
	640 x 480p67	640 x 480	35.0	66.7	30.2	✓	✓	—	—	—	—
	640 x 480p73	640 x 480	37.9	72.8	31.5	✓	✓	—	—	—	—
	640 x 480p75	640 x 480	37.5	75.0	31.5	✓	✓	—	—	—	—
SVGA	800 x 600p56	800 x 600	35.2	56.3	36.0	✓	✓	—	—	—	—
	800 x 600p60	800 x 600	37.9	60.3	40.0	✓	✓	—	—	—	—
	800 x 600p72	800 x 600	48.1	72.2	50.0	✓	✓	—	—	—	—
	800 x 600p75	800 x 600	46.9	75.0	49.5	✓	✓	—	—	—	—
	800 x 600p85	800 x 600	53.7	85.1	56.3	✓	✓	—	—	—	—
XGA	1024 x 768p60	1 024 x 768	48.4	60.0	65.0	✓	✓	—	—	—	—
	1024 x 768p70	1 024 x 768	56.5	70.1	75.0	✓	✓	—	—	—	—
	1024 x 768p75	1 024 x 768	60.0	75.0	78.8	✓	✓	—	—	—	—
	1024 x 768p85	1 024 x 768	68.7	85.0	94.5	✓	✓	—	—	—	—
MXGA	1152 x 864p70	1 152 x 864	64.0	70.0	94.2	✓	✓	—	—	—	—
	1152 x 864p75	1 152 x 864	67.5	75.0	108.0	✓	✓	—	—	—	—
1280 x 768	1280 x 768p60	1 280 x 768	47.8	59.9	79.5	✓	✓	—	—	—	—
1280 x 800	1280 x 800p60	1 280 x 800	49.7	59.8	83.5	✓	✓	—	—	—	—
	1280 x 800p75	1 280 x 800	62.8	74.9	106.5	✓	✓	—	—	—	—
	1280 x 800p85	1 280 x 800	71.6	84.9	122.5	✓	✓	—	—	—	—
MSXGA	1280 x 960p60	1 280 x 960	60.0	60.0	108.0	✓	✓	—	—	—	—
SXGA	1280 x 1024p60	1 280 x 1 024	64.0	60.0	108.0	✓	✓	—	—	—	—
1366 x 768	1366 x 768p60	1 366 x 768	47.7	59.8	84.8	✓	✓	—	—	—	—
SXGA+	1400 x 1050p60	1 400 x 1 050	65.3	60.0	121.8	✓	✓	—	—	—	—
	1400 x 1050p75	1 400 x 1 050	82.3	74.9	156.0	✓	✓	—	—	—	—
WXGA+	1440 x 900p60	1 440 x 900	55.9	59.9	106.5	✓	✓	—	—	—	—
UXGA	1600 x 1200p60	1 600 x 1 200	75.0	60.0	162.0	✓	✓	—	—	—	—
WSXGA+	1680 x 1050p60	1 680 x 1 050	65.3	60.0	146.3	✓	✓	—	—	—	—
WUXGA[7]	1920 x 1200p60	1 920 x 1 200	74.0	60.0	154.0	✓	✓	—	—	—	—

*1   DVI 1.0 compliant, HDCP compatible
*2   SMPTE ST 424 compliant
      Level A YP_BP_R 4:2:2 10-bit: 1125 (1080)/60p, 1125 (1080)/50p
*3   SMPTE ST 292 compliant
      YP_BP_R 4:2:2 10-bit: 750 (720)/60p, 750 (720)/50p, 1125 (1080)/60i, 1125 (1080)/50i, 1125 (1080)/24p, 1125 (1080)/25p, 1125 (1080)/30p
*4   SMPTE ST 259 compliant
      YC_BC_R 4:2:2 10-bit: 525i (480i), 625i (576i)
*5   A signal, which has ✓ in the compatible signal format column, is compatible with each format.
*6   Pixel-Repetition signal (dot clock frequency 27.0 MHz) only
*7   VESA CVT-RB (Reduced Blanking)-compliant
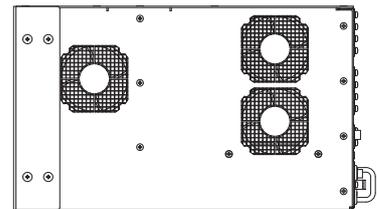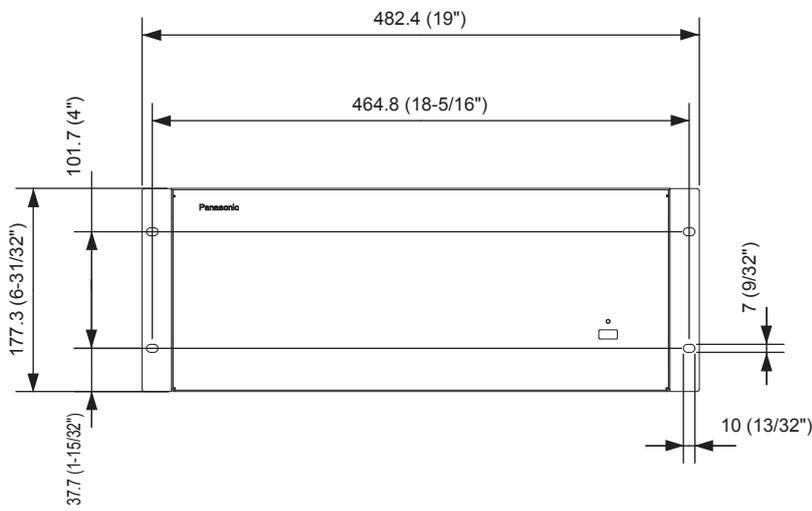
Note

● The "i" at the end of the resolution indicates an interlaced signal.
● When interlaced signals are connected, flickering may occur on the projected image.
● The compatibility status above applies only when interface boards compatible with each signal format are attached to the device.
● Some signal formats require a conversion adaptor for connection with an external device.

List of compatible signals (Output)

The following table specifies the video signals that can be output from this device.

The output range is within 15.6 kHz to 82.2 kHz for the horizontal scanning frequency, 24.0 Hz to 85.1 Hz for the vertical scanning frequency, and 162 MHz or less for the dot clock frequency.

- Symbols that indicate signal formats are as follows.
    - D: Digital[*1] [*2]
    - R: AnalogRGB
    - Y: YC_BC_R/YP_BP_R

Compatible signal	Signal name	Resolution (Dots)	Scanning freq. Horizontal (kHz)	Scanning freq. Vertical (Hz)	Dot clock freq. (MHz)	Compatible signal format[*3] D	Compatible signal format[*3] R	Compatible signal format[*3] Y
525p (480p)	720 x 480p59.94	720 x 483	31.5	59.9	27.0	✓	✓[*4]	✓[*4]
625p (576p)	720 x 576p50	720 x 576	31.3	50.0	27.0	✓	✓[*4]	✓[*4]
750 (720)/60p	1280 x 720p60	1 280 x 720	45.0	60.0	74.3	✓	✓[*4]	✓[*4]
750 (720)/60p	1280 x 720p59.94	1 280 x 720	45.0	59.9	74.2	✓	✓[*4]	✓[*4]
750 (720)/50p	1280 x 720p50	1 280 x 720	37.5	50.0	74.3	✓	✓[*4]	✓[*4]
1125 (1080)/60i	1920 x 1080i60	1 920 x 1 080i	33.8	60.0	74.3	✓	✓[*4]	✓[*4]
1125 (1080)/60i	1920 x 1080i59.94	1 920 x 1 080i	33.7	59.9	74.2	✓	✓[*4]	✓[*4]
1125 (1080)/50i	1920 x 1080i50	1 920 x 1 080i	28.1	50.0	74.3	✓	✓[*4]	✓[*4]
1125 (1080)/24p	1920 x 1080p24	1 920 x 1 080	27.0	24.0	74.3	✓	✓[*4]	✓[*4]
1125 (1080)/24p	1920 x 1080p23.98	1 920 x 1 080	27.0	24.0	74.2	✓	✓[*4]	✓[*4]
1125 (1080)/25p	1920 x 1080p25	1 920 x 1 080	28.1	25.0	74.3	✓	✓[*4]	✓[*4]
1125 (1080)/30p	1920 x 1080p30	1 920 x 1 080	33.8	30.0	74.3	✓	✓[*4]	✓[*4]
1125 (1080)/30p	1920 x 1080p29.97	1 920 x 1 080	33.7	30.0	74.2	✓	✓[*4]	✓[*4]
1125 (1080)/60p	1920 x 1080p60	1 920 x 1 080	67.5	60.0	148.5	✓	✓[*4]	✓[*4]
1125 (1080)/60p	1920 x 1080p59.94	1 920 x 1 080	67.4	59.9	148.4	✓	✓[*4]	✓[*4]
1125 (1080)/50p	1920 x 1080p50	1 920 x 1 080	56.3	50.0	148.5	✓	✓[*4]	✓[*4]
VGA	640 x 480p60	640 x 480	31.5	59.9	25.2	✓	✓	—
VGA	640 x 480p67	640 x 480	35.0	66.7	30.2	✓	✓	—
VGA	640 x 480p73	640 x 480	37.9	72.8	31.5	✓	✓	—
VGA	640 x 480p75	640 x 480	37.5	75.0	31.5	✓	✓	—
SVGA	800 x 600p56	800 x 600	35.2	56.3	36.0	✓	✓	—
SVGA	800 x 600p60	800 x 600	37.9	60.3	40.0	✓	✓	—
SVGA	800 x 600p72	800 x 600	48.1	72.2	50.0	✓	✓	—
SVGA	800 x 600p75	800 x 600	46.9	75.0	49.5	✓	✓	—
SVGA	800 x 600p85	800 x 600	53.7	85.1	56.3	✓	✓	—
XGA	1024 x 768p60	1 024 x 768	48.4	60.0	65.0	✓	✓	—
XGA	1024 x 768p70	1 024 x 768	56.5	70.1	75.0	✓	✓	—
XGA	1024 x 768p75	1 024 x 768	60.0	75.0	78.8	✓	✓	—
XGA	1024 x 768p85	1 024 x 768	68.7	85.0	94.5	✓	✓	—
MXGA	1152 x 864p70gtf	1 152 x 864	64.0	70.0	94.2	✓	✓	—
MXGA	1152 x 864p75	1 152 x 864	67.5	75.0	108.0	✓	✓	—
1280 x 768	1280 x 768p60cvt	1 280 x 768	47.8	59.9	79.5	✓	✓	—
1280 x 800	1280 x 800p60cvt	1 280 x 800	49.7	59.8	83.5	✓	✓	—
1280 x 800	1280 x 800p75cvt	1 280 x 800	62.8	74.9	106.5	✓	✓	—
1280 x 800	1280 x 800p85cvt	1 280 x 800	71.6	84.9	122.5	✓	✓	—
MSXGA	1280 x 960p60	1 280 x 960	60.0	60.0	108.0	✓	✓	—
SXGA	1280 x 1024p60	1 280 x 1 024	64.0	60.0	108.0	✓	✓	—
1366 x 768	1366 x 768p60	1 366 x 768	47.7	59.8	84.8	✓	✓	—
SXGA+	1400 x 1050p60cvt	1 400 x 1 050	65.3	60.0	121.8	✓	✓	—
SXGA+	1400 x 1050p75cvt	1 400 x 1 050	82.3	74.9	156.0	✓	✓	—
WXGA+	1440 x 900p60cvt	1 440 x 900	55.9	59.9	106.5	✓	✓	—
UXGA	1600 x 1200p60	1 600 x 1 200	75.0	60.0	162.0	✓	✓	—
WSXGA+	1680 x 1050p60cvt	1 680 x 1 050	65.3	60.0	146.3	✓	✓	—

Compatible signal	Signal name	Resolution (Dots)	Scanning freq.		Dot clock freq. (MHz)	Compatible signal format[3]		
			Horizontal (kHz)	Vertical (Hz)		D	R	Y
WUXGA[5]	1920 x 1200p60cvt-rb	1 920 x 1 200	74.0	60.0	154.0	✓	✓	—

*1 DVI 1.0 compliant, HDCP compatible
*2 Includes DIGITAL LINK output.
*3 A signal, which has ✓ in the compatible signal format column, is compatible with each format.
*4 If the input is a digital signal protected with HDCP, it can not be output.
*5 VESA CVT-RB (Reduced Blanking)-compliant

Note

● The "i" at the end of the resolution indicates an interlaced signal.
● When interlaced signals are connected, flickering may occur on the projected image.
● The compatibility status above applies only when interface boards compatible with each signal format are attached to the device.
● Some signal formats require a conversion adaptor for connection with an external device.
● When using the device with the following screen configurations while connecting to the projector PT-RZ470 series/PT-RW430 series/PT-RZ370 series/PT-RW330 series/PT-RZ475 series, noise might occur at the boundaries of layout if the output signal is set to interlaced signal.
   − When input source does not fit in one layout and overflows
   − When input source crosses over multiple layouts
   In these cases, select something other than interlaced signal in [Outputs] → [Resolutions] on the [Settings] page of the control software.

Dimensions

Unit: mm

435.6 (17-5/32")

313.3 (12-11/32")

294.3 (11-19/32")

Front

482.4 (19")

464.8 (18-5/16")

101.7 (4")

177.3 (6-31/32")

37.7 (1-15/32")

7 (9/32")

10 (13/32")

Panasonic
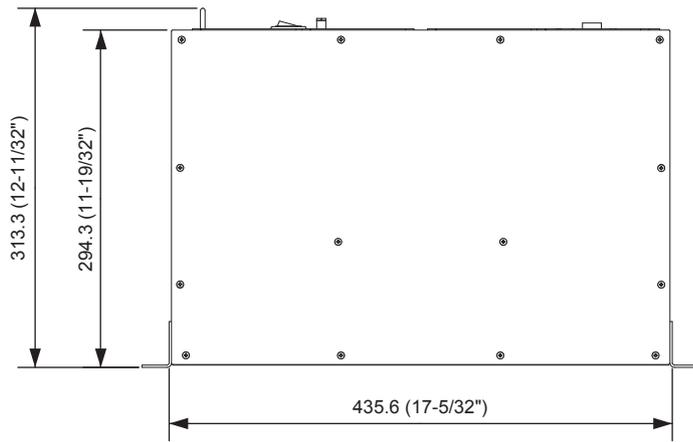
Installing optional accessories

Make sure to ask a qualified technician or your dealer to install optional accessories.

■ To the equipment installer:

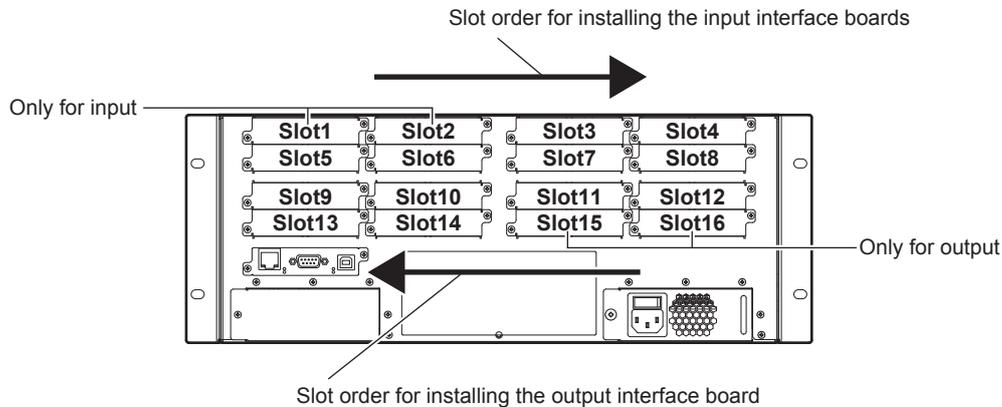Before you begin, make sure to read "Read this first!" (➡ page 2), "Setting up" (➡ page 22).

Precautions for installing and removing optional accessories

- Make sure to turn off the power before installing or removing the interface board or POWER SUPPLY.
- When switching off the device, make sure to follow the procedures in "Switching off the device" (➡ page 37).
- Do not touch the connecting part of the POWER SUPPLY and interface board directly.
  - Doing so may result in static electricity that damages components.
- To prevent damage by static electricity, touch a metal object nearby to remove electrostatic charge on your body before you begin.
- Be careful to avoid injury when installing or removing optional accessories.
  - If touched by mistake, lead lines of parts, traces of soldering, and other sharp areas on the surface of the interface board may cause injury to the hand.
  - If touched by mistake, empty slot openings on the device and edges of the interface board brackets may cause injury to the hand.
- Install the optional interface board or the POWER SUPPLY to the device by slowly and securely inserting it horizontally into the connector.
  - Incorrect attachment may result in failure to operate or malfunction.

Restrictions on interface board attachment slots

This device has 16 slots to connect input and output interface boards, with the following slot restrictions:
- **Slot1** and **Slot2** are only for input interface boards. Output interface boards cannot be installed.
- **Slot15** and **Slot16** are only for output interface boards. Input interface boards cannot be installed.
- Install input interface boards in ascending order starting at **Slot1** without leaving any slots empty. To use the device, you will need to attach at least one input interface board to **Slot1**.
- Install output interface boards in descending order starting at **Slot16** without leaving any slots empty. To use the device, you will need to attach at least one output interface board to **Slot16**.
- An empty slot can only be set to remaining slots between an attached slot on an input interface board and an attached slot on an output interface board.
- Make sure to attach a slot cover to empty slots.

Slot order for installing the input interface boards

Only for input

Slot1 Slot2 Slot3 Slot4
Slot5 Slot6 Slot7 Slot8
Slot9 Slot10 Slot11 Slot12
Slot13 Slot14 Slot15 Slot16

Only for output

Slot order for installing the output interface board

Installing the interface board

Screws

Screws

Fig. 1 **Fig. 2** **Fig. 3**
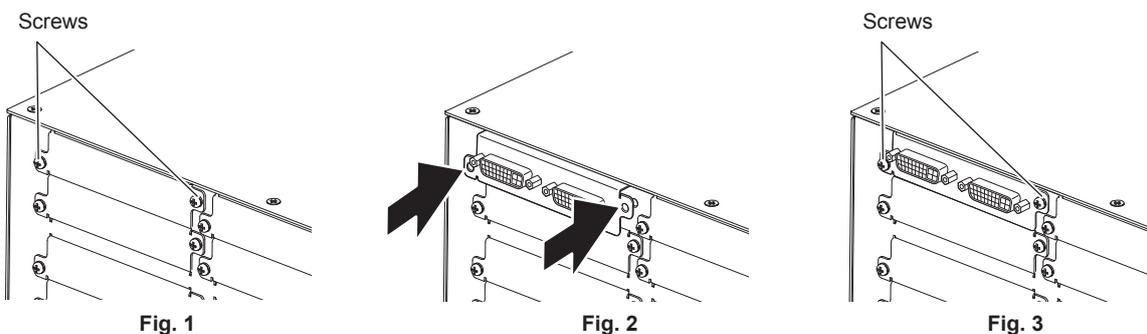
1) **Remove the slot cover. (Fig. 1)**
   - Use a Phillips-head screwdriver to turn the two screws with toothed lock washers securing the slot cover counterclockwise and remove. The removed screws with toothed lock washers will be used to secure the interface board.

- If the slot cover is difficult to remove, insert the tip of a straight slot screwdriver between the right and left edges of the slot cover and the rear surface of the device to remove.

2) Install the interface board to the device. (Fig. 2)

- Insert the interface board along the grooves of the empty slot, press the bracket, and push the board in until fully and securely inserted.

3) Secure the interface board. (Fig. 3)

- Tighten to secure with the two screws with toothed lock washers removed in Step **1)**.

Attention

- The removed slot cover will be required when removing an interface board that is no longer needed. Store it for installation at a later date.

Removing the interface board

1) Remove the interface board.

- Use a Phillips-head screwdriver to turn the two screws with toothed lock washers securing the interface board counterclockwise and remove. The removed screws with toothed lock washers will be used to secure the slot cover.
- If the interface board is difficult to remove, insert the tip of a straight slot screwdriver between the right and left edges of the bracket and the rear surface of the device to remove.

2) Attach the slot cover.

- Attach the stored slot cover, and tighten to secure with the two screws with toothed lock washers removed in Step**1)**.
- To replace with another interface board, follow the procedure in "Installing the interface board".

Attention

- Make sure to attach a slot cover to empty slots.
- Place the removed interface board in an antistatic bag to store.

Attaching the POWER SUPPLY

Screw   POWER SUPPLY fixing screw

Fig. 1   **Fig. 2**   **Fig. 3**
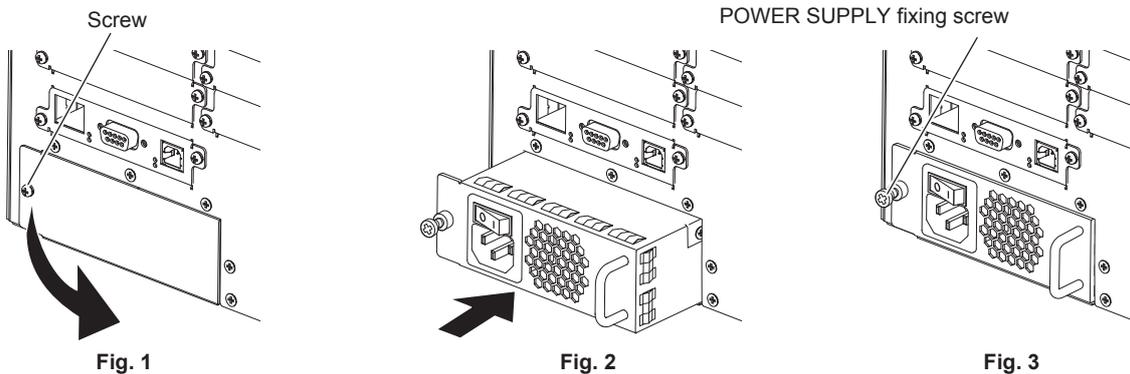
1) Remove the cover for the POWER SUPPLY attachment section. (Fig. 1)

- Use a Phillips-head screwdriver to turn the screw with toothed lock washer (x 1) securing the cover for the POWER SUPPLY attachment section counterclockwise, and slowly open and remove the cover in the direction of the arrow.

2) Carefully insert the new POWER SUPPLY to the insertion position. (Fig. 2)

- Make sure that the <POWER> switch of the new POWER SUPPLY is on the <O> side before installing.
- Insert the POWER SUPPLY fully and securely.

3) Use a Phillips-head screwdriver to securely tighten the POWER SUPPLY fixing screw (x 1). (Fig. 3)

4) Attach the power cord provided with the POWER SUPPLY to the <AC IN> terminal.

Attention

- The removed screw with toothed lock washer and the cover for the POWER SUPPLY attachment section will be required when removing the POWER SUPPLY that is no longer needed. Store it for installation at a later date.

Removing the POWER SUPPLY

POWER SUPPLY fixing screw

Handle
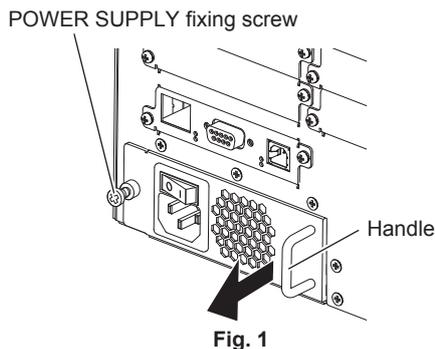
Fig. 1

1) **Press the <POWER> switch of the POWER SUPPLY towards the <○> side to turn off the power.**

2) **Remove the power plug from the outlet.**

3) **Remove the power cord connector from the <AC IN> terminal on the rear of the device.**

4) **Remove the POWER SUPPLY. (Fig. 1)**
   - Use a Phillips-head screwdriver to turn the POWER SUPPLY fixing screw (x 1) counterclockwise until it turns freely, and then remove the POWER SUPPLY.
   - Hold the handles of the POWER SUPPLY and slowly remove.

5) **Attach the cover for the POWER SUPPLY attachment section.**
   - Attach the stored cover for the POWER SUPPLY attachment section, and tighten to secure with the two screws with toothed lock washers.
   - To replace with another POWER SUPPLY, follow the procedure in "Attaching the POWER SUPPLY".

Attention

- When installing the optional POWER SUPPLY to form a 2-POWER SUPPLY configuration, remove the power cord connector from the <AC IN> terminal after turning off both POWER SUPPLY units to fully isolate them from the power supply.

Index

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)

This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union
If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union
This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Environment care information for users in China

This symbol is only valid in China.

Panasonic Corporation