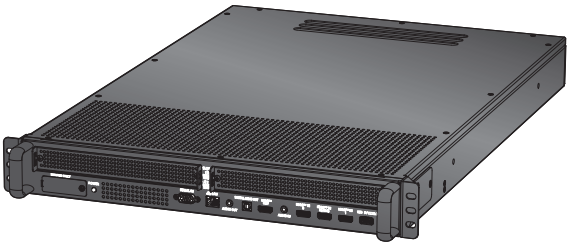
Panasonic

# Operating Instructions
## Functional Manual

CONTROL BOX | For business use

Model No. TY-CTRFHD1W



English

Please read these instructions before operating your set and retain them for future reference.

HDMI™ HIGH-DEFINITION MULTIMEDIA INTERFACE

HEVC Advance™ Covered by patents at patentlist.accessadvance.com

W0425YM0 -FJ

DPQP1680ZA/X1

# *Dear Panasonic Customer*

*Welcome to the Panasonic family of customers. We hope that you will have many years of enjoyment from your new Control Box.*

*To obtain maximum benefit from your set, please read these Instructions before making any adjustments, and retain them for future reference.*

*Retain your purchase receipt also, and note down the model number and serial number of your set in the space provided on the rear cover of these instructions.*

*Visit our Panasonic Web Site*

*https://docs.connect.panasonic.com/prodisplays/*

# Table of Contents

**Before use**

- This device is a dedicated system component for the TL-110AD12AW unit which is separately sold from the unit.
  This device cannot be purchased or used separately from the above-named unit.
- Illustrations and screens in this Operating Instructions are images for illustration purposes, and may be different from the actual ones.


**WARNING: To reduce the risk of electric shock, do not remove cover.**

**No user-serviceable parts inside. Refer servicing to qualified service personnel.**

The lightning flash with arrow-head within a triangle is intended to tell the user that parts inside the product are a risk of electric shock to persons.

The exclamation point within a triangle is intended to tell the user that important operating and servicing instructions are in the papers with the appliance.

**WARNING:**

**To prevent damage which may result in fire or shock hazard, do not expose this apparatus to rain or moisture.**

**Do not place a container filled with water or other liquid on top of the unit.**

**WARNING:**

1) To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.
2) Do not remove the grounding pin on the power plug. This apparatus is equipped with a three pin grounding-type 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.

# Important Safety Instructions

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Clean only with dry cloth.
6) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
7) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
8) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
9) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10) Only use attachments / accessories specified by the manufacturer.
11) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart / apparatus combination to avoid injury from tip-over.

12) Unplug this apparatus during lightning storms or when unused for long periods of time.
13) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14) To prevent electric shock, ensure the grounding pin on the AC cord power plug is securely connected.

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# Important Safety Notice

**WARNING**

1) To prevent damage which may result in fire or shock hazard, do not expose this appliance to dripping or splashing.

   Do not place a container filled with water or other liquid on top of the unit.

   Do not place any objects on top of the device.

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 power plug. This apparatus is equipped with a three pin earthing-type power plug. This plug will only fit an earthing-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 earthing plug.

4) To prevent electric shock, ensure the earthing pin on the AC cord power plug is securely connected.

**CAUTION**

This appliance is intended for use in environments which are relatively free of electromagnetic fields.

Using this appliance near sources of strong electromagnetic fields or where electrical noise may overlap with the input signals could cause the picture and sound to wobble or cause interference such as noise to appear.

Using this appliance near sources of strong electromagnetic fields or where electrical noise may overlap with the input signals could cause the sensor function not to work correctly.

To avoid the possibility of harm to this appliance, keep it away from sources of strong electromagnetic fields.

**WARNING:**

This equipment is compliant with Class A of CISPR32.

In a residential environment this equipment may cause radio interference.

**IMPORTANT INFORMATION: Stability Hazard**

Never place the unit in an unstable location. The unit may fall, causing serious personal injury or death. Many injuries, particularly to children, can be avoided by taking simple precautions such as:

- Using cabinets or stands recommended by the manufacturer of the unit.
- Only using furniture that can safely support the unit.
- Ensuring the unit is not overhanging the edge of the supporting furniture.
- Not placing the unit on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the unit to a suitable support.
- Not placing the unit on cloth or other materials that may be located between the unit and supporting furniture.
- Educating children about the dangers of climbing on furniture to reach the unit or its controls.

If the existing unit is going to be retained and relocated, the same considerations as above should be applied.

## IMPORTANT: THE MOULDED PLUG

**FOR YOUR SAFETY, PLEASE READ THE FOLLOWING TEXT CAREFULLY.**

This unit is supplied with a moulded three pin mains plug for your safety and convenience. A 10 amp fuse is fitted in this plug. Shall the fuse need to be replaced, please ensure that the replacement fuse has a rating of 10 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 your local Panasonic dealer.

Do not cut off the mains plug.

Do not use any other type of mains lead except the one supplied with this unit.

The supplied mains lead and moulded plug are designed to be used with this unit to avoid interference and for your safety.

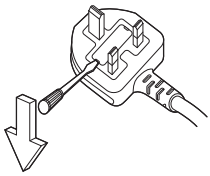
If the socket outlet in your home is not suitable, get it changed by a qualified electrician.

If the plug or mains lead becomes damaged, purchase a replacement from an authorized dealer.

**WARNING : — THIS UNIT MUST BE EARTHED**

**How to replace the fuse.**

Open the fuse compartment with a screwdriver and replace the fuse.



# Safety Precautions

## WARNING

### ■ Setup

- If the unit needs to be set up on a stand, use the separately sold Mobile Stand (TY-ST110AD1).
- To mount the unit on the wall, use the Wall Mounts included in the FHD LED Display (TL-110AD12AW) package.
- To prevent the wall-mounted unit from falling, check that the wall in the mounting area is sufficiently strong to support the weight of the unit and the Wall Mounts.
- The Power Box should be installed using the fittings included in the FHD LED Display (TL-110AD12AW) package.
- The Control Box should be installed using the fittings included in the FHD LED Display (TL-110AD12AW) package. Alternatively, installation on an ANSI/EIA-310-D-compliant rack is acceptable.

**We are not responsible for any product damage, etc. caused by failures in the installation environment even during the warranty period.**

Small parts can present choking hazard if accidentally swallowed. Keep small parts away from young children. Discard unneeded small parts and other objects, including packaging materials and plastic bags/sheets to prevent them from being played with by young children, creating the potential risk of suffocation.

**Do not place the unit on sloped or unstable surfaces, and ensure that the unit does not hang over the edge of the base.**

- The unit may fall off or tip over.

**Install this unit at a location with minimal vibration and which can support the weight of the unit.**

- Dropping or falling of the unit may cause injury or malfunction.

**When using this unit, be sure to take safety measures to prevent falling or dropping of the unit.**

- If an earthquake occurs or a child climbs the unit, the unit may fall or drop, resulting in an injury.

**Cautions for Wall Installation**

- The installation should be performed by an installation professional. Installing the unit incorrectly may lead to an accident that results in death or serious injury.
- Before installation, be sure to check if the mounting location has enough strength to support the weight of the unit and the wall hanging bracket for anti drop.
- If you terminate the use of the product, ask a professional to remove it promptly.

**To avoid getting accidentally squeezed between the unit and the wall or a mounting fixture, the installer should make sure that there is nobody in the surrounding area before starting the unit installation or removal work.**

- Injury may be caused by having your fingers or hands accidentally squeezed between objects.

### ■ When using the unit

**The unit is designed to operate on 220 – 240 V AC, 50/60 Hz.**

**If problems or malfunction occur, stop using immediately.**

**If problems occur, unplug the power supply plug.**

- Smoke or an abnormal odour come out from the unit.
- No picture appears or no sound is heard, occasionally.
- Liquid such as water or foreign objects got inside the unit.
- The unit has deformed or broken parts.

**If you continue to use the unit in this condition, it could result in fire or electric shock.**

- Unplug the power supply plug from the wall outlet, and then contact the dealer for repairs.
- To cut off the power supply to this unit completely, you need to unplug the power supply plug from the wall outlet.
- Repairing the unit yourself is dangerous, and shall never be done.
- To enable to unplug the power supply plug immediately, use the wall outlet which you can reach easily.

**Do not touch the unit directly by hand when it is damaged.**

- Electric shock could occur.

**Do not stick any foreign objects into the unit.**

- Do not insert any metal or flammable objects into the ventilation holes or drop them onto the unit, as doing so can cause fire or electric shock.

**Do not attempt to disassemble or alter the unit in any way.**

- High voltages which can cause fire or electric shocks are present inside the unit. For any inspection, adjustment and repair work, please contact your local Panasonic dealer.

**Ensure that the mains plug is easily accessible.**

**The mains plug shall be connected to a mains socket outlet with a protective earthing connection.**

**Do not use any power supply cord other than that provided with this unit.**

- Doing so may cause short-circuit, generates heat, etc., which could cause electric shock or fire.

**Do not use the supplied power supply cord with any other devices.**

- Doing so may cause short-circuit, generates heat, etc., which could cause electric shock or fire.

**Clean the power supply plug regularly to prevent it becoming dusty.**

- If there is a build up of dust on the plug, the resultant humidity may cause short-circuit, which could cause electric shock or fire. Unplug the power supply plug from the wall outlet and wipe it with a dry cloth.

**Do not handle the power supply plug with wet hands.**

- Doing so may cause electric shocks.

**Make sure that the mains plug is fully inserted into the socket outlet and the power supply connector is fully inserted into the unit.**

- Incomplete insertion may cause electric shock or fire due to heating.
- Do not keep using a damaged mains plug or a loose socket outlet.
- Make sure that the power supply connector is locked.

**Do not do anything that may damage the power supply cord or the power supply plug.**

- Do not damage the cable, make any modifications to it, place heavy objects on top of it, heat it, place it near any hot objects, twist it, bend it excessively or pull it. To do so may cause fire and electric shock. If the power cable is damaged, have it repaired at your local Panasonic dealer.

**Do not touch the power supply cord or the plug directly by hand when they are damaged.**

- Doing so may cause electric shock or fire due to short-circuit.

**All parts and accessories included in the product package should be stored out of children's reach.**

- These items are detrimental to human health if accidentally swallowed.
- Please contact a doctor immediately in case you doubt that the child may have swallowed it.

## CAUTION

**Do not close or plug any of the air vents in the unit.**

**Do not place the unit in a narrow, poorly ventilated place.**

**Do not place the unit upside down.**

**Do not place the unit in contact with fabric material, for example under a table cloth or on a carpet or bedclothes.**

- Heat buildup inside the unit may lead to fire or mechanical failure.

**Install the mounting screws and power cable in such a way that they will not make contact with the inside parts of the wall.**

- Electric shocks may result from contact with any metal objects inside the wall.

**Do not pull or snag the connection cable.**

- This may cause the unit to fall or tip over, resulting in injury.
- Pay special attention to children.

**Do not fit at any locations subject to humidity, dust, smoke, steam or heat.**

- This may have an adverse effect on the unit and cause fire or electric shock.

**Do not place the unit in a place where it can be exposed to the weather, salt damage, or corrosive gas.**

- Doing so may cause the unit to fall due to corrosion, and it may result in injury. Also, the unit may malfunction.

**The installer should avoid getting their hands or fingers pinched during installation.**

- Such pinching could lead to Injury.

**We do not assume responsibility for any accident or damage that is caused as a result of attempting to install or handle the unit in any way not specified in our operating instructions/installation instructions or by using any part or material other than the ones specified.**

**When disconnecting the power supply cord, make sure to do so by holding the mains plug (when disconnecting from the socket outlet) or the power supply connector (when disconnecting from the unit).**

- Pulling the cord may damage the cord, and it may cause electric shock or fire due to short-circuit.

**If the unit needs to be moved, make sure to do so after disconnecting the power supply cord and all the device connection cables and also removing any anti-tip/anti-drop anchor installed.**

- If the unit is moved while some of the cables are still connected, the cables may become damaged, and fire or electric shock could result.

**Disconnect the power supply plug from the wall socket as a safety precaution before carrying out any cleaning.**

- Electric shocks can result if this is not done.

**For safety reasons, disconnect the unit's mains plug from the socket outlet and also disconnect the power supply connector from the Power Box before installing, removing, cleaning or servicing the function board (sold separately).**

- Electric shock may result.

**Do not step on, or hang from the unit.**

- They might tip over, or might be broken and it may result in injury. Pay special attention to the children.

**Do not mix old and new batteries. Use only specified batteries.**

**Do not reverse the polarity (+ and -) of the battery when inserting.**

- Mishandling the battery may cause its explosion or leakage, resulting in fire, injury or damage to surrounding properties.
- Insert the battery correctly as instructed.

**Do not use batteries with the outer cover peeling away or removed.**

- Mishandling the batteries may cause the batteries to short circuit, resulting in fire, injury or damage to surrounding properties.

**Remove the batteries from the remote control transmitter when not using for a long period of time.**

- The battery may leak, heat, ignite or burst, resulting in fire or damage to surrounding properties.

**Remove exhausted batteries from the remote control immediately.**

- Leaving the batteries unattended in it may cause battery leakage, heat or burst.

**Do not burn or breakup batteries.**

- Batteries must not be exposed to excessive heat such as sunshine, fire or the like.

**Do not subject the unit to excessive force or impact.**

- Doing so may result in damage to the unit and/or personal injury.

**If the unit is not going to be used for any prolonged length of time, unplug the power supply plug from the wall outlet.**

- This may have an adverse effect on the unit and cause fire or electric shock.

# Precautions for use

## ■ Cautions when installing

**Follow the instructions below when installing the unit.**

**Even before expiration of the warranty period, we do not assume responsibility for any damage arising from installing the unit in an inappropriate environment.**

**This unit must be installed in an indoor location. Even inside a building, avoid installing the unit in the following types of locations:**

- Where the unit is exposed to the weather
- Where the unit may be subject to drastic changes in temperature or humidity, for example near an air conditioning device
- Where the unit may receive vibration or impact
- Near a fire sprinkler or sensor

**Do not install the unit where it may receive vibration or impact.**

- Vibration or impact on the unit may damage its internal parts and can lead to mechanical failure. Choose a place free from vibration or impact to install the unit.

**Install this unit at a location which can support the weight of the unit.**

- Dropping or falling of the unit may cause injury.

**Do not install the unit near a high-voltage line or a power source.**

- Installing the unit near a high-voltage line or a power source may receive interference.

**Watch out for mutual interference between devices.**

- Place the unit away from risks of video distortion or audio noises due to electromagnetic interference.

**Environmental temperature to use this unit**

- When using the unit where it is below 1 400 m (4 593 ft) above sea level: 0 °C to 40 °C (32 °F to 104 °F)
- When using the unit at high altitudes (1 400 m (4 593 ft) and higher and below 2 800 m (9 186 ft) above sea level): 0 °C to 35 °C (32 °F to 95 °F)

**Make sure to allow sufficient air flow around and through the unit so as not to exceed these temperature ranges.**

- Service life of the unit components may be shortened or mechanical failure may be caused.

**Install the unit out of direct sunlight and also away from heat-generating devices.**

- Even in an indoor location, direct sunlight can cause the LED module temperature to increase to result in mechanical failure.
- Cabinet deformation or failure can be caused.
- Excessive light or heat can cause mechanical failure or other problems arising from increase in the device temperature.
- Deterioration of video quality may be experienced.

**Device connection should be made with the devices in de-energized condition.**

- Connect the devices according to their respective manuals.

**Securing a clearance distance around the installed unit**

- If the unit is installed inside a protective casing or enclosure, make sure to offer adequate ventilation by providing a cooling fan or air vents so that the temperature around the unit (inside the casing or enclosure) including the front of the LED panel will be kept within the specified allowable operating temperature range.

**In the case of storage, store the unit in a dry room.**

## ■ Note for connection

**Removing and inserting the power cord and connection cables**

- When the unit has been installed on the wall, if the power cord and connection cables are difficult to remove and insert, make connections first before installation.
- Be careful not to allow the cables to be entangled. After installation is completed, insert the power plug to the outlet.

## ■ When using

**Parts of the unit may become hot during use.**

- Parts of the unit housing may become hot, but this is normal and does not affect unit performance or quality.

**Fan replacement may become necessary.**

- The unit fan may need to be replaced with a new one after the number of cumulative operating hours of the fan exceeds 25 000 hours.
- Note that time to fan replacement may differ depending on the operating environment.
- Contact your dealer for fan replacement service. The cumulative operating hours of the fan can be found in the [Options] menu.

**To maximize the service life of LEDs**

- The LED elements can absorb moisture if the unit is used or stored in a highly humid place or has not been run for an extensive period of time. Selecting a high luminance setting with the LED elements in such moist condition can cause the LED elements to go through a rapid temperature change, which can result in LED element failure. To select a higher luminance setting, set the [Warm up aging] (an intermediate mode where the luminance setting is raised a little at a time before entering the regular operation mode) option to [On] or [Auto].

**Keep an appropriate audio volume so as not to annoy your neighbors**

- Close the window or take other action to protect the peace and quiet of your neighbors. Be especially careful at night where even small sounds carry more clearly than in daytime.

**If the unit is not going to be used for any prolonged length of time, unplug the power supply plug from the wall outlet.**

- When storing the product for long periods with no power supplied, do not store it in a location exposed to direct sunlight.

**If the power is instantaneously interrupted or stopped, or if the power voltage is instantaneously lowered, the unit may not operate normally.**

- In this case, turn off the power of the unit and the connected devices once, and then turn on the power again.

**Picture noise may occur if you connect / disconnect the cables connected to the input terminals you are currently not watching, or if you turn the power of the video equipment on / off, but it is not a malfunction.**

**Do not apply an adhesive tape or sticker to the unit.**

- The unit surface will become soiled.

**Do not keep the unit in contact with a rubber or soft plastic material for an extensive period of time.**

- Unit deterioration may be caused.

## ■ Connection via RJ45 terminals

**The RJ45 terminal on the front of the unit is for network connection only.**
**On the other hand, the RJ45 terminal on the rear of the unit is provided for video connection to the Cabinet Module or for control connection to the Power Box. Do not connect this terminal to a network device.**
**If the terminal is mistakenly connected to a network device, system failure may result.**

**Using the unit in a place where static charges easily build up should be avoided.**

- You may experience frequent communication interruptions when the unit is being used in an area where static charges tend to build up, for example on a carpet. If this happens, eliminate the suspected cause of the static charge and other potential noise-generating factors, and then turn off the unit and all the devices connected to it and turn them on again.

**Strong radio interference from a broadcast station or a radio communication device can prevent the unit from functioning correctly.**

- If there is a system or device nearby that generates strong radio signals, position the unit as far away from such device as possible and/or cover the unit's LAN cable with a length of metal foil or metal conduit which is grounded at both ends.

## ■ Request Regarding Security

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

- Personal information being leaked via this unit
- Unauthorized operation of this unit by a malicious third party
- Interfering or stopping of this unit by a malicious third party

**Take sufficient security measures.**

- Set a password for the LAN control and restrict the users who can log in.
- Make your password difficult to guess as much as possible.
- Change your password periodically.
- Panasonic Projector & Display Corporation or its affiliate companies will never ask for your password directly. Do not divulge your password in case you receive such inquiries.
- The connecting network must be secured by a firewall, etc.
- When disposing the product, initialize the data before disposing.

## ■ Cleaning and maintenance

**Before cleaning the unit, make sure that the mains plug is disconnected from the socket outlet and double-check that the unit is not energized.**

**To remove dirtiness on the unit (except for the LED Module surface), wipe gently with soft antistatic cloth (cotton fabric or flannel).**

**Note**

- Static charges may cause electrical circuit failure.
- Wiping the unit surface with stiff cloth or rubbing the surface hard may cause mechanical failure.

**Use of chemically impregnated wipes**

- Follow the instructions provided with the wipe when using the wipe on the unit.

**Do not spray or apply volatile liquid on the unit such as insecticide, benzene or paint thinner.**

- Exposure to volatile liquid may cause failure or mechanical damage of the unit and may also damage its surface coating.

**Remove dust or dirt from unit airways such as the air vents.**

- Dust may adhere to the vicinity of the ventilation holes depending on the usage environment. As a result, if the internal cooling of this unit or circulation of exhaust heat deteriorates, it may result in a decrease in brightness or a malfunction. Clean and remove dust from the ventilation holes.
- The amount of dust and dirt that adheres depends on the installation location and usage time.

## ■ Disposal

**When disposing the product, ask your local authority or dealer about the correct methods of disposal.**

# Accessories

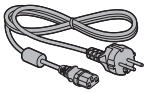
## Product

## Accessories Supply

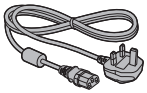
Check that you have the accessories and items shown. The number shown in < > is the quantity of the item included in the package.

**Power supply cord**
**For connection to the socket outlet (approx. 2 m)**

- 2JP143EQ2W

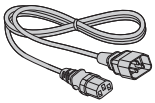


- 3JP143EQ2W



**Power supply cord <1>**
**For connecting TY-PWRBX1W (approx. 2 m)**

- DPVF5003ZA/X1



**RJ-45 cable <4>**

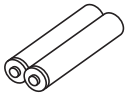
- DPVF4977ZA/X1 (approx. 1.7 m) × 2
- DPVF4979ZA/X1 (approx. 2.2 m) × 2

**Remote Control Transmitter <1>**

- DPVF1615ZA

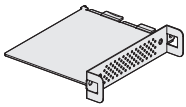
**Battery for the Remote Control Transmitter <2>**

(AAA/R03/LR03 type)



**SLOT adapter <2>**

- DPVF2722XA/X1

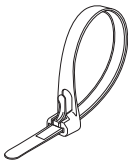


**External IR receiver <1>**
**(Approx. 1.8 m)**

- DPVF1180ZA

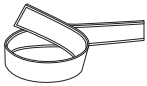
**Cable tie wrap <20>**

- DPVF4980ZA/X1



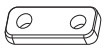
**Velcro strip <10>**

- DPVF4981ZA/X1



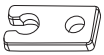
**Connection fitting,**
**vertical <8>***

- DPVF4985ZA/X1



**horizontal <2>***

- DPVF4982ZA/X1



**M8-14 bolt <16>***
**For vertical connection fittings**

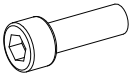
- DPVF4986ZA/X1

**M10-20 bolt <2>***
**A for horizontal connection fittings**

- DPVF4983ZA/X1

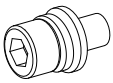
**M10-18 bolt <2>***
**B for horizontal connection fittings**

- DPVF4984ZA/X1



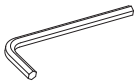
**M6-12 bolt <4>**
**For retaining the box**

- DPVF4994ZA/X1



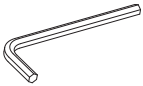
**Hex wrench (for M4) <1>**

- DPVF4988ZA/X1



**Hex wrench (for M5) <1>**

- DPVF4989ZA/X1



**LED Module height adjustment jig <1>**

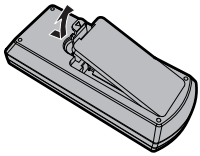
- DPVF4987ZA/X1

* These accessories are not intended for use with the TL-110AD12AW package.

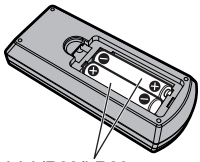
**Attention**

- Store small parts in an appropriate manner, and keep them away from young children.
- The part numbers of accessories are subject to change without notice. (The actual part number may differ from the ones shown above.)
- In case you lost accessories, please purchase them from your dealer. (Available from the customer service)
- Dispose the packaging materials appropriately after taking out the items.

## Remote Control Batteries



**Open the battery cover.**



AAA/R03/LR03 type

**Insert batteries and close the battery cover.**

(Insert starting from the ⊖ side.)

**Note**

- Incorrect installation of the batteries can cause battery leakage and corrosion that will damage the remote control.
- Disposal of batteries should be done in an environment-friendly manner.

**Take the following precautions.**

1. Batteries shall always be replaced as a pair.
2. Do not combine a used battery with a new one.
3. Do not mix battery types (example; manganese dioxide battery and alkaline battery etc.).
4. Do not attempt to charge, disassemble or burn used batteries.
5. Do not burn or breakup batteries.
   Moreover, batteries must not be exposed to excessive heat such as sunshine, fire or the like.

## Attaching the Function Board

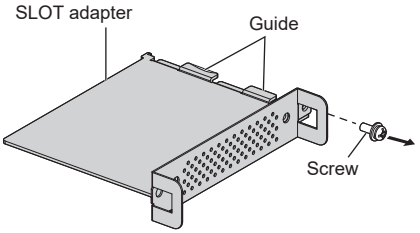
When using a narrow-width function board, attach the supplied SLOT adapter, and insert it to the expansion slot.

**Note**

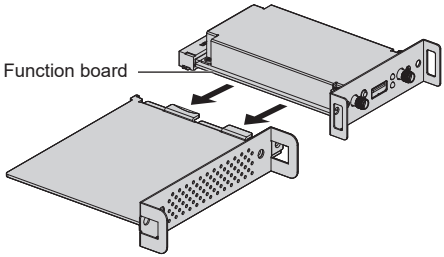
- Turn off the Control Box and all the connected devices, disconnect the mains plug from the socket outlet and also disconnect all the connection cables from the Control Box.
- When attaching/removing the function board, do not allow the metal to damage the back cover or display label.

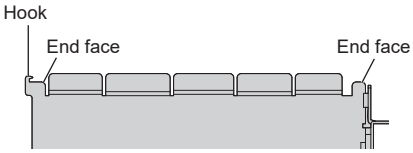
When attaching a full-size function board, proceed to step **4**.

### 1 Remove one screw from the side with the guide on the SLOT adapter.

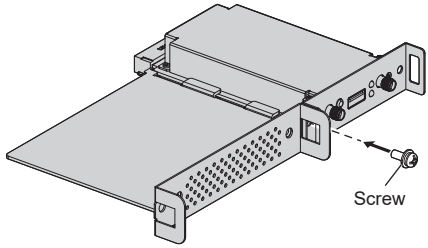



### 2 Fit the circuit board of the function board in the guides of the SLOT adapter, and bring the circuit board into contact with the hook (one location) and the end faces (two locations) securely.



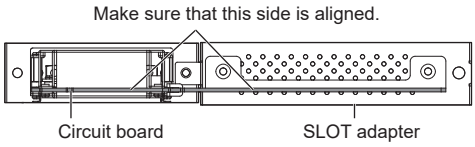

### 3 Using the screw removed in step 1, fix the function board to the SLOT adapter.

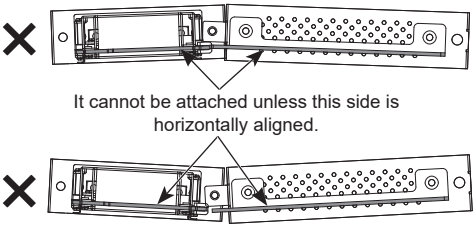



- Tightening torque guideline: 0.5 N·m or less

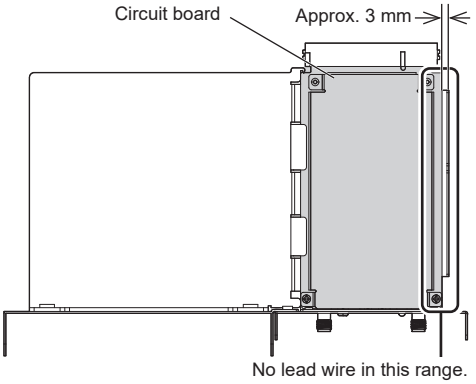
**Note**

- Firmly tighten the screw, and check that the hook of the SLOT adapter fixes the circuit board.
- Check that the surface of the SLOT adapter and the surface of the circuit board match with each other when the function board with the SLOT adapter attached is viewed from the opposite side of the cover.



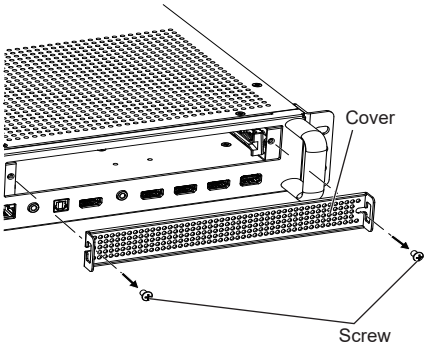



- If there is a lead wire within approx. 3 mm from the end face of the circuit board, the function board cannot be attached due to interference with the guide rail. Ensure that there is no lead wire in this range.




## 4 Remove the 2 screws, and then remove the expansion slot cover or function board from the unit.

To remove the function board, hold the handle of the function board and pull it out slowly in the arrow direction.

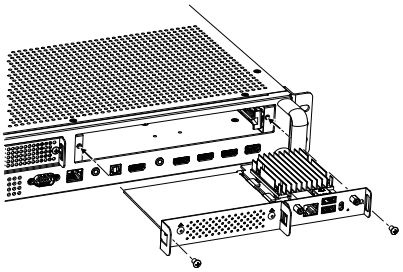



**Note**

- This unit has a cover fitted over the expansion slot.
- You will need this cover when the unit receives repair or other service. Store the cover safely.

## 5 Insert the function board to the expansion slot, and tighten the 2 screws.

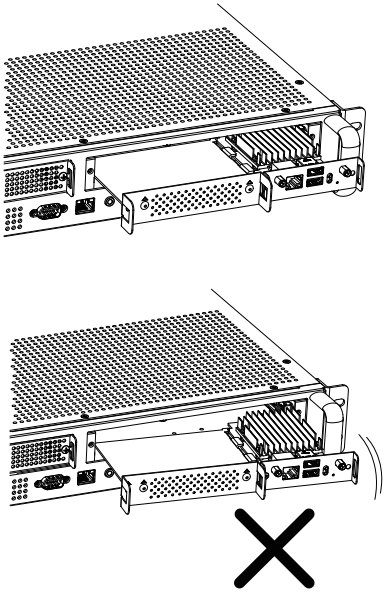
Fix the function board with the 2 screws removed in step **4**.



- Tightening torque guideline: 0.5 N·m or less

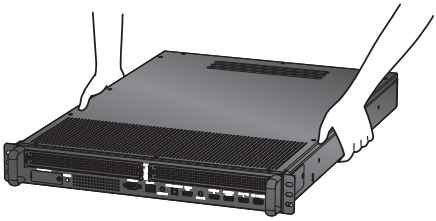
**Note**

- When inserting the function board, be careful not to allow it to come into contact with the edge of the opening of the expansion slot.
  The unit and the function board may be damaged.



# Cautions when moving

Securely hold both ends of the unit to move it.



**Note**

- Be careful to keep the vertical and horizontal sides of the unit frame and also the unit corners away from other objects.
  Collision with other objects may lead to mechanical failure.

# Separately sold optional items

Request for a professional service to install these items.

**12G-SDI terminal board:**

- TY-SB01QS

**DIGITAL LINK terminal board:**

- TY-SB01DL

**DIGITAL LINK switcher:**

- ET-YFB200

**Wireless presentation system Receiver Board**

- TY-SB01WP

**Note**

- For best performance and safety, contact the seller or other professional service provider to have these items installed.
- At the end of its use, the unit should be swiftly removed by a professional service qualified for the work.
- The part numbers of the optional items are subject to change without prior notice.

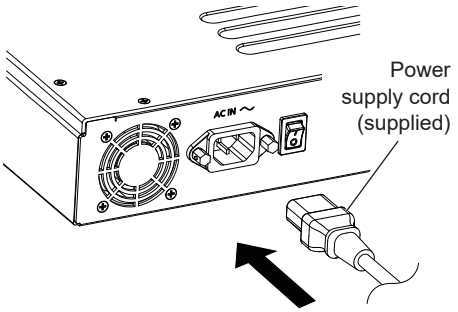
# Connections

## Power supply cord connection and fixing / Cable fixing

Back of the unit

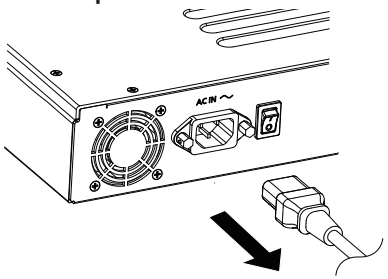
**Connecting the power supply cord**

**Insert the connector straight into the port until it stops**




**Disconnecting the power supply cord**

**Hold the connector and pull it straight out of the port**

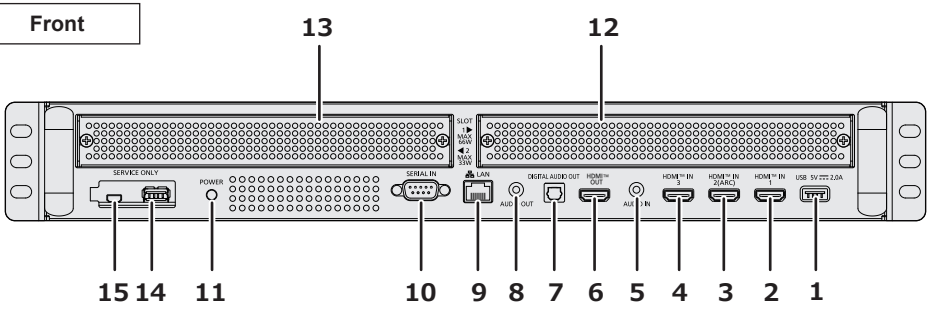



**Note**

- Do not use a damaged power supply cord. Continued use of a damaged cord may lead to electrical contact error between the power supply cord connector and the <AC IN> terminal. Contact your dealer if the power supply cord needs to be repaired.
- When disconnecting the power supply cord, be absolutely sure to disconnect the power supply cord plug at the socket outlet first.
- The supplied power supply cord is for this unit exclusive use. Do not use this for other purposes.

## Connecting to a video device

Front




**1 USB:** **USB terminal**

Use of media player or memory viewer application will be available by connecting a USB memory to this terminal.
Power of 5 V and up to 2 A can also be supplied to an external device when the unit is receiving video.
(see page 24)

**2 HDMI IN 1:**
**3 HDMI IN 2:**
**4 HDMI IN 3:**
**HDMI input terminals (a total of three ports)**

Video devices with HDMI output can be connected.
The HDMI IN 2 terminal can also be connected to an ARC-enabled device to provide audio output.
(see page 20)

**5 AUDIO IN:** **Analog audio input terminal**

**6 HDMI OUT:** **HDMI output terminal**

Video and audio signals that are received via HDMI IN 3 can be output from this terminal.
A video device with HDMI input can be connected.

**7 DIGITAL AUDIO OUT:** **Digital audio output terminal**

An audio device with a digital audio input terminal can be connected.

**8 AUDIO OUT:** **Analog audio output terminal**

An audio device with an analog audio input terminal can be connected.

**9 LAN:** **LAN terminal**

The unit can be externally controlled by being connected to a network through this terminal.
(see page 87)

**10 SERIAL IN:** **Serial input terminal**

The unit can be externally controlled by being connected to a PC.
(see page 21)

**11 POWER:** **Power indicator**

Indicates the unit's power status.

**12 SLOT 1:** **Expansion slot 1**

An extension board of up to 66 W power consumption can be used.

**13 SLOT 2:** **Expansion slot 2**

An extension board of up to 33 W power consumption can be used.

**Note**

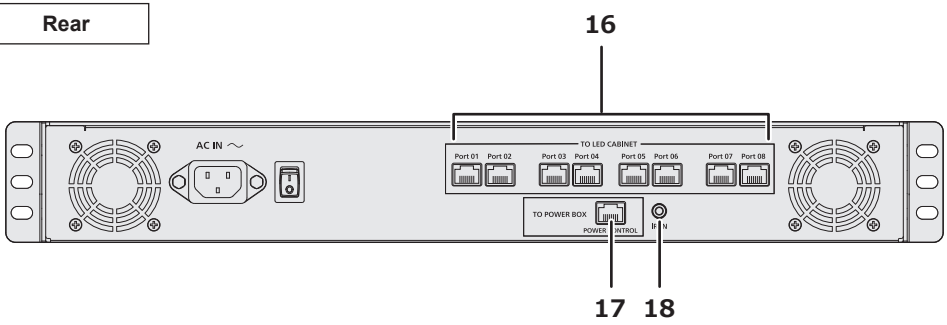
- Contact your dealer for information about compatible function boards.

**(SERVICE ONLY)**

**14 USB:** **USB terminal for service use (USB TYPE A)**

**15 USB:** **USB terminal for service use (USB mini B)**

**Rear**




**16 Port01 to 08:** **LED panel drive output terminal**

**Note**

- TL-110AD12AW uses Port01 to Port04.

**17 POWER CONTROL:** **Power/sensor control terminal**

This terminal provides connection to the Power Box for power supply and sensor module control.

**18 IR IN:** **Infrared signal input**

Use this terminal for connection when you want to control the unit using the remote control transmitter.

## Before connecting

- Read the “Operating Instructions - Functional Manual” for the unit and also the Installation Instructions for TL-110AD12AW.
  You can download the documents from the Panasonic website (https://docs.connect.panasonic.com/prodisplays/).
- 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.
  - When connecting a cable to the unit or a device connected to the unit itself, touch any nearby metallic objects to eliminate static electricity from your body before performing work.
  - Do not use unnecessarily long cables to connect a device to the unit or to the unit body. The longer the cable, the more susceptible to noise it becomes. Since using a cable while it is wound makes it act like an antenna, it is more susceptible to noise.
  - When connecting cables, insert them straight into the connecting terminal of the connecting device so that the ground is connected first.
- Acquire any cable necessary to connect the external device to the system that is neither supplied with the device nor available as an option.
- If the outer shape of the plug of a connection cable is large, it may come in contact with the periphery such as a back cover or the plug of an adjacent connection cable. Use a connection cable with the suitable plug size for the terminal alignment.
- When connecting the LAN cable with plug cover, be aware that the cover may come in contact with the back cover and it may be difficult to disconnect.
- If video signals from video equipment contain too much jitter, the images on the screen may wobble. In this case, a time base corrector (TBC) must be connected.
- When the sync signals output from PC or video equipment are disturbed, for example, when changing settings of video output, the colour of the video may be disturbed temporarily.
- Some PC models are not compatible with the unit.
- Use cable compensator when you connect devices to the unit using long cables. Otherwise the image may not be displayed properly.
- Refer to the “Preset signals” section (page 145) about the types of video signals that can be played by this unit.

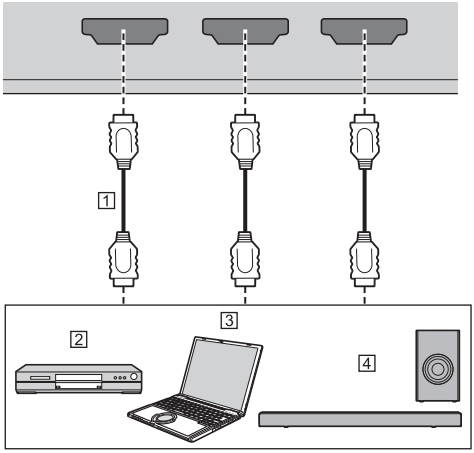
## HDMI IN 1, HDMI IN 2 and HDMI IN 3 terminals connection

**Note**

- Video equipment and HDMI cable are not supplied with this unit.
- Connect the equipment complying with the HDMI standard.
- Some HDMI equipment may not be able to display pictures.
- This unit is compatible only with the standard HDMI-CEC specifications. Functions developed by individual manufacturers are not supported.
- For audio, it is also possible to use the AUDIO IN terminal. (For [Audio input select] function, see page 58)

**Note**

- Use an HDMI High Speed cable complying with the HDMI standards. Note when inputting 4K video signals exceeding the transmission speed supported by HDMI High Speed cables, use an HDMI cable supporting 18 Gbps high-speed transmission such as the one certified as a Premium HDMI cable.
  When inputting video signals exceeding the transmission speed supported by the HDMI cable you are using, malfunction may occur such as interrupted pictures and no display on the screen.

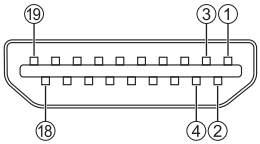



1 HDMI cable (commercially available)
2 Blu-ray disc player
3 PC
4 ARC audio device

**Note**

- Be sure to connect the ARC audio device to the HDMI IN 2 terminal.

**Pin assignments and signal names for HDMI Terminal**




| Pin no. | Signal name |
|---|---|
| ① | T.M.D.S Data2 + |
| ② | T.M.D.S Data2 Shield |
| ③ | T.M.D.S Data2 - |
| ④ | T.M.D.S Data1 + |
| ⑤ | T.M.D.S Data1 Shield |
| ⑥ | T.M.D.S Data1 - |
| ⑦ | T.M.D.S Data0 + |
| ⑧ | T.M.D.S Data0 Shield |
| ⑨ | T.M.D.S Data0 - |
| ⑩ | T.M.D.S Clock + |
| ⑪ | T.M.D.S Clock Shield |
| ⑫ | T.M.D.S Clock - |
| ⑬ | CEC |
| ⑭ | NC (not connected)* |
| ⑮ | SCL |
| ⑯ | SDA |
| ⑰ | DDC/CEC Ground |
| ⑱ | +5V DC |
| ⑲ | Hot Plug Detect |

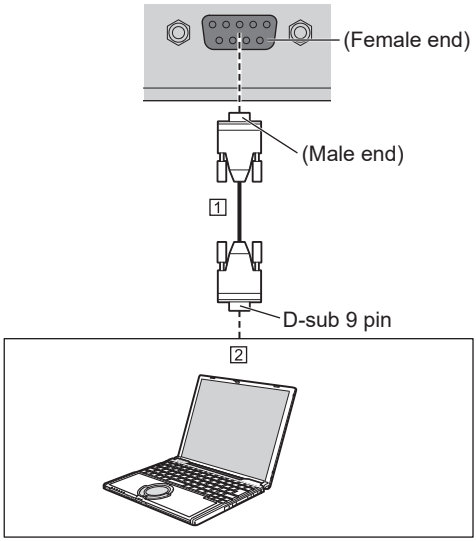
* Only the HDMI IN 2 terminal supports ARC.

## Example SERIAL IN (serial) terminal connection (when PC control is to be used)

The SERIAL terminal conforms to the RS-232C interface specification so this unit can be controlled by a connected computer.

**Note**

- PC and cable not supplied with this unit.



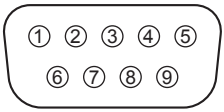

1 RS-232C straight cable (commercially available)

2 PC

**Note**

- Use an RS-232C straight cable for communication (to connect the SERIAL terminal and your PC) that suits the type of PC you are using.

### Pin assignments and signal names for SERIAL terminal




| Pin no. | Signal name |
|---|---|
| ① | CD (not connected) |
| ② | RXD (received data) |
| ③ | TXD (transmitted data) |
| ④ | DTR (unused) |
| ⑤ | GND (ground) |
| ⑥ | DSR (unused) |
| ⑦ | RTS ] (shorted in this unit) |
| ⑧ | CTS ] |
| ⑨ | RI (not connected) |

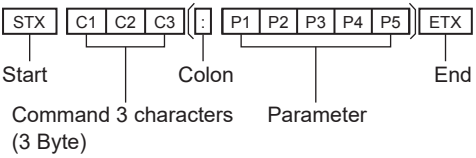
* These signal names are those of computer specifications.

**Communication parameters**

Signal level: RS-232C compliant
Synchronization method: Asynchronous
Baud rate: 9 600 bps
Parity: None
Character length: 8 bits
Stop bit: 1 bit
Flow control: None

**Basic format**

The transmission of control data from the computer starts with a STX signal, followed by the command, the parameters, and lastly an ETX signal in that order. Add parameters as required according to control details.




### Commands

| Command | Parameter | Control details |
|---|---|---|
| **PON** | None | Power on |
| **POF** | None | Power off |
| **AVL** | *** | Volume 000 to 100 |
| **AMT** | 0 | Mute off |
| | 1 | Mute on |
| **IMS** | HM1 | HDMI IN 1 input (HDMI1) |
| | HM2 | HDMI IN 2 input (HDMI2) |
| | HM3 | HDMI IN 3 input (HDMI3) |
| | SL1 | SLOT1 input (SLOT1) |
| | SL2 | SLOT2 input (SLOT2) |
| | NW1 | Screen Transfer input (Screen Transfer) |
| | UD1 | USB / Internal Memory input (USB/internal memory) |
| | MV1 | Memory viewer input (MEMORY VIEWER) |
| **DAM** | None | Screen mode select (toggle) |
| | FULL | Full |
| | NORM | Normal |
| | HFIT | H fit |
| | VFIT | V fit |
| | ZOOM | Zoom1 |
| | ZOM2 | Zoom2 |

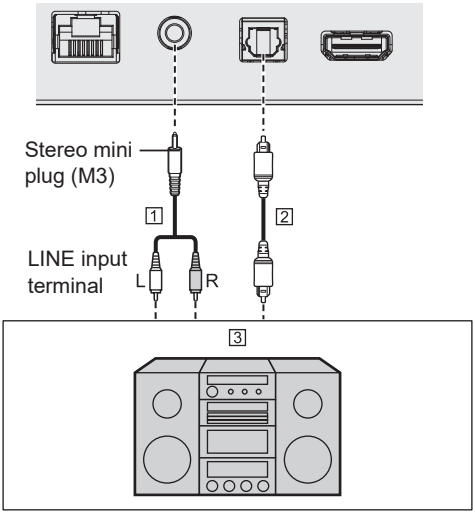
**Note**

- If multiple commands are transmitted, be sure to wait for the response to come from this unit before sending the next command.
- If an incorrect command is sent, this unit will send an “ER401” command back to the PC.
- When sending a command which does not require parameter, a colon (:) is not needed.
- Contact the dealer for information about commands. For more details, visit the following web site. https://docs.connect.panasonic.com/prodisplays/

## Example AUDIO OUT/DIGITAL AUDIO OUT terminal connection

**Note**

- Audio equipment and cables not supplied with this unit.




1 Stereo audio cable (commercially available)
2 Digital optical audio cable (commercially available)
3 Audio equipment

**Note**

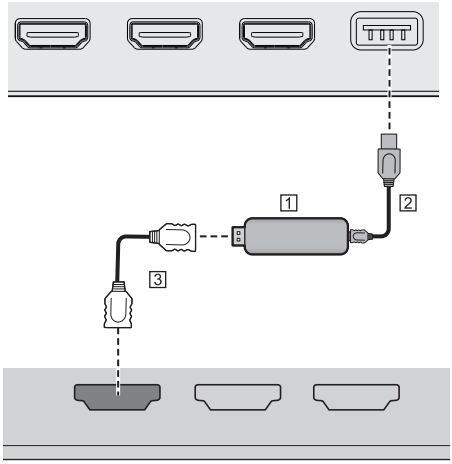
- To output sound from the AUDIO OUT terminal or DIGITAL AUDIO OUT terminal of the unit, be sure to set [Output select] in the [Sound] menu to [AUDIO OUT] or [DIGITAL AUDIO OUT]. (see page 38)

## Example USB terminal connection

Connect a USB memory device (commercially available) to use the USB media player and memory viewer features. (see page 115, 128) Also, power is supplied when connecting a separately sold stick PC, etc.

**Note**

- A USB device or memory device can be connected to the USB terminal.
- Stick PC and cable not supplied with this unit.
- If the power is turned off or the USB memory device is removed while accessing data in the USB memory device, the stored data may be damaged. The access indicator of the USB memory device blinks during data access.
- The USB memory device can be connected or disconnected whether or not the control box is on.




1 Stick PC (commercially available)
2 USB cable (commercially available)
3 HDMI extension cable (commercially available)

When the picture is displayed, the USB terminal supplies power of up to 5V/2A (USB) to an external device.

- If the electric current exceeding the power supplying capability is applied, the output is blocked, and the following message is displayed on the screen:
  [USB overload. Please remove cable or equipment, then turn the unit off and on.]
  If an electric current exceeding the power supplying capability is applied in standby state, the output is blocked, and the power indicator blinks in orange.
  In this case, remove the connected equipment and then turn the power off and on using the remote control, etc.
  When [Power on settings] - [Quick start] is set to [On] in standby state, disconnect and connect the power plug from/to the outlet, or turn off and on the power button on this unit.

**Note**

- If the direct connection to this unit is not possible due to the size of a stick PC, etc. use a commercially sold extension cable.
- Depending on the type of USB memory device, surrounding parts may interfere and it may not be possible to attach. Use a device that you can attach to this unit.
- When connecting the USB memory device, confirm the orientation of the plug to prevent damage to the terminal.
- When removing the USB memory device, note the following:
  - When the access indicator of the connected USB memory device is blinking, it shows the control box is loading the data. Do not remove the USB memory device while blinking.
  - Depending on the USB memory device, the access indicator may remain blinking even when it is not being accessed, or the device is not equipped with an access indicator function, etc. In this case, remove the USB memory device after confirming the following (1) or (2).
    (1) Switch the input to an input other than USB or MEMORY VIEWER, and confirm that functions that access the USB memory device are finished. The functions are read user image function (see page 61), playlist edit function (see page 122), data cloning function (see page 136), etc.
    (2) Turn the unit off.
  - Do not frequently repeat connecting/disconnecting the USB memory device. Wait at least 5 seconds after connection before removing the USB memory device, and then wait at least 5 seconds before connecting it again. A certain length of time is required so that the control box can recognize that the USB memory device is switched for connection or disconnection.
  - If the power of this unit is turned off or the USB memory device is removed accidentally while accessing data, the data may not be accessed next time the USB memory device is used.
    In such a case, turn the power of this unit off and on.
- When supplying power from the USB port (5V, max 2A), use a cable supporting a current of 2A or more.

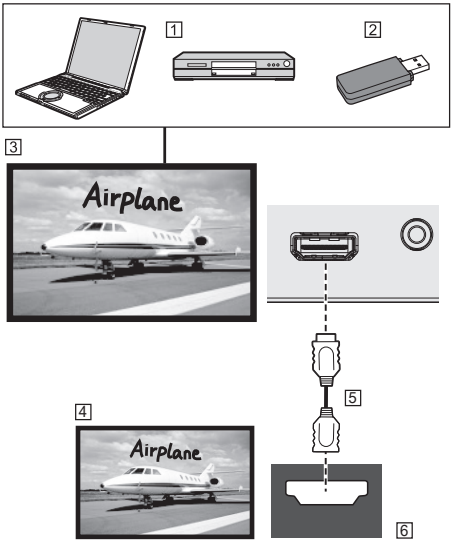
## Example HDMI OUT terminal connection

The images displayed on this unit, such as video signals input from video equipment, can be displayed on another submonitor.

**Note**

- Use an HDMI High Speed cable complying with the HDMI standards. Note when outputting 4K video signals exceeding the transmission speed supported by HDMI High Speed cables, use an HDMI cable supporting 18 Gbps high-speed transmission such as the one certified as a Premium HDMI cable.

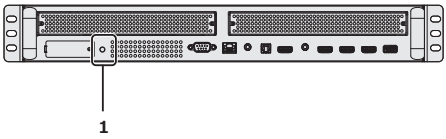
  When outputting video signals exceeding the transmission speed supported by the HDMI cable you are using, malfunction may occur such as interrupted pictures and no display on the screen.




1 PC or other AV device such as a Blu-ray disc player
2 USB memory device (MEMORY VIEWER images)
3 This unit
4 Submonitor
5 HDMI cable (commercially available)
6 HDMI input terminal

# Identifying Controls

## This unit




**1 Power indicator**

**When the main power switch of the unit is ON**

- Picture is displayed: green
- When the unit enters the standby mode using the following functions: orange
  - Standby state with the “Quick start” function in the [Power on settings] set to [On]

  About “Quick start” function, see page 48.
  - Standby state with the “Power management” function

  About “Power management” function, see page 55.
  - Standby state with [HDMI-CEC control] set to [Enable] and at least one [Link function] set to other than [Disable]

  About [HDMI-CEC control] setting and [Link function], see page 59.
  - Standby state with [Network control] set to [On]

  About “Network control” settings, see page 68.
  - Standby state either with the “SLOT1 standby” or “SLOT2 standby” function

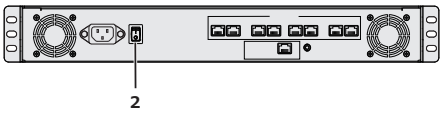
  About “SLOT1 standby” and “SLOT2 standby” function, see page 85.
  - Standby state during schedule play mode

  About “Schedule play mode”, see page 125.
- Standby state in conditions other than the above: red

**When the main power switch of the unit is OFF: Indicator dark**

**Note**

- Even if the unit is turned off with the power indicator off, some of the circuits are in power-on status.
- When the power indicator is orange, power consumption during standby is generally larger than that of when the power indicator is red.

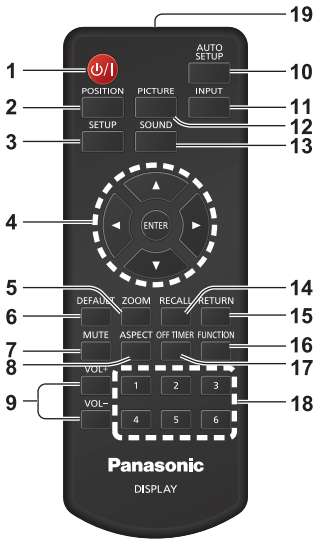



**2 Main power switch (○/|)**

This switch can be used to turn the unit's main power off (○) or on (|).

Turning the main power on or off has the same effect as when the mains plug is connected to or disconnected from the socket outlet. You can use the main power switch to turn the unit's main power on (|) and then use the remote control transmitter to turn the operating power on or off.

## Remote Control Transmitter




**1 Standby (ON/OFF) button (⏻/|)**

- Turns the power on or off when the unit is turned on at the main power on / off button. (see page 28)

**2 POSITION**

- (see page 37)

**3 SETUP**

- (see page 46)

**4 ENTER / Cursor buttons (▲▼◀▶)**

- Used to operate the menu screens. (see page 35)

**5 ZOOM**

- Enters the digital zoom mode. (see page 34)

**6 DEFAULT**

- Resets the settings of picture, sound, etc., to defaults. (see page 37, 39)

**7 MUTE**

- Sound mute on / off. (see page 32)

**8 ASPECT**

- Adjusts the aspect. (see page 33)

**9 VOL + / VOL -**

- Adjusts sound volume level. (see page 32)

**10 AUTO SETUP**

- This button is not used for basic operations of the unit.

**11 INPUT**

- Switches input to display on the screen. (see page 30)

**12 PICTURE**

- (see page 39)

**13 SOUND**

- (see page 38)

**14 RECALL**

- Displays the current setting status of Input mode, Aspect mode, etc. (see page 31)

**15 RETURN**

- Used to return to the previous menu. (see page 36)

**16 FUNCTION**

- Displays [Function button guide]. (see page 79)

**17 OFF TIMER**

- Switches to stand-by after a fixed period. (see page 32)

**18 Numeric buttons (1 - 6)**

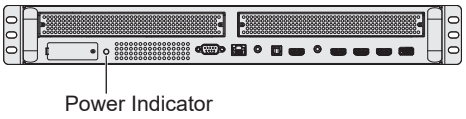
- Used as shortcut buttons by assigning frequently used operations. (see page 79)

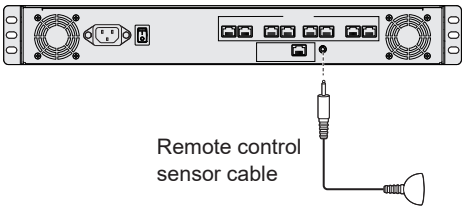
**19 Signal emission**

**Note**

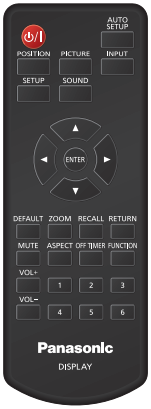
- In this manual, buttons of the remote control and the unit are indicated as < >. (Example: <INPUT>.) As a general rule, unit operation steps are explained on an assumption that remote control transmitter buttons will be used for the operation.

# Basic Controls




When using the remote control transmitter, aim the transmitter in the direction of the signal receiver section of the remote control sensor cable.




**Note**

- Make sure that there is no obstructing object between the signal receiver section of the remote control sensor cable and the remote control transmitter.
- To control the unit by transmitting the signal directly to the signal receiver section of the remote control sensor cable, make sure to operate the transmitter within approximately 7 m from the front of the signal receiver section. At some angles, the signal transmission range may be shorter.
- Keep the signal receiver section of the remote control sensor cable away from direct sunlight and strong fluorescent light.

## 1 Connect the power supply cord to the Control Box.

(see page 17)

## 2 Connect the mains plug to the socket outlet.

**Note**

- When disconnecting the power supply cord, make sure to disconnect the mains plug from the socket outlet first.
- If the mains plug is disconnected or the main power switch on the unit is turned off immediately after a setting change is made on the on-screen menu, the setting change may not be saved. Either wait sufficiently long before disconnecting the main power, or use the remote control transmitter or an external control source connected via RS-232C or LAN to turn the operating power off before disconnecting the mains plug or turning the main power switch off.

## 3 Turn the main power switch (○/|) on the back of the unit on (|).

## 4 Use the remote control transmitter to turn the operating power on or off.

### Turning the operating power on.

- The unit will start receiving video after the main power switch on the unit is turned on (|) (the power indicator will be lit in red or orange) and the power button on the remote control transmitter is pressed.

**Power indicator: Lit in green (indicates that the unit is receiving video)**

### Turning the operating power off

- The unit's operating power will be turned off when the power button on the remote control transmitter is pressed with the main power switch on the unit on (|) (with the power indicator lit in green).

**Power indicator: Lit in red or orange (indicates that the unit is in standby mode)**

**Note**

- The power indicator may continue to be lit for a while after the mains plug is disconnected, but this is normal and does not indicate a mechanical failure.
- If the main power switch on the unit is turned off (○) when the unit is on (video reception status) or off (standby status), both the unit and the Cabinet Module will be turned off.
- If the RJ-45 cable between the unit and the Power Box is disconnected when the unit and the Cabinet Module are both on (video reception status), the Cabinet Module power will be off and the power indicator on the unit will start flashing.
- If the RJ-45 cable between the unit and the Power Box is not connected, the power indicator will start flashing when the main power switch on the unit is turned on (|).

■ **When the unit is powered on for the first time**

The following screens will be displayed.

## 1 Select the language with ▲▼ and press <ENTER>.

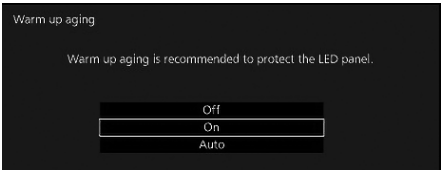

## 2 Set the clock time and date.


Year / month / day / hour / minute

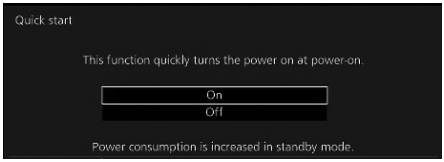
Use the ▲▼ buttons to move to the required time/date element and use the ◀▶ buttons to set it to the correct value.

## 3 Program the warm up aging.

To enable the warm up aging, use the ▲▼ buttons to set the [Warm up aging] option to [On] or [Auto] and press <ENTER>.



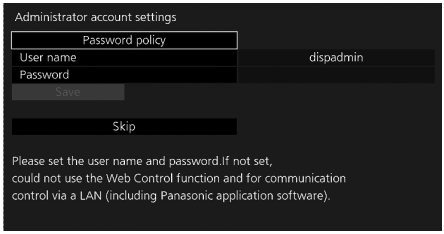

## 4 When setting [Quick start], select [On] with ▲▼ and press <ENTER>.




**Note**

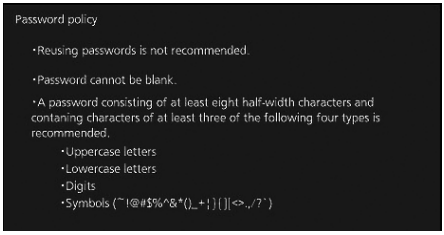
- Placing the cursor on [On] on the [Quick start] setting screen displays the following message.
  [Power consumption is increased in standby mode.]
  Note that the power consumption at this time will be about one third that of the maximum power consumption.
- Once the items are set, the screens won't be displayed when switching on the unit next time. Each item can be reset in the following menus.
  [OSD language] (see page 63)
  [Date and time] (see page 66)
  [Warm up aging] (see page 50)
  [Quick start] (see page 49)

## 5 Configure the network account setting as necessary.




### Password policy

Cautions regarding the password setting in this item are displayed on another window.



**User name**
A keyboard for user name setting is displayed. Enter the user name.

**Password**
A keyboard for password setting is displayed. After the password is entered, select [Ok] to display a confirmation screen. Enter the password again and select [Ok] to determine the password.

**Save**
Select this to save the user name and the password entered in the above-described steps in the Control Box.

**Skip**
Exits this screen without configuring this setting.

**Note**

- Once these settings are configured or skipped, this screen will not appear when the unit is powered on next time. If any of the settings needs to be changed, go to the network account settings menu to change the setting as required.

## ■ Power ON message

The following message may be displayed when turning the unit power ON:

**No activity power off Precautions**


When [No activity power off] in the [Setup] menu is set to [Enable], a warning message is displayed every time the power is turned ON. (see page 62)

**“Power management” information**


When “Power management” is functioned, an information message is displayed every time the power is turned ON. (see page 55)

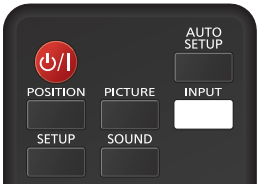
These message displays can be set with the following menu:

- [Power on settings] menu
  [Information(No activity power off)] (see page 49)
  [Information(Power management)] (see page 49)

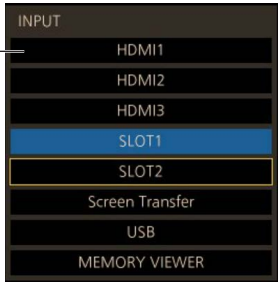
## Switching the input signal

Select the signals input to the unit.

**Press <INPUT> on the remote control.**




Input switches each time you press.




**[HDMI1] → [HDMI2] → [HDMI3] → [SLOT1] → [SLOT2] → [Screen Transfer] → [USB] or [Internal memory] → [MEMORY VIEWER]**

[HDMI1]: HDMI input to the HDMI IN 1 terminal
[HDMI2]: HDMI input to the HDMI IN 2 terminal
[HDMI3]: HDMI input to the HDMI IN 3 terminal
[SLOT1]: Input signal of function board 1
[SLOT2]: Input signal of function board 2
[Screen Transfer]:
Input that displays images transmitted via network using [Screen Transfer], a dedicated application by Panasonic
[USB]*1: USB input to the USB terminal
[Internal memory]*1:
Image input from the internal memory
[MEMORY VIEWER]:
Memory viewer input to the USB terminal

*1: For [USB] and [Internal memory], the one selected in the [Use memory select] setting is displayed. (see page 84)

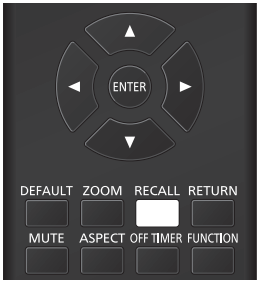
**Note**

- Inputs set for [Input skip settings] or inputs when each function is disabled cannot be selected. (see page 55)
- The signal name set in [Input label] is displayed. (see page 54)
- Input will not be switched when [Input lock] is set to anything other than [Off]. (see page 62)
- Image retention may occur on LCD panels when still pictures are kept displayed for extended periods. To prevent this kind of phenomenon, it is recommended to use the screensaver and the wobbling function. (see page 53, 54)
- Switching to another input while the unit is connected to Screen Transfer with Screen Transfer input will break the connection. Check the connection again after switching the input.

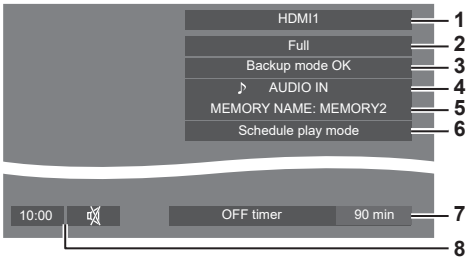
## Checking the input signal, screen mode, etc.

You can see the status of various settings, such as the input signal, screen mode, etc.

**Press <RECALL>.**




The current settings are displayed.

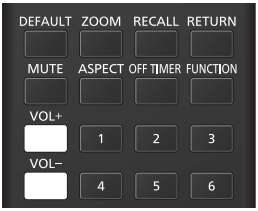



**1** Input signal
**2** Screen mode (see page 33)
**3** Backup input status (see page 52)
**4** Audio input (see page 58)
**5** Memory name (see page 44)
**6** Schedule play mode (see page 125)
**7** Off timer remaining time (see page 32)
**8** Clock/Mute (see page 32, 66)

- When there is no video signal in the selected input, [No signal] is displayed for about 30 seconds at the end.
- If a USB memory device is not connected to the USB terminal when you switch to USB input, [No external media] is displayed for about 30 seconds. If a USB memory device is connected but it does not contain any playable files, [No play file exists.] is displayed all the time.
- When [No signal image settings] (see page 61) - [Display setting] is set to [On], the messages [No signal], [No external media], and [No play file exists.] are not displayed. Instead, the no signal image is displayed.
- To display the clock, set [Date and time] and then set [Clock display] to [On]. (see page 66)

## Adjusting the volume

**Press <VOL +> <VOL -> on the remote control to adjust the volume.**





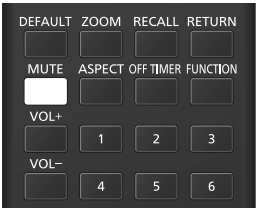
- The current volume is memorized even if the power is turned off.
- When the maximum volume setting function is set to [On], the displayed value turns red when it reaches the volume you set, and it cannot be raised above the set volume. (see page 85)
- When the start volume setting function is set to [On], the volume will be the set volume when the power is turned on. (see page 49)

## Using mute

This is useful when you need to temporarily mute the sound, such as when answering the phone or door.

**Press <MUTE>.**

[Mute] appears on the screen and the sound is muted. It is canceled when you press again.



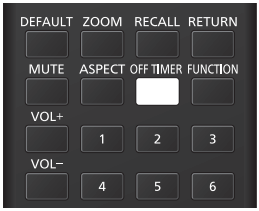

- It is also canceled when you turn the power off and on again, or when you change the volume.
- While mute is on, [Mute] appears after operations as a reminder.
- When the no signal image is being displayed (see page 61), [Mute] is not displayed after operations.

## Using the off timer

The unit can be set to automatically turn off by the off timer (30 min, 60 min, 90 min).

**Press <OFF TIMER> to select the time for the timer.**

0 min → 30 min → 60 min → 90 min → 0 min (canceled)

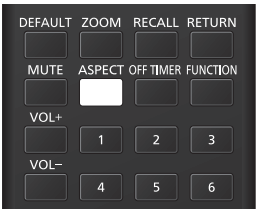



- When the timer reaches 3 minutes before the timer turns off, the remaining time is displayed blinking (red), then the power turns off.
- To see the remaining time of the off timer, press <RECALL>.
- The off timer is canceled if a power interruption occurs while it is set. When the power is restored, the unit will be in the standby state.
- When the no signal image is being displayed (see page 61), the remaining time is not displayed even when the timer reaches 3 minutes before the timer turns off. The no signal image remains displayed until the power turns off.

  Press <RECALL> to check the remaining time.

# Enlarging the screen to suit the images (screen mode)

**The mode switches each time you press <ASPECT>.**



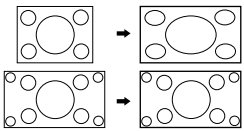
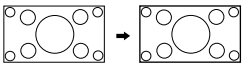
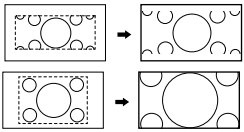
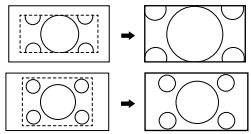
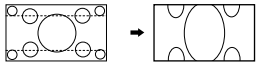
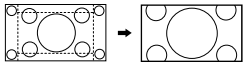

**[Full] → [Normal] → [H fit] → [V fit] → [Zoom1] → [Zoom2]**

**Note**

- The screen mode cannot be changed when [Video delay reduction settings] is set to [On]. To use the screen mode, set [Setup] - [Video delay reduction settings] to [Off]. (see page 64)
- When using Screen Transfer input, the screen mode cannot be changed.
- The screen mode is memorized separately for each input terminal.
- The [H fit] and [V fit] screen modes

  The enlargement directions do not change in the following case:
  - When [USB media player settings] - [Still picture rotation] is set to [Portrait]. (see page 75)

## ■ List of screen modes

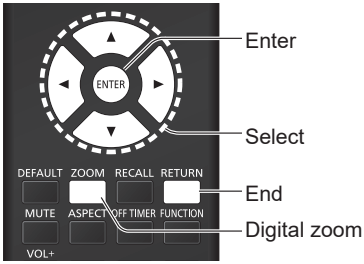
| Screen mode | Description |
|---|---|
| [Full] | **Picture** ➡ **Enlarged screen**<br>  <br>Displays the image across the whole screen. |
| [Normal] |  <br>Pictures are displayed with the aspect ratio of the input signals. |
| [H fit] |  <br>Pictures are enlarged to the maximum horizontal dimension of the screen.<br>Pictures of signals with the aspect ratio vertically longer than the aspect ratio of the screen are displayed with the top and bottom of the pictures cut. |
| [V fit] |  <br>Pictures are enlarged to the maximum vertical dimension of the screen.<br>Pictures of signals with the aspect ratio horizontally longer than the aspect ratio of the screen are displayed with the right and left of the pictures cut. |
| [Zoom1] |  <br>Letterbox pictures with a 16:9 aspect ratio are enlarged vertically to fill the screen. The top and bottom edges of the pictures are cut off. |
| [Zoom2] |  <br>Letterbox pictures with a 16:9 aspect ratio are enlarged vertically and horizontally to fill the screen. The top and bottom edges as well as the left and right edges of the pictures are cut off. |

**Note**

- If a mode whose aspect ratio is different from that of content such as a TV program is selected, the on-screen appearance will differ from that of the original images. Note this point when selecting a screen mode.
- Be aware that if you put the display in a public place for commercial purposes or a public showing and then use the screen mode select function to shrink or expand the picture, you may be violating the copyright under copyright law. It is prohibited to show or alter the copyrighted materials of other people for commercial purposes without the prior permission of the copyright holder.
- Surrounding parts of the image will be hidden or distorted if you use a zoom mode or full mode to display across the whole screen when viewing non-wide video with a 4:3 aspect ratio. Original images respecting the intentions of creators can be viewed in the normal mode.

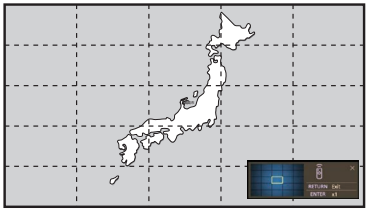
# Zoom display of screen areas (digital zoom)

Select the screen area to zoom in (from a total of 25 areas), and zoom in the selected image area 2, 3 or 4 times.




## 1 Set the digital zoom mode.

**Press <ZOOM>.**



The screen aspect is set to [Full], and the digital zoom operation guide is displayed.

## 2 Select the image area to zoom in.

**Press ▼▲◀▶ to select.**


Digital zoom control guide

## 3 Switch the zoom ratio for the screen areas.

**Switches every time <ENTER> is pressed.**

- **When the zoom ratio for the screen is “×1”,** if no operation is performed for the period set for [Menu display duration] (see page 80) (5 to 180 seconds), the unit exits the zoom mode.
- **When the zoom ratio for the screen is “×2”, “×3”, or “×4”,** if no operation is performed for approx. 3 seconds, the digital zoom operation guide display disappears. Pressing any of the ▼ ▲ ◀ ▶ buttons displays the guide again.

### 4 Exit the digital zoom mode.

**Press <RETURN> to exit the mode.**

The screen returns to the previous state just before entering the digital zoom mode, and the digital zoom operation guide display disappears.

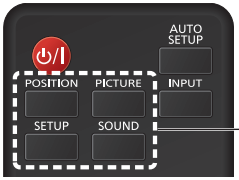
- Press any of the following buttons to exit the mode.
  The operation of the pressed button is performed after this.
  <POSITION> <PICTURE> <INPUT>
  <SETUP> <SOUND> <DEFAULT>
  <RECALL> <MUTE> <SCREEN MODE>
  <OFF TIMER> <FUNCTION>
  <VOL +> <VOL -> <1> to <6>
- When the screensaver timer starts up, the digital zoom mode finishes.
- When the power is turned off, a force-quit is performed.
  - When the power is turned off by pressing the power button on the remote control
  - When the power is turned off by pressing the power button on this unit
  - When the power is turned off by the off-timer
  - When the power is turned off by the No Signal timer, power management, etc.

**Note**

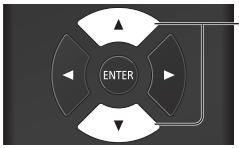
- Digital zoom cannot be used when [Video delay reduction settings] is set to [On]. To use digital zoom, set [Setup] - [Video delay reduction settings] function to [Off]. (see page 64)
- In the following cases, the digital zoom mode is not available:
  - [Multi display settings] - [Multi screen display] is set to [On]
  - Screensaver is in operation
  - Screen Transfer/USB/MEMORY VIEWER input is selected
- The zoomed image is rougher than the original image.
- For multi display use, use the functions in [Multi display settings]. (see page 63)

# On-screen menu displays

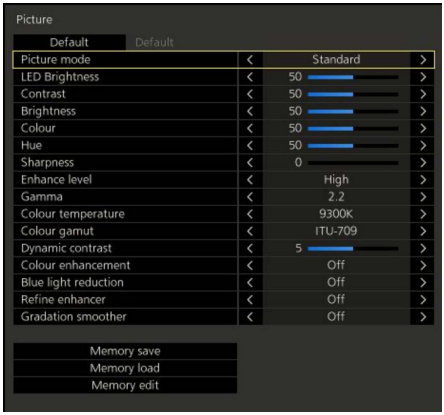
### 1 Display the menu screen.




### 2 Select the item.

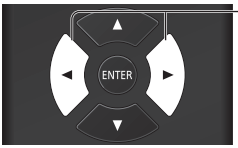



(Example: [Picture] menu)

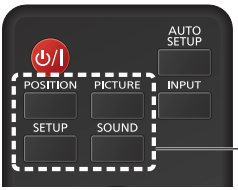



To display the submenu, press <ENTER>.

## 3 Set.




## 4 Complete the setting.




Press <RETURN> to return to the previous screen.
Alternatively, press the button selected in step 1 to exit from the menu.

**Note**

- When changing the settings of the unit, picture or sound disturbance may occur temporarily. This is not a malfunction.

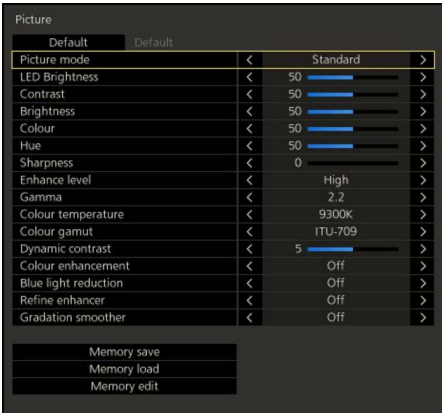
### Menu list

- Items that cannot be adjusted are grayed out. The items available to adjust depend on the signal, input, and menu settings.

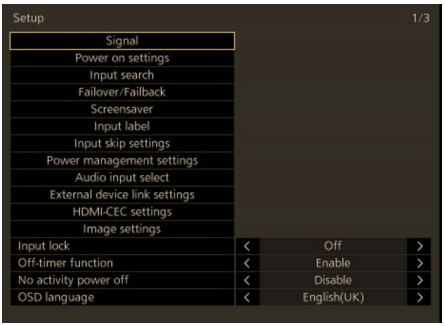
Adjusting position (see page 37)


Adjusting sound (see page 38)


Adjusting picture (see pages 39 to 44)




Setup menu (see pages 46 to 85)





# Adjusting position

**1 Press <POSITION> to display the [Position] menu screen.**


**2 Select the item to adjust with ▲▼.**

- Items that cannot be adjusted are grayed out. The items available to adjust depend on the signal, input, and screen settings.

**3 Adjust with ◀▶.**

**4 Press <POSITION> to exit from adjust mode.**

■ **To return to the previous screen**

Press <RETURN>.

■ **To reset to defaults**

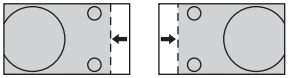
When [Default] is selected, pressing <ENTER> resets the adjustment values of all the displayed menus to default.

When adjusting each item, pressing <DEFAULT> resets the adjustment value of the item to default.

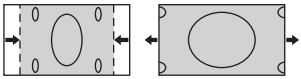
**Note**

- Adjusting position is not possible when [Video delay reduction settings] is set to [On]. To use [Position], set [Setup] - [Video delay reduction settings] function to [Off]. (see page 64)
- Adjusting position is not possible when using Screen Transfer input.
- The adjustments made with [Position] are memorized separately for each input signal.

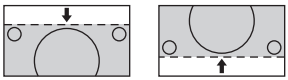
**[H-position]** Adjust the horizontal position with ◀▶.



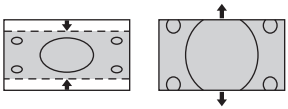
**[H-size]** Enlarge or shrink the screen left and right with ◀▶.



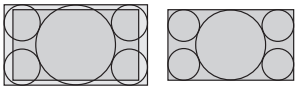
**[V-position]** Adjust the vertical position with ◀▶.



**[V-size]** Enlarge or shrink the screen up and down with ◀▶.



**[Over scan]** Turn image over scan On/Off.



[On] [Off]

**Note**

- This is enabled when the screen mode is set to [Full], [Zoom1] or [Zoom2].

  Note this setting is disabled when using USB / MEMORY VIEWER input, multi screen display of the multi display or digital zoom.

**Note**

- In some cases, noise appears outside the area picture is displayed when adjusting, but it is not a malfunction.

# Adjusting sound

**1 Press <SOUND> to display the [Sound] menu screen.**


**2 Adjust with ◀▶.**

**3 Press <SOUND> to exit from adjust mode.**

■ **To return to the previous screen**
Press <RETURN>.

**[Output select]** Select the audio output.

**[AUDIO OUT]:**
AUDIO OUT terminal output

**[DIGITAL AUDIO OUT]:**
DIGITAL AUDIO OUT terminal output

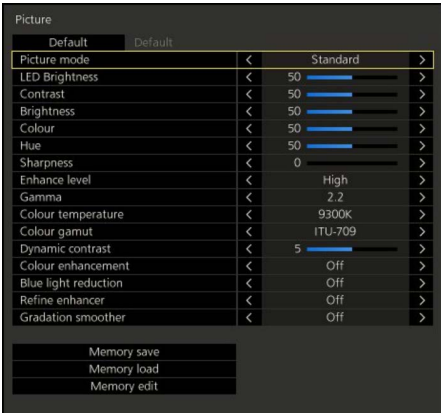
- Volume settings are memorized separately for each output.

**Note**

- When outputting audio to an ARC-compatible device, refer to “Using ARC function” (page 135).

# Adjusting picture

**1 Press <PICTURE> to display the [Picture] menu screen.**




**2 Select the item to adjust with ▲▼.**

- Items that cannot be adjusted are grayed out.

**3 Adjust with ◀▶.**

**4 Press <PICTURE> to exit from adjust mode.**

■ **To return to the previous screen**

Press <RETURN>.

■ **To reset to defaults**

When [Default] is selected, pressing <ENTER> resets the adjustment values of all the displayed menus to default.

When adjusting each item, pressing <DEFAULT> resets the adjustment value of the item to default.

**Note**

- When displaying still pictures with the USB/Internal Memory input (USB media player) or displaying the thumbnail screen or file list screen of the MEMORY VIEWER input (Memory viewer), only the following settings have an effect on the picture:

  LED brightness, Gamma, Color temperature, and Blue light reduction

**[Picture mode]** This menu switches to easy-to-see pictures suitable to the picture source or environment where this unit is used.

**[Vivid signage]:**
Suitable for signage applications featuring more vivid and sharper images in bright environments such as a shop.

**[Natural signage]:**
Suitable for signage applications such as merchandise exhibition, featuring natural tone images with color reproduction emphasized under light.

**[Standard]:**
Faithfully reproduces the original picture.

**[Surveillance]:**
Tone-focused pictures with brightness reduced suitable for input from a surveillance camera.

**[Graphic]:**
Suitable for PC input.

**[DICOM]:**
Pictures close to the grayscale standard DICOM Part14.

- The settings are memorized separately for each input terminal.

**Note**

- DICOM is the abbreviation for “Digital Imaging and Communications in Medicine”, which is a standard for medical imaging devices. Although “DICOM” is used as a picture mode name, this unit is not a medical device. Do not use displayed images for such purposes as diagnosis.

**[LED Brightness]** Adjusts the brightness of the LED.
**Darker ↔ Brighter**

- [LED Brightness] is grayed out during warm up and cannot be set.

**[Contrast]** Adjusts the contrast of images.
**Darker ↔ Brighter**

**[Brightness]** Adjusts the dark parts (black) of the screen.
**Darker ↔ Brighter**

**[Colour]** **Lighter ↔ Darker**

**[Hue]** Adjusts the hue of skin color.
**Increases redness in the color ↔ Increases greenness in the color**

**[Sharpness]** Adjusts picture sharpness.
**Soft ↔ Sharp**

**[Enhance level]** Switches the range of the sharpness effect.

**[High]: Large effect**

**[Low]: Small effect**

**[Gamma]** Adjusts the overall brightness of the image.

**[2.0], [2.2], [2.4], [2.6], [HDR(PQ)], [HDR(HLG)]:**
Small tilt to Large tilt

**Note**

- When [DICOM] is selected in [Picture mode], [Gamma] is fixed to [DICOM]. When the items other than [DICOM] are selected in [Picture mode], [DICOM] cannot be set for [Gamma].

**[Colour temperature]** Adjusts the tone of the color on the screen.

**[3200K], [4000K], [5000K], [6500K], [7500K], [9300K], [10700K], [Native], [User1], [User2]**

**Note**

- Red is emphasized when the color temperature value is small, and blue is emphasized when the value is large.
- [Native] is the natural tone of the LED panel. [Gamma] is fixed at the equivalent to 2.2 and cannot be adjusted when this is used.

**Color temperature User settings**

You can save two types of detailed color temperature settings in the [User1] and [User2] items.

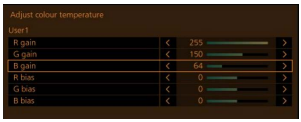
**1** Press <ENTER> while setting [Colour temperature].


Example: When the color temperature setting is 6500K, you can save the 6500K setting value in User1 and User2.

**2** Select the User in which to save the setting with ▲▼ and press <ENTER>.


**3** Select [Yes] with ◀▶ and press <ENTER>.


**4** Set each item in the detailed settings screen.




| | |
|---|---|
| **[R gain]** | Finely adjusts the bright parts of red.<br>**0 to 255** |
| **[G gain]** | Finely adjusts the bright parts of green.<br>**0 to 255** |
| **[B gain]** | Finely adjusts the bright parts of blue.<br>**0 to 255** |
| **[R bias]** | Finely adjusts the dark parts of red.<br>**-127 to 128** |
| **[G bias]** | Finely adjusts the dark parts of green.<br>**-127 to 128** |
| **[B bias]** | Finely adjusts the dark parts of blue.<br>**-127 to 128** |

The settings are saved for the user.
When you return to the [Picture] menu, the user you have set is selected for [Colour temperature].

**[Colour gamut]**

Individually adjusts the color tone of R (red), G (green), B (blue), complementary colors (cyan, magenta and yellow) and the intermediate colors on the screen.

**[Native]:**
Displays with the color space unique to this unit.

**[ITU-2020 emu.]:**
Displays with the color space close to the ITU-R BT.2020 standard.

**[ITU-709]:**
Displays with the color space according to the ITU-R BT.709 standard.

**[DCI-P3 emu.]:**
Displays with the color space close to the DCI-P3 standard.

**[Adobe RGB]:**
Displays with the color space close to the Adobe RGB standard.

**[VW-LCD]:**
Displays with the color space close to the VF2 series video wall.

**[User1]:**
Displays with the color space saved in the detailed color gamut settings.

**[User2]:**
Displays with the color space saved in the detailed color gamut settings.

Color gamut user settings

You can save two types of detailed color gamut settings in the [User1] and [User2] items.

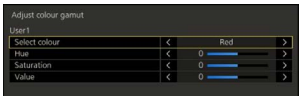
**1** Press <ENTER> while setting [Colour gamut].


Example: When the color gamut setting is ITU-709, you can save the ITU-709 setting values in the user settings User1 and User2.

**2** Select the User in which to save the setting with ▲▼ and press <ENTER>.


**3** Select [Yes] with ◀▶ and press <ENTER>.


**4** Set each item in the detailed settings screen.




| | |
|---|---|
| **[Select colour]** | Select the color to adjust with ◀▶. |
| **[Hue]** | Adjusts the color balance.<br>**-127 to +127** |
| **[Saturation]** | Adjusts gradations of color.<br>**-127 to +127** |
| **[Value]** | Adjusts the brightness of color.<br>**-127 to +127** |

The settings are saved for the user.

When you return to the [Picture] menu, the user you have set is selected for [Colour gamut].


**Note**

- When you have selected [User1] or [User2], you can adjust R (red), G (green), B (blue) and the complementary colors (cyan, magenta and yellow), along with the intermediate colors.

**[Dynamic contrast]**
Automatically adjusts the contrast by determining how colors are used in images that are constantly changing, such as video, etc.

**No effect ↔ Large effect**

**[Colour enhancement]**
Enhances colors for display.

**[Off], [Low], [Mid], [High] (small effect to large effect)**

**[Blue light reduction]**
Reduces blue light in images.

**[Off], [Low], [Mid], [High] (small effect to large effect)**

**Note**

- When set to anything other than [Off], pictures look yellowish.

**[Refine enhancer]**
Corrects fuzzy outlines resulting from resizing, etc., to enhance the sense of resolution.

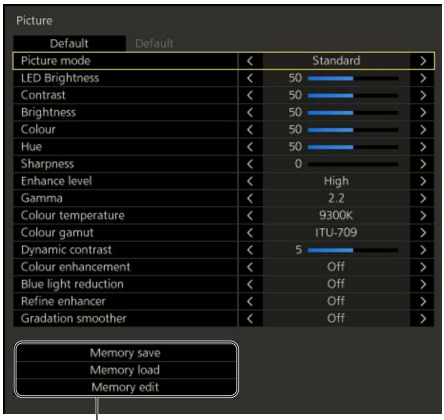
**[Off], [Low], [Mid], [High] (small effect to large effect)**

**[Gradation smoother]**
Extracts and eliminates noise components from the input video signals, and then displays noiseless pictures.

**[Off], [On]**

# Picture profiles

Up to 6 combinations of picture adjustment values (in the [Picture] menu) can be stored in the memory and recalled as needed to enjoy your preferred images.




**[Memory save]**
(see page 43)

**[Memory load]**
(see page 44)

**[Memory edit]**
(see page 44)

## Overview of picture profiles

**Original picture**

Adjust picture
(see pages 39 to 42)

**Custom picture**

Example:
Save the picture adjustment values in the MEMORY1 profile.
**[Memory save]**

---

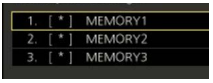
**Original picture**

Example:
Load MEMORY1
**[Memory load]**

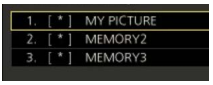
**Custom picture**

---

**Memory edit screen**




Example:
Change the profile name to “MY PICTURE”
**[Memory edit]**




## Saving to memory

Save the picture adjustment values to the memory.

**1 Set the picture quality in the [Picture] menu.**

(see pages 39 to 42)

**2 In the [Picture] menu, select [Memory save] with ▲▼ and press <ENTER>.**

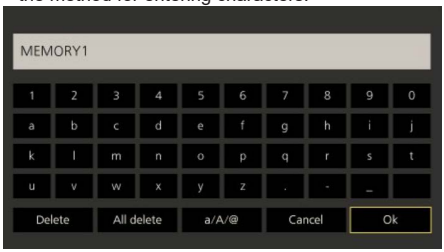

**3 Select a profile name for saving the picture adjustment values with ▲▼ and press <ENTER>.**


- “*” indicates a picture adjustment has already been saved in the memory.

**4 Press ◀▶ to select [Yes] then press <ENTER>.**


**5 Press ▲▼ ◀▶ to enter the memory name.**

- Refer to “Entering characters” (see page 144) for the method for entering characters.



**6 When you finished entering the profile name, select [Ok] with ▲▼◀▶ and press <ENTER>.**


- To cancel saving the profile, select [Cancel].

## Loading profiles

Loads a profile and applies the picture adjustments to the display.

**1 In the [Picture] menu, press ▲▼ to select [Memory load] then press <ENTER>.**


**2 Press ▲▼ to select the memory to recall then press <ENTER>.**

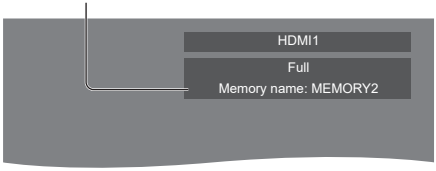

**Loading profiles using the numeric buttons on the remote control**

Each numeric button <1> to <6> is allocated for loading MEMORY1 to MEMORY6.
“[Function button settings]” (see page 78)

**1 Press one of <1> to <6>.**

**2 Select [Yes] with ◀▶ and press <ENTER>.**


When a profile is being loaded, the profile name is displayed.




**Note**

- Loaded profiles are memorized separately for each input signal.

## Editing profiles

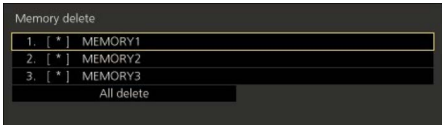
Delete profiles or change their names.

**■ Deleting profiles**

**1 In the [Picture] menu, select [Memory edit] with ▲▼ and press <ENTER>.**

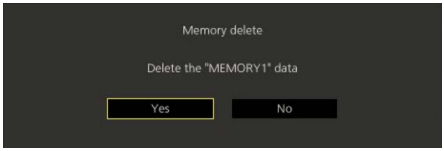

**2 Select [Memory delete] with ▲▼ and press <ENTER>.**


**3 Select the profile to delete with ▲▼ and press <ENTER>.**




- To delete all profiles, select [All delete].

**4 Select [Yes] with ◀▶ and press <ENTER>.**



■ **Renaming profiles**

**1 In the [Picture] menu, select [Memory edit] with ▲▼ and press <ENTER>.**


**2 Select [Memory name change] with ▲▼ and press <ENTER>.**


**3 Select the memory to change the name for with ▲ ▼ and press <ENTER>.**


**4 Enter the memory name with ▲▼ ◀ ▶.**

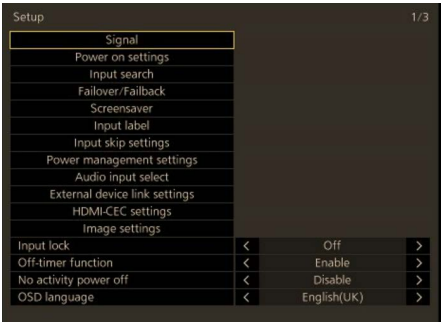
- Refer to “Entering characters” (page 144) for the method for entering characters.

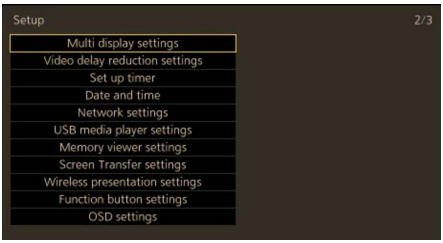

**5 When you finished entering the profile name, select [Ok] with ▲▼ ◀ ▶ and press <ENTER>.**


- To cancel changing the profile name, select [Cancel].

# Setup menu

## 1 Press <SETUP> to display the [Setup] menu screen.





## 2 Select the item to set with ▲▼.

- Items that cannot be adjusted are grayed out. The items available to adjust depend on the signal input and screen settings.

## 3 Adjust with ◀▶.

## 4 Press <SETUP> to exit the settings.

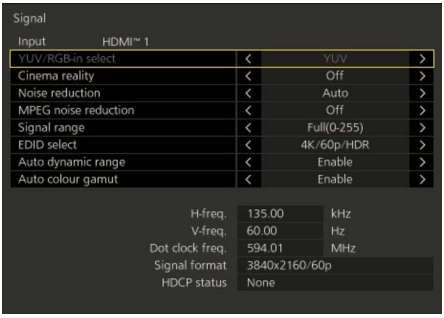
■ **To return to the previous screen**

Press <RETURN>.

## [Signal]

[Signal] submenu screen (example)

When [HDMI1] / [HDMI2] / [HDMI3] / [SLOT1] / [SLOT2] is selected




When [Screen Transfer] / [USB/Internal Memory] / [MEMORY VIEWER] is selected


**Note**

- The [Signal] setting menu depends on the input signal.
- The selected input is displayed in the [Input] item in [Signal].
- Items that cannot be adjusted are grayed out.

## ■ [YUV/RGB-in select]

This menu is displayed when there is input to HDMI IN 1, HDMI IN 2, HDMI IN 3, SLOT1, and SLOT2. Set to match the input signal method for each terminal.

**[YUV]:** YUV signal

**[RGB]:** RGB signal

**Note**

- Set for each input terminal.

## ■ [Cinema reality]

Faithfully reproduces videos shot with cinema film. Set this to [Off] normally.

**Note**

- If [Cinema reality] is set to [On], videos including movies with lots of motion shot at 24 frames per second are reproduced more naturally.
- If the images seem unnatural when set to [On], try viewing when set to [Off].

## ■ [Noise reduction]

Reduces noise (roughness) in images.

**[Off]:**

Disables noise reduction.

**[Min], [Mid], [Max]**

Sets the strength of noise reduction.

**[Auto]:**

[Noise reduction] will be automatically selected from [Min], [Mid] or [Max].

## ■ [MPEG noise reduction]

Reduces noise typical to MPEG videos.

**[Off]:**

Disables noise reduction.

**[Min], [Mid], [Max]**

Sets the strength of noise reduction.

## ■ [Signal range]

This menu is displayed when there is input to HDMI IN 1, HDMI IN 2, HDMI IN 3, SLOT1, and SLOT2. Switches the dynamic range to match the signals from the source connected to each terminal.

**[Video(16-235)]:**

When the input signal is video range.

Example: HDMI terminal output for Blu-ray disc player

**[Full(0-255)]:**

When the input signal is full range.

Example: HDMI terminal output for PC

**[Auto]:**

Switches the dynamic range automatically between [Video(16-235)] and [Full(0-255)] according to the input signal.

## ■ [EDID select]

This menu is displayed when there is input to HDMI IN 1, HDMI IN 2, HDMI IN 3, SLOT1, and SLOT2. EDID data of each terminal is switched.

**[4K/60p/SDR]:**

Sets EDID compatible with 4K video signals (Max. 4 096 x 2 160 dots, Max. vertical scanning frequency 60 Hz).

This EDID supports SDR (Standard Dynamic Range). HDR (High Dynamic Range) is not supported.

**[4K/60p/HDR]:**

Sets EDID compatible with 4K video signals (Max. 4 096 x 2 160 dots, Max. vertical scanning frequency 60 Hz).

This EDID supports HDR (High Dynamic Range).

**[4K/30p]:**

Sets EDID compatible with 4K video signals (Max. 4 096 x 2 160 dots, Max. vertical scanning frequency 30 Hz).

**[2K]:**

Sets EDID compatible with 2K video signals (Max. 1 920 x 1 200 dots).

**Note**

- For HDMI IN input, [4K/60p/SDR], [4K/60p/HDR], [4K/30p] and [2K] are selectable.
- If [4K/60p/SDR] or [4K/60p/HDR] is selected and pictures are not displayed correctly during 4K video signal input, switch the setting to [4K/30p].
- If [4K/60p/SDR], [4K/60p/HDR], or [4K/30p] is selected and pictures are not displayed correctly during 2K or lower video signal input, switch the setting to [2K].
- For details of [4K/60p/SDR], [4K/60p/HDR], [4K/30p] and [2K] signals written in EDID, see “Preset signals” (page 145).

### ■ [Auto dynamic range]

This menu is displayed when there is input to HDMI IN 1, HDMI IN 2, HDMI IN 3, SLOT1, and SLOT2.

It switches the dynamic range automatically according to the AVIInfoFrame data.

**[Disable]:**

Automatic dynamic range is disabled.

**[Enable]:**

Automatic dynamic range is enabled.

### ■ [Auto colour gamut]

This menu is displayed when there is input to HDMI IN 1, HDMI IN 2, HDMI IN 3, SLOT1, and SLOT2.

Switches the color gamut automatically according to AVIInfoFrame BT2020 and AdobeRGB information.

**[Disable]:**

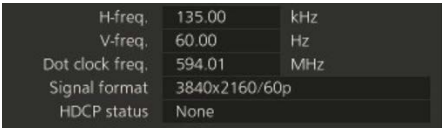
Automatic color gamut is disabled.

**[Enable]:**

Automatic color gamut is enabled.

### ■ Input signal display

Displays the frequency and type of the signal currently being input.




**Display range:**

Horizontal scanning frequency (15 kHz to 135 kHz)

Vertical scanning frequency (24 Hz to 120 Hz)

The dot clock frequency and HDCP status information are displayed during input of digital signals.

## [Power on settings]

Make a variety of settings for when the power is switched on.

[Power on settings] submenu screen


### ■ [Initial input]

Sets the input at power-on.

**[Off] / [HDMI1] / [HDMI2] / [HDMI3] / [SLOT1] / [SLOT2] / [Screen Transfer] / [USB/Internal Memory] / [MEMORY VIEWER]**

**Note**

- When [Input lock] is set to other than [Off], this menu will be grayed out and cannot be set. (see page 62)

### ■ [Initial startup]

Sets the power status of the control box when the power plug is unplugged/plugged in, or when the power is restored from instantaneous interruption due to blackout, etc.

**[Last memory]:**

Power reverts to the state it was in before power was turned off.

**[On]:**

Restored to the power-on state. (power indicator: green)

**[Standby]:**

Restored to the standby state. (power indicator: red/orange)

**Note**

- When multiple units are installed, it is recommended to select [Standby] to reduce the load when the power is restored.

■ **[Initial VOL function]**

Enables/Disables the volume setting function at power-on.

**[Off]:** Volume is the same as when the power was turned off.

**[On]:** Volume set for [Initial VOL level]

■ **[Initial VOL level]**

Sets the sound volume for when the initial VOL function is enabled.

**Note**

- The sound is output with the set volume when [Initial VOL function] on the menu is in [On] state.
- When [Maximum VOL function] is set to [On], the volume cannot be set to a level higher than the level set for [Maximum VOL level].

■ **[Power ON screen delay]**

When multiple displays are installed and are turned on simultaneously, this function distributes the load of power by delaying the power supply timing of each display. Setting is required for each display.

**[Off]:** Power is supplied when the power is turned on.

**[Auto]:** The delay time is automatically set according to the numbers set for display IDs.

The delay time is determined by multiplying a display ID by 0.3 seconds.

Example: If the display ID is 3, the delay time is 0.9 seconds.

**1 to 30:** Sets the delay time (sec.). Power is supplied to the displays delayed by the times set when the power is turned on.

**Note**

- The power indicators blink green from start to end of the delay operation.
- This function also works when the power plug is unplugged/plugged in, or when the power is restored from instantaneous interruption due to blackout, etc.

■ **[Information(No activity power off)]**

Sets whether to display the no-activityauto-power-off warning message when the power is turned on.

**[On]:** The warning message is displayed when the power is turned on.

**[Off]:** The warning message is not displayed when the power is turned on.

**Note**

- This setting is enabled when [No activity power off] is [Enable]. (see page 62)

■ **[Information(Power management)]**

Sets whether to display a message that tells the power has been turned off by the power management function when the power is turned on.

**[On]:** The message is displayed when the power is turned on.

**[Off]:** The message is not displayed when the power is turned on.

**Note**

- This setting is enabled when the “Power management” function is [On]. (see page 55)

■ **[Quick start]**

This feature makes the power come on quickly when the power is turned on.

**[On]:** The power comes on quickly when you turn the power on.

**[Off]:** The power comes on normally when you turn the power on.

**Note**

- Power consumption in standby mode increases when this is set to [On].

■ **[Warm up aging]**

The brightness of the backlight is kept low according to the time elapsed in standby and the values read from a humidity sensor. (Warm up)

Note that the time taken for warm up is calculated based on values read from the humidity sensor and the time elapsed in standby.

**[Off]:** No warm up.

**[On]:** Warm up without using a humidity sensor.

**[Auto]:** Warm up using a humidity sensor.

**Note**

- If LED displays are started up at 100 % brightness in humid environments, there is an increased chance of malfunction due to the presence of atmospheric moisture. We recommend warming up when starting to reduce the chances of malfunction.

■ **[Warm up aging confirmation]**

Set whether to display a message recommending warming up when the [Warm up aging] setting is [Off].

**[On]:** Displays a message recommending warming up.

**[Off]:** Does not display a message recommending warming up.

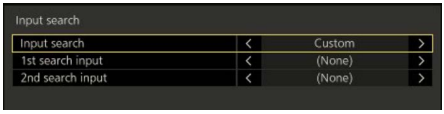
## [Input search]

When a signal is not detected, another input with a signal is automatically selected.

**Note**

- MEMORY VIEWER and Screen Transfer inputs are excluded from this function.
- When set to the USB input, the unit determines no signal is present if a USB memory device is not connected.
  In addition, even when a USB memory device is connected, if it is not playable, the unit determines no signal is present.
- This menu will be grayed out and cannot be set under the following conditions:
  - [Failover/Failback] is set to other than [Off]. (see page 51)
  - [Power management mode] is set to [Input detection]. (see page 55)
  - [Input lock] is set to other than [Off]. (see page 62)
  - [Setup] - [Image settings] - [No signal image settings] - [Display setting] is set to [On]. (see page 61)
  - [SLOT1 power link] or [SLOT2 power link] is set to [On]. (see page 85)
- If the input is changed by this function, the last input is selected when the power is turned on next time.
  If you wish to retain the original input when the power is turned on, set [Initial input] to the original input. (see page 48)

[Input search] submenu screen



### ■ [Input search]

**[Off]:** When there is no signal, the input is not switched automatically.

**[All inputs]:** Searches all inputs and switches to an input with a signal.
Input search is executed in the following order.
Example: When the current input is HDMI1
**HDMI2 → HDMI3 → SLOT1 → SLOT2 → USB or Internal Memory → HDMI1 →**

**Note**

- The inputs set to [On] in [Input skip settings] (see page 149) are skipped when searching.

**[Custom]:** Repeatedly searches [Current input], [1st search input] and [2nd search input] in order, and switches to an input with a signal.

**[Input detection]:** Monitors the inputs set to [On], detects the status change from no signal to signal present, and switches to that input.


[Searching...] is displayed during input search.

### ■ [Input search]: [Custom]

**[1st search input], [2nd search input]**
Set the inputs to search when [Custom] is selected.
**[HDMI1] / [HDMI2] / [HDMI3] / [SLOT1] / [SLOT2] / [USB/Internal Memory] / [(None)]**

### ■ [Input search]: [Input detection]


Set the inputs to monitor when [Input detection] is selected.
**[HDMI1] / [HDMI2] / [HDMI3] / [SLOT1] / [SLOT2]**
**[Off]:** Not monitored.
**[On]:** Monitored.

### ■ [Changing delay]

Sets the delay time until the input is switched during [Input detection].

**[Off]:** Switches the input if a signal is interrupted even for a very short period.

**1 to 10:** Sets the delay time (sec.). Switches the input when the set time has elapsed after detecting no signal is present. However, if the detection period during which no signal is present is shorter than the set delay time, the input is not switched.

**Note**

- [Input detection] is a function that automatically switches the input as below by monitoring the presence of signal for the set input.
  - If a video signal is input to the set input that is not displayed (changes from signal absent to signal present), the unit switches to that input.
  - If there is no signal in the displayed input, input switches to a set input where there is a signal. Also, if there is no signal in the displayed input when the power is turned on or input is switched, input switches to a set input where there is a signal. When there are signals input to multiple set inputs, the default priority (immediately after power-on) is HDMI1, HDMI2, HDMI3. In other cases (when the input is changed after turning the power on), the most recently displayed input is prioritized.
- [Changing delay] is a function that prevents unintentional input switching when [Input detection] is working and there are short interruptions to the signal at such times as a frequency change in the input signal.
  The input is not switched if there is a signal detected again within the set interval (seconds).
- Depending on the video playback device, [Input detection] may not work properly.

## [Failover/Failback]

Automatically switches to a backup input if the video signal is interrupted.

**Note**

- [SLOT1] and [SLOT2] are enabled when the DIGITAL LINK Terminal Board is attached.
- MEMORY VIEWER and Screen Transfer input are excluded from this function.
- Depending on the image playback device or image signal, noise may occur on the screen or this function may not work.

### 1. Setting the input change mode

### ■ [Input change mode]

**[Off]:** Disables the backup input function.

**[On]:** Switches to the backup input if the video signal is interrupted.
The backup input video signal does not need to be in the same format as the main input used for viewing.
The adjustment values for the video signals and audio in the backup input will be used when switched to backup input.


### [Input change mode]: Detailed settings for On

Switches to the backup input if the video signal is interrupted.

**Note**

- This function starts when video signals are detected in both the input used for display and the backup input, and [Active] is displayed for [Backup input change].

### ■ [Primary backup input]

Sets the backup input with the highest priority.

**[(None)] / [HDMI1] / [HDMI2] / [HDMI3] / [SLOT1] / [SLOT2] / [USB/Internal Memory]**

The input being used for display will be grayed out.

### ■ [Secondary backup input]

Sets the backup input with the second highest priority.

**[(None)] / [HDMI1] / [HDMI2] / [HDMI3] / [SLOT1] / [SLOT2] / [USB/Internal Memory]**

The input being used for display will be grayed out.

### ■ [Auto switch back mode]

Sets whether or not to automatically return to the former (main) input when the former input video initially viewed is restored while viewing the video of the backup input enabled by the operation of the Backup Input function.

**[Disable]:** Not returned

**[Enable]:** Returned

### ■ [Backup input change]

Displays whether or not operating conditions for the Backup Input function are met.

**[Inactive]:** Indicates that the conditions are not met. The backup input function is disabled.

**[Active]:** Indicates that the conditions are met. The backup input function is enabled.

### ■ [Main input]

Displays the input set by input switching (main).

### ■ [Current input]

Displays whether the input currently in use for viewing is the input set by input switching (main) or the backup input.

### Setting conditions

The following table describes restrictions (available combinations) on each setting item.

| | | Main | |
|---|---|---|---|
| | | HDMI1<br>HDMI2<br>HDMI3<br>SLOT1<br>SLOT2 | USB/<br>Internal<br>Memory |
| Backup | HDMI1<br>HDMI2<br>HDMI3<br>SLOT1<br>SLOT2 | ○ | ○ |
| | USB/<br>Internal<br>Memory | ○ | × |

○: Can be selected for both primary and secondary backup.

×: Cannot be selected for primary or secondary backup.

**Note**

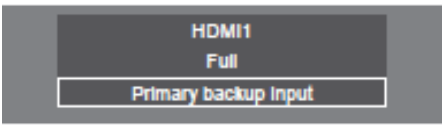
- If the same input is selected for primary and secondary, the secondary backup input is disabled. If the same input as the main input is selected for primary and secondary, those inputs are disabled.

### Screen display

**Pressing <RECALL> displays one of the following.**

- When the main input is being used for viewing and the operating conditions for the Backup Input function are met.


- When the backup input activated by the Backup Input function is being used for viewing.



**When the conditions for the Backup Input function are met, the following is displayed.**

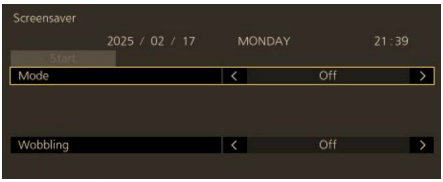

**Note**

- This menu will be grayed out and cannot be set under the following conditions:
  - [Input search] is set to other than [Off]. (see page 50)
  - [Setup] - [Image settings] - [No signal image settings] - [Display setting] is set to [On]. (see page 61)
  - [Power management mode] is set to [Input detection]. (see page 55)
  - [SLOT1 power link] or [SLOT2 power link] is set to [On]. (see page 85)
- When set to USB input and the unit determines that a USB memory device is not connected to the USB terminal, this is treated as an interruption to the video signal.
- Depending on the video playback device, this function may not work properly.

## [Screensaver]

Alleviates the occurrence of image retention when displaying still images or images with a 4:3 aspect ratio for a long time.

[Screensaver] submenu screen




### ■ Screensaver settings

#### Screensaver operation

When the Screensaver is operating, the following 5 patterns are displayed full screen for 5 seconds each, and this repeats.

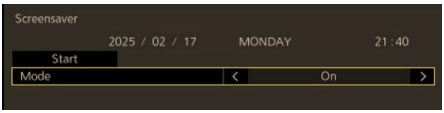
**Black → Dark gray → Gray → Light gray → White → Light gray → Gray → Dark gray**

#### To start the screensaver immediately

①Select [On] in [Mode].

②Select [Start] and press <ENTER>.

- The screensaver starts.




**Note**

- The screensaver is canceled when you press the following button:

<RETURN>

- The screensaver is canceled when the unit is turned off.

#### To set interval of Screensaver

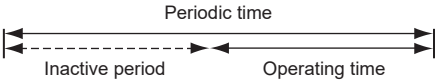
①Select [Interval] in [Mode].

②Set [Periodic time].

- Press ◀▶ to change by 15 minutes.

③Set [Operating time].

- Press ◀▶ once to change by 1 minute. Keep pressing down to change by 15 minutes.


**Note**

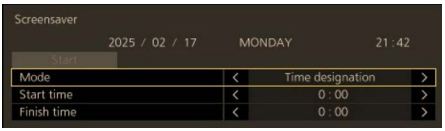
- The [Operating time] cannot be set to be longer than the [Periodic time].

**Setting times to turn the screensaver on/off**

①Select [Time designation] in [Mode].

②Set the [Start time] and the [Finish time].

- Press ◀▶ once to change by 1 minute. Keep pressing down to change by 15 minutes.




**Turning off the power after the screensaver**

①Select [Standby after SCR saver] in [Mode].

②Set [Screensaver duration].

- Press ◀▶ once to change by 1 minute. Keep pressing down to change by 15 minutes.

③Select [Start] and press <ENTER>.

- Screensaver will be activated and the power will be turned off (standby) at the time set.


**Note**

- [Screensaver duration] can be set from 0:00 to 23:59. When this is set to “0:00”, [Standby after SCR saver] will not be activated.

### ■ Wobbling

Shifts the screen position to reduce image retention on the LED panel.

When set to [On], the screen position is shifted at certain intervals.

**Note**

- Depending on the screen setting status, part of the screen may appear to be missing.
- The [Wobbling] function cannot be used when [Video delay reduction settings] is set to [On]. To use the [Wobbling] function, set [Setup] - [Video delay reduction settings] function to [Off]. (see page 64)

## [Input label]

You can change the display names to match the devices connected to the input terminals.

[Input label] submenu screen


| | |
|---|---|
| **[HDMI1]** | [HDMI1] / [Blu-ray] / [CATV] / [STB] / [PressIT] / [User] |
| **[HDMI2]** | [HDMI2] / [Blu-ray] / [CATV] / [STB] / [PressIT] / [User] |
| **[HDMI3]** | [HDMI3] / [Blu-ray] / [CATV] / [STB] / [PressIT] / [User] |
| **[SLOT1]** | [SLOT1] / [PressIT] / [User] |
| **[SLOT2]** | [SLOT2] / [PressIT] / [User] |

Select [User] to set a display name.

**[User] setting**

①Press ▲▼ to select the input.

②Press ◀▶ to select [User] and press <ENTER>.

③Press ▲▼◀▶ to enter the input display name.

- Refer to “Entering characters” (see page 144) for the method for entering characters.

## [Input skip settings]

For all inputs, this function sets whether to skip those inputs when <INPUT> is pressed.

[Input skip settings] submenu screen


**[Off]:** Pressing <INPUT> switches to the corresponding input, and the input is selected.

**[On]:** Pressing <INPUT> skips the corresponding input (not selectable).

## [Power management settings]

Set each item to reduce power consumption.

This function works only for the input terminal that is currently selected.

[Power management settings] submenu screen


**Note**

- Each input's power management operates for about 20 seconds until the power is turned off when images (sync signal) are not detected when [Quick start] is [On].

### 1. Setting power management mode

**Note**

- Set the power management function to [On] for the terminals where this function is to work.
- When [Input search] is [All inputs] or [Custom], the [Input search] function is prioritized. (The power management function does not operate for each terminal.) ([Input search] function, see page 50)
- When [Failover/Failback] - [Input change mode] is set to items other than [Off], the [Failover/Failback] function is prioritized. (The power management function does not operate for each terminal.) ([Failover/Failback] function, see page 51)

**1-1 [Power management mode]: [On]**

The following fixed values are set to the menu of power consumption reduction. Individual setting is not available.

**[No signal power off]:** [Enable]
**[HDMI1 power management]:** [On]
**[HDMI2 power management]:** [On]
**[HDMI3 power management]:** [On]
**[SLOT1 power management]:** [On]
**[SLOT2 power management]:** [On]

**1-2 [Power management mode]: [Custom]**

Sets the power consumption reduction menu individually. This setting is enabled when [Power management mode] is set to [Custom].

**1-3 [Power management mode]: [Input detection]**

Sets the power consumption reduction menu individually. This is enabled when [Power management mode] is set to [Input detection]. This mode links operation of the power management operation and the input signal detection function.

When this mode detects the change from no signal state to signal present state by monitoring input signals, the input signal detection function operates and automatically switches the input to one with a signal. Also, if the current input signal disappears, the unit automatically switches to another input.

If all the input signals disappear, the power management function operates, and automatically turns the power off/on. This operation is performed between selected terminals.

**Note**

- [Extended standby mode] is set to [Mode 2] and grayed out.

### ■ No signal power off

When this is set to [Enable], the unit turns off automatically (standby) when there is no operation and no input sync signal for about 10 minutes.

**Note**

- When set to the USB input, the unit determines no signal is present if a USB memory device is not connected to the USB terminal, or the connected USB memory device does not contain any playable file.
- With Screen Transfer input, the unit determines no signal is present in standby status and when the PC is not connected to Screen Transfer.
- This function operates irrespective of the [Off] / [On] settings of [No signal image settings].
- Depending on the video output device, this function may not work.

### ■ [HDMI1 power management]

When set to [On], this function works under the following conditions, turning the power off and then on automatically:

**When no pictures (sync signal) are detected for 60 seconds or so at HDMI1 input:**

Power off (standby)/power indicator: lights orange

**When pictures (sync signal) are subsequently detected at HDMI1 input:**

Power on/power indicator: lights green

**Note**

- Depending on the video output device, this function may not work.

### ■ [HDMI2 power management]

When set to [On], this function works under the following conditions, turning the power off and then on automatically:

**When no pictures (sync signal) are detected for 60 seconds or so at HDMI2 input:**

Power off (standby)/power indicator: lights orange

**When pictures (sync signal) are subsequently detected at HDMI2 input:**

Power on/power indicator: lights green

**Note**

- Depending on the video output device, this function may not work.

### ■ [HDMI3 power management]

When set to [On], this function works under the following conditions, turning the power off and then on automatically:

**When no pictures (sync signal) are detected for 60 seconds or so at HDMI3 input:**

Power off (standby)/power indicator: lights orange

**When pictures (sync signal) are subsequently detected at HDMI3 input:**

Power on/power indicator: lights green

**Note**

- Depending on the video output device and signal resolution (higher than 4K/30p), this function may not work.
- It may take about 20 seconds for the power to turn on.

### ■ [SLOT1 power management]

When set to [On], this function works under the following conditions, turning the power off and then on automatically:

**When no pictures (sync signal) are detected for 60 seconds or so at SLOT1 input:**

Power off (standby)/power indicator: lights orange

**When pictures (sync signal) are subsequently detected at SLOT1 input:**

Power on/power indicator: lights green

**Note**

- Depending on the video output device, this function may not work.
- This function is enabled only when the DIGITAL LINK Terminal Board is attached to the expansion slot (SLOT1).

### ■ [SLOT2 power management]

When set to [On], this function works under the following conditions, turning the power off and then on automatically:

**When no pictures (sync signal) are detected for 60 seconds or so at SLOT2 input:**

Power off (standby)/power indicator: lights orange

**When pictures (sync signal) are subsequently detected at SLOT2 input:**

Power on/power indicator: lights green

**Note**

- Depending on the video output device, this function may not work.
- This function is enabled only when the DIGITAL LINK Terminal Board is attached to the expansion slot (SLOT2).

### ■ [Extended standby mode]

Sets the operation in standby mode by the power management function for the input terminal for which the power management function is set to [On].

**[Mode 1]:** If a video signal (sync signal) is detected at the input terminal with which the standby mode is entered, the power is turned on with that input.

**[Mode 2]:** If a video signal (sync signal) is detected at any of the input terminals for which the power management function is set to [On], the power is turned on, and the input is switched to the detected input.

**[Mode 3]:** Even when the power is turned off using the remote control, if a video signal (sync signal) is newly detected at any of the input terminals for which the power management function is set to [On], the power is turned on, and the input is switched to the detected input.

**Note**

- This function does not work if the power plug is disconnected from the socket outlet. The power needs to be turned on once for it to work.

### ■ [Auto brightness adjustment]

Adjusts the brightness of the LED according to the images currently being displayed to reduce power consumption.

**[Off]:** Auto brightness function is disabled.

**[Low]:** Adjusts the brightness of the LED in stages starting from 80% of the average picture level (APL).
(Reduces power consumption by a maximum of 10%)

**[Mid]:** Adjusts the brightness of the LED in stages starting from 60% of the average picture level (APL).
(Reduces power consumption by a maximum of 20%)

**[High]:** Adjusts the brightness of the LED in stages starting from 40% of the average picture level (APL).
(Reduces power consumption by a maximum of 30%)

■ **[Changing delay]**

Sets the delay time until the input is switched when [Power management mode] is [Input detection].

**[Off]:** Switches the input if a signal is interrupted even for a very short period.

**1 to 10:** Sets the delay time (sec.). Switches the input when the set time has elapsed after detecting no signal is present. However, if the detection period during which no signal is present is shorter than the set delay time, the input is not switched.

**Note**

- The operation when [Input detection] is selected is the same as the operation when [Input search] is set to [Input detection]. (see page 50)

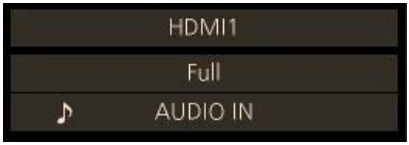
## [Audio input select]

[Audio input select] submenu screen


| Video input | Audio input |
|---|---|
| **[HDMI1]** | [HDMI1] / [AUDIO IN] / [No audio] |
| **[HDMI2]** | [HDMI2] / [AUDIO IN] / [No audio] |
| **[HDMI3]** | [HDMI3] / [AUDIO IN] / [No audio] |
| **[SLOT1]** | [SLOT1] / [AUDIO IN] / [No audio] |
| **[SLOT2]** | [SLOT2] / [AUDIO IN] / [No audio] |
| **[Screen Transfer]** | [Screen Transfer] / [AUDIO IN] / [No audio] |

- [No audio]: No audio input (mute)

When the setting for the audio input has been changed from the factory settings, the audio input is displayed as below.




## [External device link settings]

Sets external device link.

[External device link settings] submenu screen

■ **[Device information]**

Sets whether to display or hide the information of the device connected to the HDMI terminal or SLOT terminal.

**[Off]:** Connected device information is not displayed.

**[On]:** Connected device information is displayed as shown below:


**Note**

- The obtained information of either signal or HDMI-CEC is displayed.
- Up to the first 16 characters obtained are displayed.

■ **Wireless presentation link**

This menu configures the settings for wireless presentation system connection.

For details, refer to the operating instructions on the following support site.

(https://panasonic.net/cns/prodisplays/wps2/)

## [HDMI-CEC settings]

Sets for the HDMI-CEC function.

For details of the HDMI-CEC function, refer to “Using HDMI-CEC function” (see page 133).

[HDMI-CEC settings] submenu screen


■ **[HDMI-CEC control]**

Sets whether to enable or disable the HDMI-CEC function.

**[Disable]:** Disables HDMI-CEC control.

**[Enable]:** Enables HDMI-CEC control.

**Note**

- Set to [Enable] to operate the HDMI-CEC compatible device with the remote control of the unit.

■ **[HDMI1]**

Displays the device to operate when an HDMI-CEC compatible device is connected to the HDMI IN 1 terminal.

The control subject can be changed with ◀▶.

**Note**

- When there is no connected device, “----” will be displayed.

■ **[HDMI2]**

Displays the device to operate when an HDMI-CEC compatible device is connected to the HDMI IN 2 terminal.

The control subject can be changed with ◀▶.

**Note**

- When there is no connected device, “----” will be displayed.

■ **[HDMI3]**

Displays the device to operate when an HDMI-CEC compatible device is connected to the HDMI IN 3 terminal.

The control subject can be changed with ◀▶.

**Note**

- When there is no connected device, “----” will be displayed.

### ■ [SLOT1]

Displays the device to operate when an HDMI-CEC compatible device is connected to the SLOT1 terminal.

**Note**

- The [SLOT1] item is displayed only when a function board is inserted in SLOT1. When the HDMI-CEC compatible SLOT is not connected, "----" will be displayed.

### ■ [SLOT2]

Displays the device to operate when an HDMI-CEC compatible device is connected to the SLOT2 terminal.

**Note**

- The [SLOT2] item is displayed only when a function board is inserted in SLOT2. When the HDMI-CEC compatible SLOT is not connected, "----" will be displayed.

### ■ [HDMI-CEC operation]

Displays the operation screen of the HDMI-CEC compatible device.

Press <RETURN> to hide the operation screen.

### ■ [MENU code]

Changes the code assigned for [MENU] operations on the HDMI-CEC operation screen. Match it to the connected HDMI-CEC device.

### ■ [Display → Device]

Enables/disables linked control of the HDMI-CEC compatible device from this unit.

**[Disable]:** Disables linked control of the device from this unit.
Even if the power status of this unit changes, the power status of the device does not change.

**[Power off]:** Turning this unit off (standby) turns off (standby) all the devices connected to the HDMI IN 1, HDMI IN 2, HDMI IN 3, SLOT1 and SLOT2 terminals. The power-on operation is not linked.

**[Power off / on]:**
Devices turn off(standby)/on in conjunction with the power-off(standby)/on operation of this unit.

**Note**

- For details of operation, refer to "Using HDMI-CEC function" (page 133).

### ■ [Device → Display]

Enables/disables linked control of this unit from the HDMI-CEC compatible device.

**[Disable]:** Disables linked control of this unit from the device. Even if the power status of the device changes, the power status of this unit does not change.

**[Power on]:** When the device is turned on, this unit turns on and the input switches to the input of that device (HDMI1/HDMI2/HDMI3/SLOT1/SLOT2).

**[Power off / on]:** This unit turns off/on in conjunction with the device.

**Note**

- For details of operation, refer to "Using HDMI-CEC function" (page 133).
- Input will not be switched when [Setup] - [Input lock] is set.

### ■ [ARC]

Sets the audio output for the HDMI IN 2 (ARC) terminal.

**[Auto]:** Automatically outputs audio from the HDMI IN 2 terminal when an amplifier is connected.

**[Off]:** Always outputs audio from the AUDIO OUT or DIGITAL AUDIO OUT terminal.

**[On]:** Always outputs audio from the HDMI IN 2 terminal.

**Note**

- For details of operation, refer to "Using ARC function" (page 135).

## [Image settings]

Sets the image displayed on the screen when there is no input signal.

[Image settings] submenu screen


### ■ [No signal image settings]

Sets the image displayed when there is no signal input at the selected input terminal.

[No signal image settings] submenu screen


**[Display setting]**

Sets the image display when there is no signal.

**[Off]:** Disables each image setting function.

**[On]:** Enables each image setting function.

**Note**

- When no-signal image is displayed, images are displayed with the screen position moving at certain intervals to alleviate image retention on the LED panel.
- The display position is moved irrespective of the “Wobbling” (see page 54) setting.
- Depending on the screen setting status, part of the screen may appear to be missing.

**[Image select]**

Select the image to display.

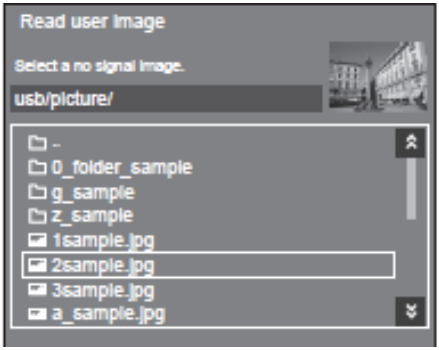
**[Default image]:** Panasonic logo (black background)

**[User image]:** Image registered by the user

**[Read user image]**

Register the image read from a USB memory device.

[Read user image] submenu screen




**Note**

Conditions for images that can be set with [Read user image]

- Image size 1920 x 1080 only
- jpg file /bmp file (files that cannot be played by the USB media player are excluded (see page 116))

  The file list displays the following:

  - For files and folders saved immediately below the root directory in the USB memory device:
- File names up to 246 characters (including extension) are displayed normally. However, due to the display time of on-screen menus, the file list may disappear before the full file name has been displayed.
- Folder names up to 244 characters are displayed normally.

  * The number of characters is reduced by the file path length (the folder information) if folders are saved hierarchically.

  - Only files with file names using ASCII characters (excluding control characters) are displayed.

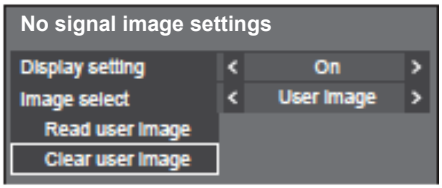
**Note**

- The no-signal image can only be adjusted with [LED Brightness], [Gamma], [Colour temperature], and [Blue light reduction].
- The images displayed as no-signal images may differ slightly from images confirmed on a PC.
- When [No signal image settings] is set to [On], [Input search] and [Failover/Failback] are disabled, and the menus are grayed out.
- Set the input to a setting other than USB or MEMORY VIEWER to load images.
- Only one user image can be registered with the [No signal image settings] function.
- Do not turn off the power while loading the user image.
- There is a preview shown of the selected image in the [Read user image] submenu screen.
- [Read user image] is grayed out and cannot be selected if a USB memory device is not connected to the USB terminal.
- If you start the loading of the file while the preview image is still being created, an access error may occur and it may not be recognized as an image file.
  Start the loading process after confirming that the preview image has been displayed.
- There are the following limitations on the file names that can be displayed:
  - Extension is one of jpg, jpe, jpeg, or bmp
  - File name is not ".jpg", ".jpe", ".jpeg", or ".bmp" that starts with a dot (.)
- Folders and files set by the operating system to be invisible on the USB memory device when viewed on a PC may be visible on this unit.
- Images can also be loaded from the USB memory device when [Internal memory] is selected in [Use memory select]. (Images cannot be loaded from the internal memory.)

**Clear user image**

Clears the image loaded in [Read user image].

[No signal image settings] submenu screen




**Note**

- [Clear user image] is grayed out and cannot be selected if there is no user image loaded.
- When [Image select] is set to [User image], performing [Clear user image] will change the setting of [Image select] to [Default image].

## [Input lock]

Locks input so that [Input] cannot be used.

**[Off] / [HDMI1] / [HDMI2] / [HDMI3] / [SLOT1] / [SLOT2] / [Screen Transfer] / [USB/Internal Memory] / [MEMORY VIEWER]**

**Note**

- Input switching is not possible immediately after setting to anything other than [Off].

## [Off-timer function]

Enables/disables the off timer function.

**[Enable]:** Enables the off timer function.

**[Disable]:** Disables the off timer function.

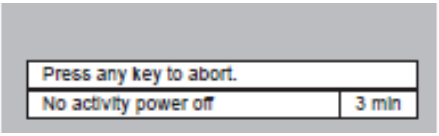
**Note**

- The off timer is canceled when [Disable] is selected while the off timer is set.

## [No activity power off]

The power automatically turns off (standby) if the unit is left for about 4 hours without operation when set to [Enable].

The time until the power turns off is displayed starting from 3 minutes before the power turns off.




If the power turns off due to this function, the message [No activity power off] is displayed the next time the power is turned on.

When the no signal image is being displayed (see page 61), the remaining time is not displayed even when the timer reaches 3 minutes before the timer turns off. The no signal image remains displayed until the power turns off.

**Note**

- This function does not work while the screensaver is working.

## [OSD language]

Menus, settings, adjustment screens, button names, etc., are displayed in the language you select.

Available languages

| | |
|---|---|
| **[English(UK)]:** | English (UK) |
| **[Deutsch]:** | German |
| **[Français]:** | French |
| **[Italiano]:** | Italian |
| **[Español]:** | Spanish |
| **[ENGLISH(US)]:** | English (US) |
| **[ 日本語 ]:** | Japanese |
| **[Русский]:** | Russian |

## [Multi display settings]

Sets the screen display mode.

**Note**

- Set the input to a setting other than Screen Transfer or MEMORY VIEWER to set [Multi display settings].
- The screen mode will be [Full] while displaying this menu.

### 1. Multi display settings

#### ■ [Multi screen display]

**[Off]:** Enlarged split screen not used.

**[On]:** Enlarged split screen used.

The screen mode will be full when this is [On].

### 2. Multi screen display

1 to 10 LED displays can be aligned horizontally and vertically as one group to display the images enlarged.

[Multi display settings] submenu screen ([Multi screen display])


**Note**

- The settings are memorized separately for each input terminal.
- After adjusting to the same angle of view with “Adjusting position” (see page 37) when [Multi screen display] is [Off], make fine adjustments to the angle of view with [Position] after turning [Multi screen display] [On] again.
- The [Position] menu can be adjusted in the multi screen display state.
- In multi screen display, the screen mode is set to [Full].
- During USB/Internal Memory input, only the following combinations of [Horizontal scale] and [Vertical scale] are available:
  1×2, 1×3, 1×4, 2×1, 2×2, 3×1, 4×1
- [Multi display settings] are not possible when [Video delay reduction settings] is set to [On]. To use [Multi display settings], set [Setup] - [Video delay reduction settings] function to [Off]. (see page 64)

#### ■ [Horizontal scale]

Set the horizontal scale in the multi screen display.

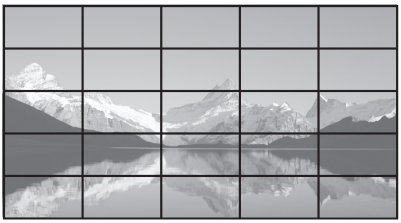
**1 to 10**

#### ■ [Vertical scale]

Set the vertical scale in the multi screen display.

**1 to 10**

Example: Horizontal scale “5” and vertical scale “5” are set in the multi screen display



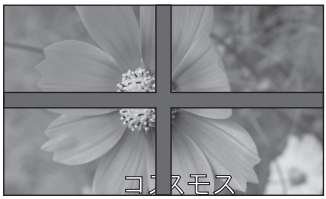
## ■ [Bezel H adjustment]/[Bezel V adjustment]

Adjust the area of image hidden in the joint horizontally and vertically respectively.

**0 to 100**

Display example:

Setting value 0



Displays the entire image including the joint area. (Suitable when displaying character information on PC.)

Setting value 100

Does not display the image of the joint area. (Suitable for displaying images with movement, such as videos.)

## ■ [Location]

Assign the screen locations in the multi-screen display.

Example: Horizontal scale “10”, Vertical scale “10”

| | | | | |
|---|---|---|---|---|
| A1 | A2 | ···· | A9 | A10 |
| B1 | B2 | ···· | B9 | B10 |
| ···· | ···· | ···· | ···· | ···· |
| I1 | I2 | ···· | I9 | I10 |
| J1 | J2 | ···· | J9 | J10 |

Select locations from A1 to J10.

- The displayed settings depend on the settings made for [Horizontal scale] and [Vertical scale].
- The locations can be confirmed on the screen during display of the settings menu by setting [Multi screen display] to [Off].

**Note**

- You cannot set horizontal scale “1”/vertical scale “1”.

## [Video delay reduction settings]

This reduces the lag time from the inputs to the display of the images on the LED display. Accordingly, functions for changing the size and position of images are unable to be used.

[Video delay reduction settings] submenu screen


**[HDMI1]:** The video delay reduction function works on input from the HDMI IN 1 terminal when this is set to [On].

**[HDMI2]:** The video delay reduction function works on input from the HDMI IN 2 terminal when this is set to [On].

**[HDMI3]:** The video delay reduction function works on input from the HDMI IN 3 terminal when this is set to [On].

**[SLOT1]:** The video delay reduction function works on input from the SLOT1 terminal when this is set to [On].

**[SLOT2]:** The video delay reduction function works on input from the SLOT2 terminal when this is set to [On].

**Note**

- The screen mode becomes [Full].
- The adjustment values in the [Position] menu are disabled.
- The following functions are unavailable to use:
  - Digital zoom
  - [Screensaver] - [Wobbling]
  - [Multi display settings]

## [Set up timer]

Set a program to execute specific operations according to specified timer conditions. Up to 20 programs can be set.

**Note**

- When multiple programs are set at the same time, the program with the smallest program number is enabled.
- If [Action setting] is set to [Power on], the program executes at the set power [On] time and switches to the input set for [Input].
- If [Action setting] is set to [Restart], the control box restarts according to the set timer conditions (day, time).
- If [Action setting] is set to [Panel check], data about the number of unlit pixels on the LED panels is acquired according to the set timer conditions (day, time). Note that the LED display screens may temporarily blackout while acquiring data about the number of unlit pixels on the LED panels.

[Set up timer] submenu screen

Setting example:

Program 1, Every Monday, 12:00,
Power On, Input: HDMI1


(1) Set the program number.

(2) To execute the program, set to [On].
The program is disabled when [Off] is set.

(3) Set the day.

[Everyday]: Executes the program every day.

[Weekday]: Executes the program from every Monday to Friday.

[Weekend]: Executes the program on Saturdays and Sundays.

[Custom]: Executes the program on selected days. (Refer to “Customized setting for days of the week”.)

(4) Set the time.
Pressing ◀▶ once changes the time by 1 minute. Keep pressing down to change by 15 minutes.

(5) Set the type of operation.

[Power on]: The power of the control box is turned [On] according to the set timer conditions.

[Power off]: The power of the control box is turned [Off] according to the set timer conditions.

[Restart]: The control box is restarted according to the set timer conditions.

[Panel check]: Data about the number of unlit pixels on the LED panels is acquired according to the set timer conditions.

(6) Set the input.

### ■ Customized setting for days of the week

①Set [Day] to [Custom].

②While [Day] is selected, press <ENTER>.
The [Day] screen is shown.


▲▼◀▶ Moves the focus

<VOL +> Selects the day (puts a checkmark next to the day)

<VOL ->  Deselects the day (removes the checkmark if the day had a checkmark)

<ENTER> Saves the current settings and returns to the timer settings screen.

<RETURN> Returns to the timer settings screen without saving the current settings.

③Change the settings, press <ENTER>, and return to the timer settings screen.

- [All] selects/deselects all of the days.

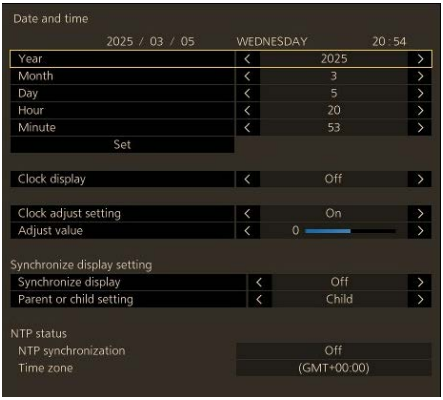
**Note**

- Use the remote control for the “Customized setting for days of the week” operations.
- The settings are not saved if the [Day] screen is closed without pressing <ENTER>.

## [Date and time]

Sets the date and time.

[Date and time] submenu screen




### ■ Set date and time.

①Select [Year/Month/Day/Hour/Minute].

②Set the selected item.

◀▶


③Select [Set] and press <ENTER>.


**Note**

- If the present date and time are not set, the time settings for [Set up timer], [Screensaver], etc. cannot be made.
- The present date and time setting resets in the following cases:
  - The unit is left for about 7 days or longer with the power button on the unit switched to [Off], the power plug disconnected, without power due to an outage, etc.
    *The period may be shorter than 7 days if the unit is used for long periods or is used in hot environments.
  - "--" is displayed instead of [Year/Month/Day/Hour/Minute] when the current date and time have been reset.
- [Year/Month/Day/Hour/Minute] must be set to something other than "--" to make the date and time settings.
- The upper limit of date and time that can be set is, 23:59, December 31, 2035.

### ■ [Clock display]

Displays/hides the clock.

**[Off]:** Hides the clock.

**[On]:** Displays the clock.

**Note**

- The clock is displayed at the lower left of the display when <RECALL> is pressed. It is displayed for about 5 seconds.
- The clock is not displayed even if [Clock display] is set to [On] if the current date and time have not been set.

### ■ [Clock adjust setting]

Sets the time deviation adjustment function.

**[Off]:** Does not adjust time deviation.

**[On]:** Adjusts time deviation.

## ■ [Adjustt value]

Sets the correction amount for time deviation.

**Correction guideline when the clock is slow**

| Setting value | Correction per month (Approx.) | Correction per 6 months (Approx.) | Correction per year (Approx.) |
|---|---|---|---|
| 0 | No correction | | |
| +1 | 10 sec. | 1 min. | 2 min. |
| +2 | 20 sec. | 2 min. | 4 min. |
| +3 | 30 sec. | 3 min. | 6 min. |
| +4 | 40 sec. | 4 min. | 8 min. |
| +5 | 50 sec. | 5 min. | 10 min. |
| +6 | 60 sec. | 6 min. | 12 min. |
| +7 | 70 sec. | 7 min. | 14 min. |
| +8 | 80 sec. | 8 min. | 16 min. |
| +9 | 90 sec. | 9 min. | 18 min. |
| +10 | 100 sec. | 10 min. | 20 min. |

**Correction guideline when the clock is fast**

| Setting value | Correction per month (Approx.) | Correction per 6 months (Approx.) | Correction per year (Approx.) |
|---|---|---|---|
| 0 | No correction | | |
| -1 | 10 sec. | 1 min. | 2 min. |
| -2 | 20 sec. | 2 min. | 4 min. |
| -3 | 30 sec. | 3 min. | 6 min. |
| -4 | 40 sec. | 4 min. | 8 min. |
| -5 | 50 sec. | 5 min. | 10 min. |
| -6 | 60 sec. | 6 min. | 12 min. |
| -7 | 70 sec. | 7 min. | 14 min. |
| -8 | 80 sec. | 8 min. | 16 min. |
| -9 | 90 sec. | 9 min. | 18 min. |
| -10 | 100 sec. | 10 min. | 20 min. |

## ■ [Synchronize display setting]

Synchronizes the time of all the displays connected on the network.

**Note**

- This function does not operate if the displays to synchronize the time are not connected via a LAN.
- This function operates only when the devices connected via a LAN are connected with different IP addresses.
- Time can only be synchronized in power-on state or in schedule standby state.
- This works properly only when the synchronize display function is enabled on the units involved.
  This may not work properly if there are other devices connected to the same network.

### [Synchronize display]:

Enables/disables the synchronize display function.

### [Parent or child setting]:

Set the synchronize display setting for this unit to [Parent] or [Child].

This works when [Synchronize display] is set to [On].

**[Parent]:** Requires the setting of the time as the basis for synchronization.

**[Child]:** Synchronizes with the time on the parent.

**Note**

- When [Synchronize display] is [On], and [Parent or child setting] is [Child], date and time cannot be set.
- When [Synchronize display] is [On], and [Parent or child setting] is [Child], [NTP synchronization] off operation is performed.
- If two or more displays with [Parent] set are present on one network, display synchronization does not operate properly.
- Time is not synchronized if no displays with [Parent] set are present on one network.
- Time is not synchronized if the time is not set for the display with [Parent] set on the network.
- Depending on the network environment, synchronization may be largely lost.
- Synchronization is not possible if there is a router between the parent and child displays.
- Synchronization is not possible via a wireless LAN.
- This function is disabled during communication with IPv6 settings.

## ■ [NTP status]

Displays the current settings for NTP synchronization and timezone (see page 98)

**Note**

- When [NTP synchronization] is [On], and if [Synchronize display] is set to [On] and the [Parent or child setting] is [Child], [NTP synchronization] shows “--”, and operation is performed as if it is off.
- The date and time cannot be set when [NTP synchronization] is set to [On].
- NTP synchronization and timezone settings cannot be changed in this menu. Change the settings in your web browser. (see page 98)
- NTP synchronization is only possible in power-on state or in schedule standby state.

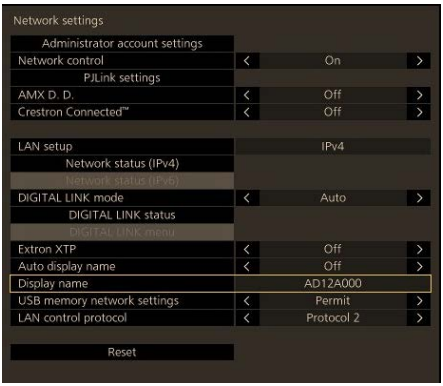
## [Network settings]

Set when communicating with a PC via a network.

**Note**

- The DIGITAL LINK-related menus are displayed when the DIGITAL LINK Terminal Board is attached to the expansion slot (SLOT).

The [Network settings] submenu is displayed.




### ■ [Administrator account settings]

Sets the administrator account.


**[Password policy]**

The points to note about password setting for this item are displayed in a separate window.

**[User name]**

The keyboard for entering the user name is displayed. Enter the user name.

- Refer to “Entering characters” (page 144) for the method for entering characters.

**[Password]**

The keyboard for entering the password is displayed. After entering the password, select [Ok]; the confirmation screen is displayed. Enter the password again and select [Ok]; the password is confirmed.

**[Save]**

Saves the user name and password set above in the control box itself.

**Note**

- Once set, the user name and password need to be entered to display these settings.

### ■ [Network control]

Set when controlling with the unit’s LAN terminal.

**[Off]:** Disables control with the LAN terminal. (When the remote control is used to turn the power [Off] (standby) in this case, the power consumption is reduced slightly.)

**[On]:** Controls via LAN using the LAN terminal. The power indicator lights orange when the power is turned off with the remote control (standby).

**Note**

- When using the LAN control function described in “Using the network function” (see pages 87 to 114), set this function to [On].
- Even if the setting is [Off], the Web browser control screens that do not control this unit (display information [Status], detailed settings [Detailed set up] and password change [Change password]) operate.

### ■ [PJLink settings]


**[Password policy]**

The points to note about password setting for this item are displayed in a separate window.

**[PJLink control]**

Set to perform communications with PJ Link.

**[Off]:** Disables control with PJLINK.

**[On]:** Enables control with PJLINK.

**[Password]**

The keyboard for entering the password is displayed. After entering the password, select [Ok]; the confirmation screen is displayed. Enter the password again and select [Ok]; the password is confirmed.

- Refer to “Entering characters” (page 144) for the method for entering characters.

**[PJLink notification]**

Set this item when using the PJLink notification.

**[Off]:** Disables the notification.

**[On]:** Enables the notification.

**[Notified IP address 1], [Notified IP address 2]**

Set the IP address of the PC where the status of this unit is notified.

**[Notified IP address 1 (IPv6)], [Notified IP address 2 (IPv6)]**

Set the IP address (IPv6) of the PC where the status of this unit is notified.

**Note**

- For IPv6 IP address entering method, refer to “Entering numbers” (page 70).
- Initial values for notified IP addresses of IPv6 are blank.

**[Save]**

Saves the password set above into the control box itself.

**Note**

- Once set, a password needs to be entered to display these settings.
- To set the setting to [On], you must configure [Administrator account settings] in advance.
- To use PJLink control, you need to set this setting to [On] and set [Network control] to [On].
- The password for the setting is different from the password for [LAN setup].

## ■ [AMX D. D.]

Set whether to allow detection by AMX Device Discovery.

**[Off]:** Disables detection by AMX Device Discovery.

**[On]:** Enables detection by AMX Device Discovery.

- For more details, visit the following web site: http://www.amx.com/

**Note**

- To set the setting to [On], you must configure [Administrator account settings] in advance.
- This function is disabled during communication with IPv6 settings.

## ■ [Crestron Connected™]

When this function is set to [On], the unit can be monitored or controlled via the network using equipment and application software of Crestron Electronics, Inc.

This unit supports the following application software from Crestron Electronics, Inc.

- Crestron Fusion

Crestron Connected is a function to connect to a system developed by Crestron Electronics, Inc. which manages and controls multiple system devices connected to the network.

- For details of Crestron Connected, refer to the Crestron Electronics, Inc. website. (Provided only in English)
  URL http://www.crestron.com/

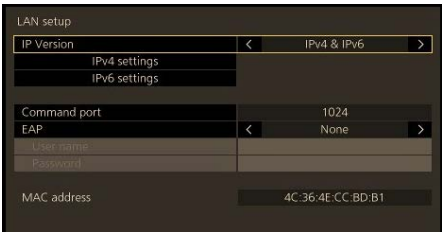
**Note**

- This function is disabled during communication with IPv6 settings.

## ■ [LAN setup]

Configure the IPv4/IPv6 settings.

**Press ▲▼ to select [LAN setup] then press <ENTER>.**




### [IP Version]

Set the LAN operation mode.

**[IPv4]:** Operates in IPv4 mode.

**[IPv6]:** Operates in IPv6 mode.

**[IPv4 & IPv6]:** Operates in both IPv4 and IPv6 modes.

### [IPv4 settings]

Detailed network settings for IPv4 can be made.


### [DHCP], [IP address], [Subnet mask], [Gateway]

**① Press ◀▶ to set [On]/[Off] for [DHCP].**

When [Off] is selected, IP address and other settings can be set manually.

**[DHCP]:**

(DHCP client function)

**[On]:** Obtains an IP address automatically when a DHCP server exists in the network to which the displays are connected.

**[Off]:** When a DHCP server does not exist in the network to which the displays are connected, set [IP address], [Subnet mask] and [Gateway] manually.

**[IP address]:**

(IP address display and setting)

Enter an IP address when DHCP server is not used.

**[Subnet mask]:**

(Subnet mask display and setting)

Enter a Subnet mask when DHCP server is not used.

**[Gateway]:**

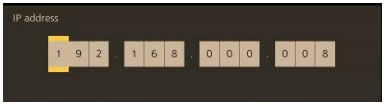
(Gateway address display and setting)

Enter a gateway address when DHCP server is not used.

**Note**

- When [DHCP] is set to [On], the IP address, etc. are grayed out.

**Entering numbers**




1) Select the address to be set and press <ENTER>.
2) Select the digits with ◀▶.
3) Change numbers with ▼▲.
4) Press <ENTER>.
   You can cancel the change by pressing <RETURN>.

**② Select [Save] then press <ENTER>.**

Saves the current network settings.

**Note**

- To use a DHCP server, make sure the DHCP server is started.
- Contact your network administrator for details on IP address, Subnet mask, and Gateway.
- The following settings are made as factory default:

  [DHCP]: Off

  [IP address]: 192.168.0.8

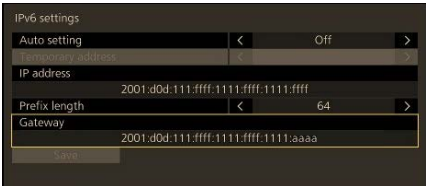
  [Subnet mask]: 255.255.255.0

  [Gateway]: 192.168.0.1

### [IPv6 settings]

Detailed network settings for IPv6 can be made.

**① Press ◀▶ to set [On]/[Off] for [Auto setting] and [Temporary address].**




**[Auto setting]**

Set whether to make the IP setting for IPv6 automatically.

**[On]:** Obtain the IP address automatically.

**[Off]:** Set the IP address manually.

**[Temporary address]**

With [Auto setting] set to [On], set whether to use the temporary IP address.

**[On]:** Uses the temporary address.

**[Off]:** Does not use the temporary address.

**[IP address]**

(IPv6 address display and setting)

Enter the IP address when [Auto setting] is [Off].

**[Prefix length]**

Enter the prefix length (netmask) when [Auto setting] is [Off].

**[Gateway]**

(Gateway address display and setting)

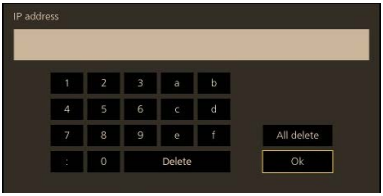
Enter the gateway address when [Auto setting] is [Off].

**Note**

- Initial values for IP address and gateway are blank in the IPv6 settings.
- When [Auto setting] is set to [On], the IP address, etc. are grayed out.

**Entering numbers**

- When setting the IPv6 address




1) Select the address to be set and press <ENTER>.
2) Press ▲▼◀▶ to select the number to set and press <ENTER>.
3) Select [Confirm] then press <ENTER>.

② **Select [Save] then press <ENTER>.**

Saves the current network settings.

### [Command port]

Set the port number to be used with command control.

**Select [Command port], press <ENTER>, and set the number.**

- The available range is between 1024 and 65535.
- Refer to “Entering numbers” (page 70) for the method for entering numbers.

**Note**

- When the PJLink protocol is used, the port setting is not necessary.

### [EAP]

Select the EAP that has been set for the RADIUS server. If the EAP has not been set, select [None].

The types of EAPs that can be set are as follows:

[PEAP(MS-CHAPv2)], [PEAP(GTC)], [EAP-TTLS(MD5)], [EAP-TTLS(MS-CHAPv2)], [EAP-FAST(MS-CHAPv2)], [EAP-FAST(GTC)], [EAP-TLS]

### [User name]

Enter the user name for authentication with one-byte alphanumeric characters (excluding spaces). (Up to 64 characters)

This can be set only when [EAP] is set to anything other than [None] or [EAP-TLS].

### [Password]

Enter the password for authentication with one-byte alphanumeric characters. (Up to 64 characters)

This can be set only when [EAP] is set to anything other than [None] or [EAP-TLS].

**Note**

- When EAP is used, set this unit to match the settings of the RADIUS server.

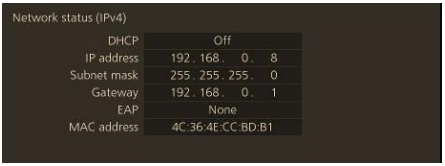
  For the settings of the RADIUS server, consult with the network administrator.
- When [EAP] is set to [EAP-TLS], set “[Date and time]” (see page 66) and register the certificate on the web browser control. (see page 97)

### [MAC address]

Displays the unit’s MAC address.

## ■ [Network status (IPv4)]

Confirm the current IPv4 network setting status.



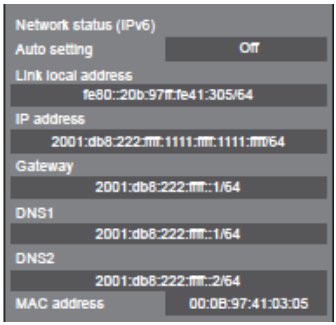

## ■ [Network status (IPv6)]

Confirm the current IPv6 network setting status.

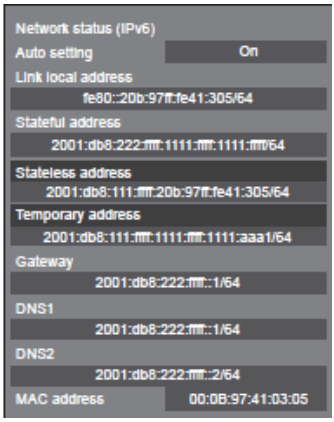
**Note**

- The items displayed depend on whether [IPv6 settings] - [Auto setting] is set to [On] or [Off].

**[Auto setting]: [Off]**




**[Auto setting]: [On]**




**[Link local address]**

Displays the link local IP address for IPv6.

**[DNS1]/[DNS2]**

Displays the link local IP address for IPv6.

**[Stateful address]**

Displays the stateful IP address for IPv6.

**[Stateless address]**

Displays the stateless IP address for IPv6.

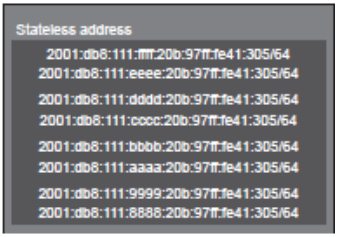
**[Temporary address]**

Displays the temporary IP address for IPv6.

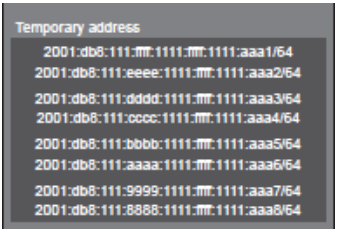
**Note**

- With [IPv6 settings] - [Auto setting] set to [On], when you select [Stateless address] or [Temporary address] and press <ENTER>, their list display screens are displayed. (Up to 8 items are displayed)

**Stateless address list screen**




**Temporary address list screen**




## ■ [DIGITAL LINK mode]

Switches the communication method of the DIGITAL LINK terminal.

| | |
|---|---|
| **[Auto]:** | Communication method is selected automatically.<br>HDMI, LAN, serial communication are possible.<br>Ethernet connection is possible. |
| **[DIGITAL LINK]:** | HDMI, LAN, serial communication are possible via a twisted pair cable transmitter. |
| **[Ethernet]:** | LAN communication is performed. |
| **[Long reach]:** | Communication method is fixed to Long reach. |

### Modes allowing communication

✔: Valid

—: Invalid

| Settings | | Communication validity | | | |
|---|---|---|---|---|---|
| | | Picture transmission | | Ethernet | RS-232C |
| | | 100 m | 150 m | | |
| [Auto] | For [DIGITAL LINK] | ✔ | — | ✔ | ✔ |
| | For [Long Reach] | — | ✔ | ✔ | ✔ |
| | For [Ethernet] | — | — | ✔ | — |
| [DIGITAL LINK] | | ✔ | — | ✔ | ✔ |
| [Long reach] | | — | ✔ | ✔ | ✔ |
| [Ethernet] | | — | — | ✔ | — |

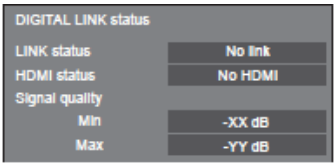
**Note**

- When connected with the [Long reach] communication method, the maximum transmission distance is 150 m. In this case, this unit can receive the signals of up to 1080/60p (148.5 MHz).
- If the communication method of the twisted pair cable transmitter is set to [Long reach], set [DIGITAL LINK mode] to [Auto]. Then, connection is enabled with the [Long reach] communication method. When connecting with the separately sold DIGITAL LINK Switcher (ET-YFB200) with the [Long reach] communication method, set [DIGITAL LINK mode] to [Long reach].
- Even if [DIGITAL LINK mode] is set to [Long reach], when the twisted pair cable transmitter does not support the communication method of [Long reach], it is not possible to connect to the network properly.
- When [LAN terminal setting] is set to [LAN terminal], even if [DIGITAL LINK mode] is set to [Ethernet], the [Ethernet] communication method does not work.

### ■ [DIGITAL LINK status]

Displays the DIGITAL LINK connection environment.

**Press ▲▼ to select [DIGITAL LINK status] then press <ENTER>.**




**[LINK status]:**

One of [No link], [DIGITAL LINK], [Long reach], or [Ethernet] is displayed.

| | |
|---|---|
| **[No link]:** | No LAN connection, etc. |
| **[DIGITAL LINK]:** | Connected to the DIGITAL LINK device by LAN. |
| **[Long reach]:** | Communication method is set to [Long reach] and is connected to the DIGITAL LINK device by LAN. |
| **[Ethernet]:** | The PC is connected to the DIGITAL LINK / LAN terminal of this product and is LAN connected. |

**[HDMI status]:**

Displays the connection status of the HDMI format.

One of [No HDMI], [HDMI on], or [HDCP on] is displayed.

| | |
|---|---|
| **[No HDMI]:** | DIGITAL LINK not connected |
| **[HDMI on]:** | DIGITAL LINK connected |
| **[HDCP on]:** | A signal with HDCP is active through the DIGITAL LINK connection. |

**[Signal quality]:**

The minimum and maximum number of errors are quantified and that value is converted into red, yellow, or blue as below:

| Signal quality | Color | Reception status |
|---|---|---|
| **-12dB or below** | Blue | Normal reception |
| **-11 to -8dB** | Yellow | Some reception data is lost |
| **-7dB or more** | Red | Reception error |

- When a LAN cable is disconnected or the cable is unshielded, the value will be in yellow or red.
- The signal quality shown is for that between the twisted pair cable transmitter and the display.

## ■ [DIGITAL LINK menu]

Displays the setting menu of Digital Interface Box.

**Press ▲▼ to select [DIGITAL LINK menu] then press <ENTER>.**

**Note**

- This function can only be selected when a Panasonic device that supports DIGITAL LINK output (ET-YFB100, ET-YFB200) is connected to a DIGITAL LINK IN terminal and its power is on.
- For details, refer to the manuals of the devices that support DIGITAL LINK output.

## ■ [Extron XTP]

Set to [On] when an “XTP Transmitter” made by Extron is connected to a DIGITAL LINK IN terminal.

- For more details on Extron, visit the following web site.
  http://www.extron.com

**Note**

- To set the item to [On], you must configure [Administrator account settings] in advance.

## ■ [Auto display name]

Sets whether to change the display name automatically.

**[Off]:** Display name not changed automatically.

**[On]:** Display name changed automatically according to the display ID setting value.

## ■ [Display name]

You can change the name of this unit as it is displayed on the network.

**Note**

- The name can be changed only when [Auto display name] is set to [Off].
- The display ID is not returned to the default value with [Network settings] - [Reset].

## ■ [USB memory network settings]

Set whether to permit network settings using a USB memory device. (see page 141)

**[Permit]:** Permits network settings using a USB memory device.

**[Prohibit]:** Prohibits network settings using a USB memory device.

**Note**

- This function is set to [Permit] as factory default.
- Once the network settings have been made with a USB memory device, this function is set to [Prohibit].

## ■ [LAN control protocol]

Select the LAN control protocol.

**[Protocol 1]:** Control with the Panasonic Display sequence.

**[Protocol 2]:** Control with the sequence that is compatible with Panasonic projectors.

**Note**

- Irrespective of the setting, PJLink and web browser control are available.
- Select [Protocol 2] when running multi display monitoring and control software.

## ■ [Reset]

Return the network settings to the factory settings.

Press ◀▶ to select [Yes] then press <ENTER>.


**Note**

- The settings for [NTP synchronization], NTP server and [Time zone] will be reset to the factory default.
- When [Security password] - [Security password] is set to [On], the password needs to be entered to execute [Reset].

## [USB media player settings]

Make settings for the USB media player function.

For details of the USB media player function, refer to “Using the USB media player” (page 115).

**Note**

- The device accessed depends on the setting in [Use memory select]. The USB memory device inserted in the USB terminal is used when [USB] is selected. The internal memory is used when [Internal memory] is selected.

[USB media player settings] submenu screen


### ■ [USB media player]

Enables/disables the USB media player function.

### ■ [Schedule play function]

Enables/disables schedule play with content management software.

**Note**

- When [Schedule play function] is set to [Enable], if both the existing scenario file of the USB media player and the schedule file of this function are present, the [Schedule play function] operation takes priority.
- Changes to the [USB media player] cannot be made during schedule play mode.

### ■ [Video playback mode]

Sets the video playback mode.

If image disturbance occurs at the joints between video files during playback in [Standard] mode, switch to [Adjust] mode.

**[Standard]**: Plays without black images at the joints between video files.

**[Adjust]**: Plays with black images (about 2 seconds) inserted between video files.

**Note**

- When using the Multi Media Player, black images are displayed for a certain period of time between video files irrespective of the [Video playback mode] settings.
- The display may be disturbed at the joints between files during standard playback.
- During schedule play with content management software, [Video playback mode] can be switched both in single mode and multi mode.

### ■ [Resume play]

Sets the function to resume play off or on.

### ■ [Still picture rotation]

Sets the display method of still pictures by USB/ Internal Memory input.

**[Landscape]:** Displays still pictures horizontally.

**[Portrait]:** Displays still pictures vertically.

**[Exif information]:** The display rotates according to the file information.

**Note**

- [Exif information] performs the rotation operation only in the JPEG format to which Exif information is added.

  In the JPEG format or BMP format where Exif information is not detected, the operation when [Landscape] is selected is performed.

### ■ [Playlist edit]

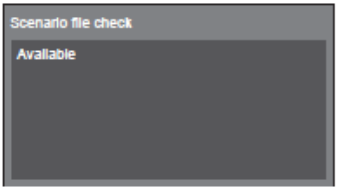
Creates/Edits the scenario file (scenario.dat). For details of [Playlist edit], refer to “Playlist edit function” (page 122).

### ■ [Scenario file check]

A check is made of the memory selected in [Use memory select]. An error code and file name are displayed if an error is detected.

For details of the error codes, refer to “USB memory contents check” (page 121).

**Press ▲▼ to select [Scenario file check] then press <ENTER>.**




**Note**

- [Scenario file check] is disabled during schedule play with content management software.

### ■ [Codec information]

Displays the codec information of a video/still image file being played on the USB media player.

The file is analyzed on execution, and the codec information is displayed after the completion of the analysis.

**Note**

- The file analysis takes time in proportion to the number of files in the USB memory device.
- A black screen appears during analysis because playback is stopped.
- Incompatible with the schedule play mode.

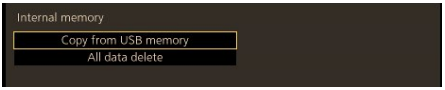
### ■ [Internal memory]

Manipulates the data in the internal memory.

**Note**

- The [Internal memory] operated is the one used for the USB media player.
- Refer to [Use memory select] when using the internal memory. (see page 84)
- The capacity of the internal memory is approx. 3 GB.

[Internal memory] submenu screen




**[Copy from USB memory]:**

Copies data from the USB memory device to the internal memory.

**[All data delete]:**

Deletes the data in the internal memory.

### ■ [Slide show duration]

Selects the display time for still images.

**10 seconds to 600 seconds**

**Note**

- [Slide show duration] is disabled during schedule play with content management software.

### ■ [Play mode]

Specifies the play mode while the [Schedule play function] is working. To apply this setting to the schedule play operation, restart this unit.

Also, during schedule play, if there is a play mode specified in the schedule data of the content management software, it takes priority.

**[Individual play]:**

Plays in the individual play mode.

Content is played only on one display.

**[Synchronize play]:**

Plays in the synchronized play mode.

Content is played on multiple displays in synchronization.

Note approx. 5 seconds of preparation time are added in switching content to synchronize the playback timing.

**Note**

- Synchronized play works properly only when [Date and time] - [Synchronize display] is set to [On] and the time is synchronized.
- [Current setting] shows the play mode for schedule play with this unit.
- Synchronized play does not work during communication with IPv6 settings.

## [Memory viewer settings]

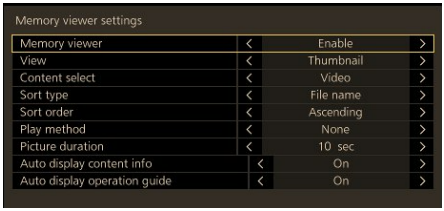
Make settings for the memory viewer function.

For details of the memory viewer function, refer to “Using memory viewer” (page 128).

**Note**

- The device accessed depends on the setting in [Use memory select]. The USB memory device inserted in the USB terminal is used when [USB] is selected. The internal memory is used when [Internal memory] is selected.

[Memory viewer settings] submenu screen




### ■ [Memory viewer]

Enables/disables the memory viewer function.

### ■ [View]

Sets the display format of the content in the USB memory or internal memory device to the thumbnail display or the list display.

### ■ [Content select]

Sets the type of content to be displayed.

**[All]:** Displays all the files including picture, video and music files.

**[Picture / Video]:** Displays picture files and video files.

**[Picture / Music]:** Displays picture files and music files.

**[Video / Music]:** Displays video files and music files.

**[Picture]:** Displays picture files only.

**[Video]:** Displays video files only.

**[Music]:** Displays music files only.

### ■ [Sort type]

Sets the order of content in combination with [Sort order].

### ■ [Sort order]

Sets the order of content in combination with [Sort type].

### ■ [Play method]

Sets the playback method of content.

**[None]:** Automatically returns to the content display screen when playback of the selected files has finished.

**[Single]:** Plays the selected file repeatedly.

**[All]:** Plays the content displayed on the content display screen repeatedly in displayed order.

**[Random]:** Plays the content displayed on the content display screen at random.

**[Select]:** Plays the selected files in the sorting order shown on the content display screen.

**[Program]:** Plays the selected files in selected order.

### ■ [Picture duration]

Sets the display time for still images.

**10 seconds to 600 seconds**

### ■ [Auto display content info]

When this is set to [On], content information is automatically displayed at the beginning of content playback, and the information is automatically erased after a certain period of time.

### ■ [Auto display operation guide]

When this is set to [On], the operation guide is automatically displayed at the beginning of content playback, and the guide is automatically erased after a certain period of time. Playback control (see page 130) is performed only while the operation guide is being displayed. If it is not displayed, the unit shows the operation guide without performing playback control.

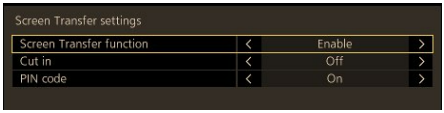
When this is set to [Off], the operation guide is not displayed at the beginning of content playback. Playback control is performed regardless of whether the operation guide is displayed or not.

**Note**

- When [Play method] is set to [Single], playback information and the operation guide are automatically displayed only at the beginning of the first playback of content.
- When [Play method] is [Select] or [Program], up to 99 files can be selected.
- This menu will be grayed out and cannot be set while content is being played.

## [Screen Transfer settings]

[Screen Transfer settings] submenu screen




### ■ [Screen Transfer function]

Enable or disable the function to display images using Panasonic's dedicated application [Screen Transfer].

### ■ [Cut in]

Sets whether to allow video interruption by another user while displaying a video using Screen Transfer.

**[Off]:** Disables video interruption.

**[On]:** Enables video interruption.

### ■ [PIN code]

Sets whether to require the input of PIN code when connecting to this unit using Screen Transfer.

**[Off]:** PIN code input not required.

**[On]:** PIN code input required.

**Note**

- This function does not work during communication with IPv6 settings.

## [Wireless presentation settings]

This menu configures the settings for wireless presentation system connection.

For details, refer to the operating instructions on the following support site.

https://panasonic.net/cns/prodisplays/wps2/

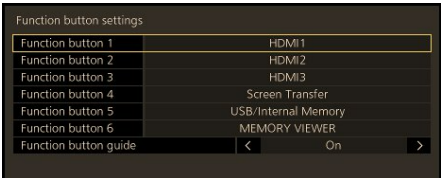
[Wireless presentation settings] submenu screen


## [Function button settings]

Set the functions for the numeric buttons (<1> to <6>) on the remote control. You can use them as shortcut buttons by assigning frequently used operations to the buttons.

**1 Select the numeric button with ▲▼ and press <ENTER>.**

[Function button settings] submenu screen




**2 Switch [Group] with ◀▶.**


**3 Select the function ([Input]/[Memory load]/[Shortcut]) with ▲▼ and set the function to assign with ◀▶.**

### Functions assigned to numeric buttons

#### [Input] (Direct input select)

Input can be selected with a single button press.

**[HDMI1] / [HDMI2] / [HDMI3] / [SLOT1] / [SLOT2] / [Screen Transfer] / [USB/Internal Memory] / [MEMORY VIEWER]**

#### [Memory load]

Memory can be loaded with a single button press.

Refer to “Loading profiles” (page 44).

**[MEMORY 1] / [MEMORY 2] / [MEMORY 3] / [MEMORY 4] / [MEMORY 5] / [MEMORY 6]**

**Note**

- Options are displayed with the names set in [Memory save]. (see page 43)

#### [Shortcut] (performing operations and displaying menu screens)

**[Signal], [Screensaver], [Set up timer], [Power management settings], [Network settings], [Multi display settings]**

- Pressing the numeric button displays the menu screen. Press the numeric button again to hide the menu screen.

**[Power off]**

- Pressing the numeric button turns the power off.

**[Power on]**

- Pressing the numeric button turns the power on.

**[AV mute]**

- Pressing the numeric button mutes the audio and pictures. To cancel, press any button on the remote control except the power button.

**[Digital zoom]**

- Pressing the numeric button switches to digital zoom mode. (see page 34)

**[Display ID / Display name]**

- Pressing the numeric button enlarges the Display ID and Display name.

**[HDMI-CEC operation]**

- Pressing the numeric button displays the operation screen of the HDMI-CEC compatible device.

**[Playlist edit]**

- Pressing the numeric button displays the playlist edit screen. (see page 122)

**[Multi display switching]**

- Pressing the numeric button switches [Multi display settings] - [Multi screen display] between [On] and [Off].

**[USB connect. switch.]**

- Pressing the numeric button switches the connection destination of the USB terminal among [Internal], [SLOT1] and [SLOT2].

**Note**

- Power off operation or input switching operation restores the connection destination set for the [USB connect. switch.] function to the value set for [Mode settings] - “[USB connect setting]” (see page 84).

- This function does not work with HDMI1/HDMI2/HDMI3/Screen Transfer/USB/Internal Memory/MEMORY VIEWER inputs.

### Factory settings

The following functions are assigned to the numeric buttons as factory default.

| | Input |
|---|---|
| **1** | [HDMI1] |
| **2** | [HDMI2] |
| **3** | [HDMI3] |
| **4** | [Screen Transfer] |
| **5** | [USB/Internal Memory] |
| **6** | [MEMORY VIEWER] |

### ■ [Function button guide]

Sets to display the functions when numeric buttons are pressed. Set this for each function group.

**[On]:** Displays the function list for the numeric buttons.

**[Off]:** Hides the function list. Operation is performed when numeric buttons are pressed.

**Note**

- When <FUNCTION> is pressed, the function button guide is displayed irrespective of whether the setting is on or off.

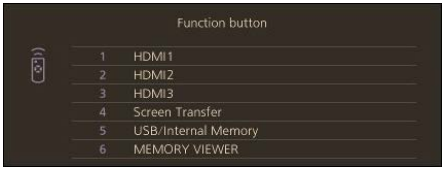
## How to use the shortcut buttons (numeric buttons)

### 1 Press <FUNCTION> or <1> to <6>.

The function button guide is displayed.

When the function button guide is off, pressing the numeric button makes the function work.

Example: Input




### 2 Press <1> to <6>.

The function for the pressed button works.

## [OSD settings]

Makes various settings for the on-screen menus.

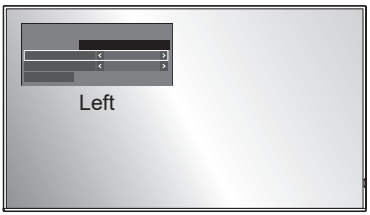
[OSD settings] submenu screen

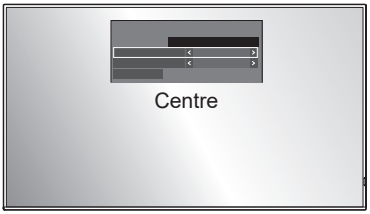

### ■ [Menu position]

Sets the display position of the on-screen menu.

Each time ◀ or ▶ is pressed, the display position of the on-screen menu changes.

Display example:




### ■ [Menu display duration]

Sets the display duration for the on-screen menu.

**5 seconds to 180 seconds**

### ■ [Onscreen display]

You can choose not to display the power on indicator, input switching indicator, no signal indicator, no external media indicator (during USB input), the muting indicator after displaying menu screens, the remaining time indicator when 3 minutes remain for the off timer, and the indicators that appear when responding to commands from external control.

**[On]:** Displayed.

**[Off]:** Not displayed.

### ■ [OSD transparency]

Sets the transparency rate of the on-screen display background.

**0 to 100**

### ■ [OSD memory]

Sets whether or not to hold the cursor position on the menu screen.

**[Off]:** The cursor position is not held.

**[On]:** The cursor position is held.

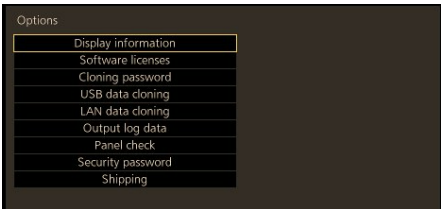
**Note**

- Even if it is set to [On], if the power of the control box is turned off, the cursor position is not held.

## [Options]

This menu is for displaying information of this unit, restoring data to the factory default state, etc.

[Options] submenu screen




### ■ [Display information]

Displays the serial number, software version and use time of this unit.

### ■ [Software licenses]

Displays the software licenses.

### ■ [Cloning password]

Sets the password for the cloning function.

For more details of the settings, see “Changing the cloning password” (page 140).

**Note**

- The initial password in the factory default state is “AAAA”.
- Change the password periodically, and set one which is difficult to guess.
- For the method to initialize the cloning password, consult the dealer where you purchased the product.

### ■ [USB data cloning], [LAN data cloning]

Copies the data of a single display to multiple displays by using the USB memory device or via LAN. For more details of the settings, see “Using data cloning” (page 136).

### ■ [Output log data]

Saves a log for servicing to the USB memory device.

### ■ [Panel check]

Acquires data about the number of unlit pixels on the LED panels.

**Note**

- The LED display screens may temporarily blackout while acquiring data about the number of unlit pixels on the LED panels.

### ■ [Security password]


**[Security password]**

**[Off]:** Disables security password control.

**[On]:** Enables security password control.

**[Password]**

The keyboard for entering the password is displayed. After entering the password, select [Ok]; the confirmation screen is displayed. Enter the password again and select [Ok]; the password is confirmed.

- Refer to “Entering characters” (page 144) for the method for entering characters.

**[Save]**

Saves the content set above into the control box itself.

**Note**

- The initial password in the factory default state is “1111”.
- The security password is used when performing [Shipping] and [Network settings] - [Reset].
- Change the password periodically, and set one which is difficult to guess.
- For the method to initialize the security password, consult the dealer where you purchased the product.

### ■ [Shipping]

Returns the data in the unit to the factory settings. For more details of the settings, see “Restoring factory settings” (page 148).

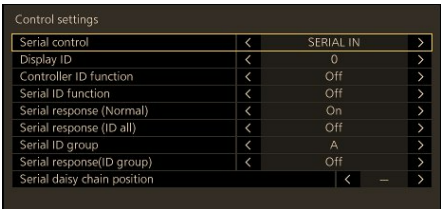
## [Control settings]

Make settings for the functions that simultaneously control multiple displays or individual displays.

**Note**

- The DIGITAL LINK-related menus are displayed when the DIGITAL LINK Terminal Board is attached to the expansion slot (SLOT1 or SLOT2).

[Control settings] submenu screen




### ■ [Serial control]

Selects the RS-232C control terminal.

**[SERIAL IN]:** Controls using the SERIAL IN terminal of the unit.

**[SLOT1]:** Controls via the function board inserted to the SLOT1 of this unit.

**[SLOT2]:** Controls via the function board inserted to the SLOT2 of this unit.

### ■ [Display ID]

Set the ID number for controlling the Display unit with [Controller ID function] and [Serial ID function].

**0 to 100** (Standard value: 0)

### ■ [Controller ID function]

Enables/disables the remote control ID function.

**[Off]:** Disables the remote control ID function. (Your remote control works as a normal remote control.)

**[On]:** Enables the remote control ID function. It is enabled as soon as you switch to [On].

**Note**

- You need to set the ID number for the remote control and the ID number for the display to use the remote control ID function. Refer to page 143 for setting the remote control ID number.
- For instructions on how to restore the settings to the standard value, refer to “Restoring the remote control user level to the standard value” (page 149).

### ■ [Serial ID function]

Set to control with the display ID number from a PC connected to the SERIAL terminal.

**[Off]:** Disables external control with an ID.

**[On]:** Enables external control with an ID.

### ■ [Serial response (Normal)]

Sets whether to send the response command to normal commands without ID.

**[Off]:** No response returned. (Including the inquiry command)

**[On]:** Response returned.

### ■ [Serial response (ID all)]

Sets whether to return a response command or not when the ID number “0” serial command is received.

**[Off]:** No response returned.

**[On]:** Response returned.

### ■ [Serial ID group]

When controlling multiple displays simultaneously via serial communication, when using the multi display settings, for example, sets those displays as one group.

**A to G** (7 groups)

### ■ [Serial response(ID group)]

Sets whether to return a response command or not when a serial command specified as a group is received.

**[Off]:** No response returned.

**[On]:** Response returned.

### ■ [Serial daisy chain position]

Sets the first and the last terminals of the daisy chain connection when serial-controlling this unit by the daisy chain connection via DIGITAL LINK.

**---:** When controlling this unit alone with serial control, or connecting at a position other than the first and last terminals in a daisy chain

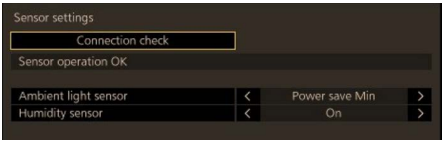
**[Top]:** When connecting at the first terminal in a daisy chain

**[End]:** When connecting at the last terminal in a daisy chain

## [Sensor settings]

Check the connections of the sensor modules connected to the power box and make settings for them.

[Sensor settings] submenu screen




### ■ [Connection check]

Checks the connections of the sensors.

The following messages are displayed according to the status.

| Status | Display |
|---|---|
| Connected | [Sensor operation OK] |
| When not connected | [Check the sensor connection.] |

**Note**

- Make the settings after [Sensor operation OK] is displayed.

### ■ [Ambient light sensor]

Sets the operation of the lighting sensor.

**[Off]:** No operation.

**[Power save Min], [Power save Max]:**

Automatically adjusts the brightness of the LED according to the viewing environment.

[Power save Max]: Adjusts for a bright environment.

[Power save Min]: Adjusts for a dark environment.

### ■ [Humidity sensor]

Sets the operation of the humidity sensor.

**[Off]:** No operation.

**[On]:** Operates.

## [Panel settings]

As a measure against image retention on the LED panels, this function makes calibrations automatically by anticipating the degradation rate of LED panels so images appear even.


**[Pixel calibration mode]:**

Performs calibration automatically according to calculations of the degradation rate of LED panels.

**[Pixel calibration level]:**

Sets the level of calibration when performing the automatic calibration process.

**[Off]:** Automatic calibration not performed. (Only the degree of degradation of the LED panel is calculated.)

**[Low]:** Automatic calibration is performed with a calibration value -2% of the calculated degradation rate.

**[Mid]:** Automatic calibration is performed according to the calculated degradation rate.

**[High]:** Automatic calibration is performed with a calibration value +2% of the calculated degradation rate.

## [Information timing]

Set the function for notifying of no signal warnings and errors and of ambient temperature increases.

**RS-232C controls:**

Warning or error message sent from the unit automatically.

**LAN controls:**

Warning or error message acquired from the unit.

[Information timing] submenu screen


### ■ [No signal warning]

When set to [On], the unit sends out the no signal warning.

### ■ [No signal warning timing]

Set up the detecting time for no signal warning.

(Range: 01 to 60, interval: 1 minute)

### ■ [No signal error]

When set to [On], the unit sends out the no signal error.

### ■ [No signal error timing]

Set up the detecting time for no signal error.

(Range: 01 to 90, interval: 1 minute)

- [No signal warning] and [No signal error] are not notified when no signal is detected due to the operation of one of the following functions:

  No signal power off, Power management for any of the inputs (see page 55).

Setting example:

- If no signal is detected during HDMI1 input, [HDMI1 power management] activates first and the unit switches to standby mode.

  No signal warning timing: 5 minutes

  No signal error timing: 10 minutes

  HDMI1 power management: On (60 seconds)

**Note**

- [No signal error timing] cannot be made shorter than [No signal warning timing].
- Even when a USB memory device is connected or the internal memory is accessed, if there is no playable file, the unit determines no signal is present.

### ■ [Temperature warning]

When set to [On], the unit sends out the warning about the temperature of the unit.

## [Mode settings]

Sets various operations.

[Mode settings] submenu screen


### ■ [Use memory select]

Selects the memory to be used.

**[USB]:** A USB memory device is used.

**[Internal memory]:** The internal memory is used.

### ■ [USB connect setting]

Sets the connection destination of the USB terminal.

**[Auto]:** Connection destination switched according to the input settings.

SLOT1: Connects to SLOT1

SLOT2: Connects to SLOT2

Other inputs: Connects to the internal system of this unit

**[SLOT1]:** Connects to SLOT1.

**[SLOT2]:** Connects to SLOT2.

**[Internal]:** Connects to the internal system of this unit. Operation is the same as that for the USB terminal.

**Note**

- When the [USB connect. switch.] function is executed, this setting is disabled. Set it again to enable it.

### ■ [LAN terminal setting]

Selects a terminal for LAN control.

**[LAN terminal]:** Controls from the LAN terminal of the main unit.

**[SLOT1]:** Controls from the LAN control terminal of SLOT1.

**[SLOT2]:** Controls from the LAN control terminal of SLOT2.

**Note**

- The LAN control terminal of the DIGITAL LINK Terminal Board does not support daisy chain connection for LAN control.

## [Restriction settings]

Sets various operation restrictions.

[Restriction settings] submenu screen


### ■ [Maximum VOL function]

Enables/disables the maximum VOL function.

**[Off]:** The sound volume level can be set up to 100 (maximum).

**[On]:** The volume cannot be set to the level higher than the level set for [Maximum VOL level].

### ■ [Maximum VOL level]

Sets the sound volume for when the maximum VOL function is enabled.

**Note**

- The sound is output with the set volume while [Maximum VOL level] is selected on the menu in [On] state.
- When the [Maximum VOL function] is switched from [Off] to [On], if the [Maximum VOL level] is set lower than the [Initial VOL level], the [Initial VOL level] automatically becomes the same as the [Maximum VOL level].

### ■ [Controller user level]

Limits operation of the buttons on the remote control.

**[Off]:** You can use all of the buttons on the remote control.

**[User1]:** Only the power button, <INPUT>, <RECALL>, <MUTE>, <VOL ->, and <VOL +> can be used.

**[User2]:** Only the power button can be used.

**[User3]:** None of the buttons can be used.

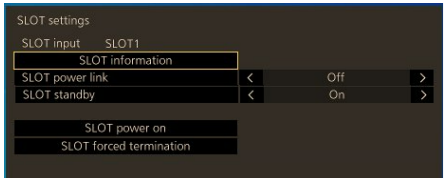
**Note**

- For instructions on how to restore the settings to the standard value, refer to “Restoring the remote control user level to the standard value” (page 149).

## [SLOT settings]

Display information and make settings for either SLOT1 or SLOT2, depending on which slot has been selected as the input.

Example: Submenu screen when SLOT is selected as input immediately prior




### ■ [SLOT Input]

Displays the information of the function board inserted to the SLOT displayed in [SLOT Input].

### ■ [SLOT information]

Displays the information of the function board inserted to the SLOT displayed in [SLOT Input].

### ■ [SLOT power link]

Links the power operation of the SLOT displayed in [SLOT Input] with the power operation of this unit.

**[Off]:** Does not link.

**[On]:** When input is switched to the SLOT displayed in [SLOT Input], this unit turns off if the power of the inserted function board is turned off or switches to power saving mode. Then when the power of the function board is turned on or it is restored from the power saving mode, this unit is turned on.

**Note**

- This menu will be grayed out and cannot be set when [HDMI-CEC control] is set to [Enable]. (see page 59)
- When a board that does not support SLOT power link (a DIGITAL LINK Terminal Board, for example) is attached, [SLOT power link] is grayed out and cannot be set.

### ■ [SLOT standby]

Sets the power supply status for the SLOT displayed in [SLOT Input] when the unit is in standby mode.

**[Off]:** The power is not supplied to the SLOT displayed in [SLOT Input] when the power is turned off by the remote control, etc.

**[On]:** The power is supplied to the SLOT displayed in [SLOT Input] when the power is turned off by the remote control, etc.

**Note**

- When [SLOT standby] is set to [On], the power indicator in standby mode lights orange.
- This menu will be grayed out and cannot be set when [HDMI-CEC control] is set to [Enable]. (see page 59)
- When using a DIGITAL LINK Terminal Board, set [SLOT standby] to [On].

### ■ [SLOT power on]

Turns on the power of the SLOT displayed in [SLOT Input].

### ■ [SLOT forced termination]

Forcibly turns off the power of the SLOT displayed in [SLOT Input]. Use this only when the power cannot be turned off manually due to the problem of the operating system, etc.

# Using the network function

This unit has a network function and you can control displays connected to the network using your computer.

## Necessary environment for computers to be connected

First of all, confirm that your PC is equipped with LAN functionality.

Before connecting this unit to the PC, be sure to check the following settings:

### Check 1: LAN cable

- Connect the cables properly.
- Use LAN cables that are compatible with category 5e or above.

### Check 2: Wired LAN settings

**PC with a built-in wired LAN function**

- Switch on the wired LAN.

**PC without a built-in wired LAN function**

- Check that your wired LAN adapter is recognized properly and it is enabled.
- Install the wired LAN adapter driver beforehand. For details on how to install the driver, refer to the instructions accompanying the wired LAN adapter.

### ■ Web browser

A web browser is necessary to use web control.

- Compatible OS: Windows, Mac OS
- Compatible web browser:

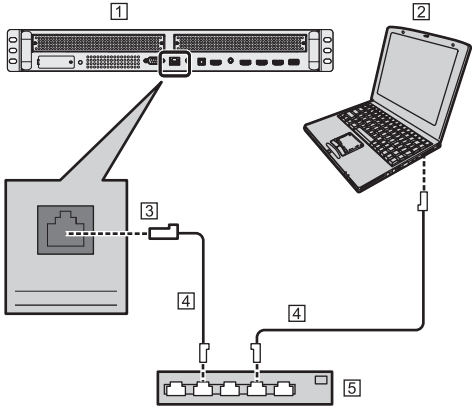
  Microsoft Edge (Windows)
  Safari 10.0/11.0/12.0/13.0/14.0 (Mac OS)

## Example of network connection

**Note**

- To use the network function, set each item in [Network settings] and make sure to set [Network control] to [On]. (see page 68)
  When it is set to [On], the power indicator lights orange when the power is turned off with the remote control (standby).
- When using the DIGITAL LINK IN / LAN terminal for LAN control, select [Setup] - [Mode settings] menu, and set [LAN terminal setting] to the SLOT where the DIGITAL LINK IN / LAN terminal is attached.

### ■ LAN terminal connection




1 Control box (front)
2 PC
3 LAN terminal
4 LAN cable (commercially available)
5 Hub or broadband router

**Note**

- Use shielded LAN cables. Picture noise may occur if you do not use shielded cables.
- Make sure the broadband router or hub supports 10BASE-T / 100BASE-TX.
- Touching the LAN terminal with a statically charged hand (body) may cause damage to the device due to its discharge.
  Do not touch the LAN terminal or the metal parts of the LAN cables.
- For instructions on connection, consult your network administrator.

## Command control

The networking feature of this unit enables the same control of this unit over a network as serial control.

**Supported commands**

This unit supports commands used with serial controls. (see page 21)

## Control commands via LAN

The communication differs whether [Setup] - [Network settings] menu - [LAN control protocol] is set to [Protocol 1] or [Protocol 2].

### 1. When [LAN control protocol] is set to [Protocol 1].

Communicates using the display-specific protocol.

**How to connect**

1 Get the IP address and port number (initial setting is 1024) of the display and request a connection to the display.

Get the IP address and port number from the following menus:

- IP address: [Setup] → [Network settings] → [LAN setup] or [Network status]
- Port number: [Setup] → [Network settings] → [LAN setup]

● Refer to page 70 for setting details.

2 There is a response from the display.

Response data

| Data part | Space | Mode | Space | Random number | Terminal symbol |
|---|---|---|---|---|---|
| "PDPCONTROL" (ASCII character string) | " " 0x20 | "1" 0x31 | " " 0x20 | "zzzzzzzz" (ASCII code hex number) | (CR) 0x0d |
| 10 bytes | 1 byte | 1 byte | 1 byte | 8 bytes | 1 byte |

Mode: 1 = Protect mode

3 Use an MD5 algorithm to generate a 32-byte hash value from the following data.

"zzzzzzzzyyyyy"

zzzzzzzz: 8-byte random number acquired in step 2

yyyyy: Password set in [Administrator account settings]

**Transmitting commands**

Use the following command formats to transmit:

Transmitted data

| Header | Control symbol | Data part | Control symbol | Terminal symbol |
|---|---|---|---|---|
| Hash value (see "How to connect") | (STX) 0x02 | Control command (ASCII character string) | (ETX) 0x03 | (CR) 0x0d |
| 32 bytes | 1 byte | Undefined length | 1 byte | 1 byte |

Received data

| Control symbol | Data part | Control symbol | Terminal symbol |
|---|---|---|---|
| (STX) 0x02 | Control command (ASCII character string) | (ETX) 0x03 | (CR) 0x0d |
| 1 byte | Undefined length | 1 byte | 1 byte |

Error response

| Error message | | Terminal symbol |
|---|---|---|
| "ERR1" | Undefined control command | (CR) |
| "ERR2" | Out of parameter range | 0x0d |
| "ERR3" | Busy status or reception invalid period | |
| "ERR4" | Timeout or reception invalid period | |
| "ERR5" | Wrong data length | |
| "PDPCONTROL ERRA" | Mismatching password | |
| 4 bytes or 15 bytes | | 1 byte |

### 2. When [LAN control protocol] is set to [Protocol 2].

Communicates with the same protocol as that of a Panasonic projector

**How to connect**

1 Get the IP address and port number (initial setting is 1024) of the display and request a connection to the display.

Get the IP address and port number from the following menus:

- IP address: [Setup] → [Network settings] → [LAN setup] or [Network status]
- Port number: [Setup] → [Network settings] → [LAN setup]

● Refer to page 70 for setting details.

**2** There is a response from the display.

Response data

| Data part | Space | Mode | Space | Random number | Terminal symbol |
|---|---|---|---|---|---|
| "NTCONTROL" (ASCII character string) | " " 0x20 | "1" 0x31 | " " 0x20 | "zzzzzzzz" (ASCII code hex number) | (CR) 0x0d |
| 9 bytes | 1 byte | 1 byte | 1 byte | 8 bytes | 1 byte |

Mode: 1 = Protect mode

**3** Use an MD5 algorithm to generate a 32-byte hash value from the following data.

"xxxxxx:yyyyy:zzzzzzzz"

xxxxxx: User name set in [Administrator account settings]

yyyyy: Password set in [Administrator account settings] above

zzzzzzzz: 8-byte random number acquired in step 2

### Transmitting commands

Use the following command formats to transmit:

Transmitted data

| Header | | | Data part | Terminal symbol |
|---|---|---|---|---|
| Hash value (see "How to connect") | '0' 0x30 | '0' 0x30 | Control command (ASCII character string) | (CR) 0x0d |
| 32 bytes | 1 byte | 1 byte | Undefined length | 1 byte |

Received data

| Header | | Data part | Terminal symbol |
|---|---|---|---|
| '0' 0x30 | '0' 0x30 | Control command (ASCII character string) | (CR) 0x0d |
| 1 byte | 1 byte | Undefined length | 1 byte |

Error response

| Error message | | Terminal symbol |
|---|---|---|
| "ERR1" | Undefined control command | (CR) 0x0d |
| "ERR2" | Out of parameter range | |
| "ERR3" | Busy status or reception invalid period | |
| "ERR4" | Timeout or reception invalid period | |
| "ERR5" | Wrong data length | |
| "ERRA" | Mismatching password | |
| 4 bytes | | 1 byte |

**Note**

- There are some commands where some parts of the character strings in the sent data are not included in the received data.
- Consult your local Panasonic dealer for detail instructions on command usage.
  For more details, visit the following web site.
  https://docs.connect.panasonic.com/prodisplays/

## PJLink protocol

The networking feature of this unit supports PJLink Class 1 and Class 2, and it enables the following types of operations to be performed from a PC using the PJLink protocol:

- Display settings
- Display status query

### Supported commands

The following table shows the commands for controlling the unit with the PJLink protocol.

| Class | Command | Control description |
|---|---|---|
| 1 | POWR | Power control<br>0: Standby<br>1: Power on |
| 1 | POWR? | Power status query<br>0: Standby<br>1: Power on |
| 1,2 | INPT | Input switching<br>*Refer to the parameters for the INST? command. |
| 1,2 | INPT? | Input switching query<br>*Refer to the parameters for the INST? command. |
| 1 | AVMT | Shutter control<br>10: Images on (Image mute canceled)<br>11: Images off (Image mute)<br>20: Audio on (Audio mute canceled)<br>21: Audio off (Audio mute)<br>30: Shutter mode off (Image mute, Audio mute canceled)<br>31: Shutter mode on (Image mute, Audio mute) |
| 1 | AVMT? | Shutter control query<br>11: Images off (Image mute)<br>21: Audio off (Audio mute)<br>30: Shutter mode off (Image mute, Audio mute canceled)<br>31: Shutter mode on (Image mute, Audio mute) |

| | | |
|---|---|---|
| 1 | **ERST?** | Error status query<br>First byte: 0<br>Second byte: 0<br>Third byte: 0<br>Fourth byte: 0<br>Fifth byte: 0<br>Sixth byte: Means some other error, either 0 or 2<br>• 0 or 2 means the following:<br>0 = No error detected, 2 = Error |
| 1,2 | **INST?** | Input switching list query<br>31: HDMI IN 1 input (HDMI1)<br>32: HDMI IN 2 input (HDMI2)<br>33: HDMI IN 3 input (HDMI3)<br>34: SLOT1 input (SLOT1)<br>35: SLOT2 input (SLOT2)<br>41: USB / Internal Memory input (USB/internal memory)<br>42: MEMORY VIEWER input (MEMORY VIEWER)<br>51: Screen Transfer input (Screen Transfer) |
| 1 | **NAME?** | Display name query<br>Responds with details of the network settings display name setting. |
| 1 | **INF1?** | Manufacturer name query<br>Responds with “Panasonic”. |
| 1 | **INF2?** | Model name query<br>Responds with “110AD12AW”.<br>(When the model is 110V AD12A) |
| 1 | **INFO?** | Miscellaneous information query<br>Responds with version number. |
| 1 | **CLSS?** | Class information query<br>Responds with “2”. |
| 2 | **SNUM?** | Serial number query<br>Responds with serial number. |
| 2 | **SVER?** | Software version query<br>Responds with version number. |
| 2 | **INNM?** | Input terminal name query<br>Responds with input terminal name.<br>31: HDMI1<br>32: HDMI2<br>33: HDMI3<br>34: SLOT1<br>35: SLOT2<br>41: USB / Internal Memory<br>42: MEMORY VIEWER<br>51: Screen Transfer |
| 2 | **IRES ?** | Input signal resolution query<br>Responds with input signal resolution. |
| 2 | **RRES ?** | Recommended resolution query<br>Responds with “1920x1080”. |
| 2 | **SVOL** | Volume of AUDIO OUT or volume of DIGITAL AUDIO OUT<br>0: Reduces volume.<br>1: Increases volume. |
| 2 | **LKUP** | Linkup notification<br>Notifies the MAC address when PJLink communication is available. |
| 2 | **SRCH** | Display search<br>A device with PJLink class 2 communication capabilities connected within the same network returns its MAC address. |

### PJLink security authentication

Set the password used for PJLink in [PJLink settings] → [Password]. (see page 68)

When using PJLink without authentication, set no password (field blank).

- Concerning the specification of PJLink, see the website of Japan Business Machine and Information System Industries Association (JBMIA) below:
https://pjlink.jbmia.or.jp/english/index.html

## Multi Monitoring & Control Software

This unit supports “Multi Monitoring & Control Software” which monitors and controls devices (projectors or displays) connected to an intranet.

- For more details, visit the following website: https://docs.connect.panasonic.com/prodisplays/

## Content Management Software

This unit supports “Content Management Software” to create schedule data on a PC required to play back still pictures and motion pictures. (Supports Ver.4.0.2 or later.)

- For more details, visit the following website: https://docs.connect.panasonic.com/prodisplays/

## Screen Transfer

This unit supports the software [Screen Transfer] that sends the PC screen to the display via LAN.

[Screen Transfer] can be downloaded from [Download] in the Web browser control.

(see page 114)

- For more details, visit the following website: https://docs.connect.panasonic.com/prodisplays/

# Connecting with LAN

**Note**

- To use the network function, set each item in [Network settings] and make sure to set [Network control] to [On]. (see page 68)

## PC operation

**1 Turn on the PC.**

**2 Make the network settings according to the instructions of your system administrator.**

When the settings of this unit are the default settings (see page 148), the PC can be used with the following network settings:

| | |
|---|---|
| **IP address** | 192.168.0.9 |
| **Subnet mask** | 255.255.255.0 |
| **Gateway** | 192.168.0.1 |

# Using Web browser control

You can use a web browser to control the unit and set up a network and password.

## Before using Web browser control

Settings on this unit and on the PC are required to use Web browser control.

### ■ Web browser

Set each item in [Network settings] on this unit and be sure to set [Network control] to [On]. (see page 68)

**Note**

- Even if the setting is [Off], the Web browser control screens that do not control this unit (display information [Status], detailed settings [Detailed set up] and password change [Change password]) operate.

### ■ PC settings

Disable the proxy server settings and enable JavaScript.

- The setting procedure differs depending on the version. Please refer to description in HELP, etc. of the software.

**(Windows)**

Windows 10 is used as an example.

**Disable proxy server settings**

1 Display [Internet Properties] window. Click [Start] → [Settings] → [Network & Internet] → [Ethernet] → [Network and Sharing Center] → [Internet Options].

2 Click the [Connections] tab and then [LAN Settings].

3 Deselect the [Use automatic configuration script] and [Use a proxy server for your LAN] boxes.

4 Click [OK].

**Enable JavaScript**

1 Display [Internet Properties] window.
Click [Start] → [Settings] → [Network & Internet] → [Ethernet] → [Network and Sharing Center] → [Internet Options].
2 Set the security level on the [Security] tab to [Default Level]. Alternatively, enable [Active scripting] from the [Custom Level] button.

**(Mac)**

**Disable proxy server settings**

1 From the [Safari] menu, click [Preferences]. General screen is displayed.
2 From the [Advanced] tab, click the [Change Settings…] button next to [Proxies].
Click [Proxies] and set up a proxy server.
3 Deselect the [Web Proxy] and [Automatic Proxy Configuration] boxes.
4 Click [Apply Now].

**Enable JavaScript**

1 Display [Security] of Safari.
2 Select [Enable JavaScript] under [Web content].

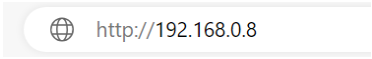
## Access from web browser

Access to the TOP screen of the web browser control using a web browser.

### 1 Start your web browser.

### 2 Enter the IP address set with the [LAN setup] of the unit.

(see page 70)



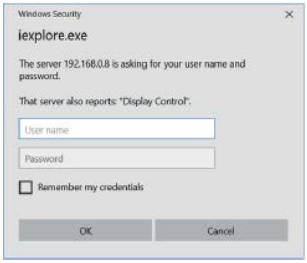

When the user name and password have been set in [Administrator account settings] (see page 29, 68) or with the web control function, proceed to step 3. When they have not been set and the web control function is used for the first time, proceed to step 4.

Do the same in the case of user privileges.

### 3 Enter the user name and password when the Authentication screen is displayed.

Proceed to step 7.

When the password has not been set with the user privileges, click [Ok] and proceed to step 4.




### 4 Set user name and password.

The Change User name / Password page is displayed.

**For Administrator**


**For User**

**5 Enter the new user name and password, and then click [Change].**

The screen of step 3 is displayed again.

**6 Enter the new user name and password.**

Enter the new user name and password set in step 5.

**7 Click [Ok].**

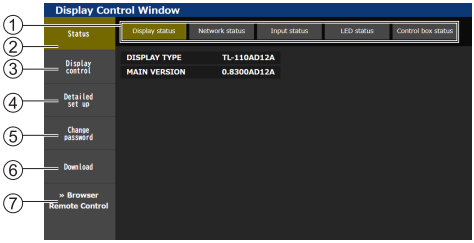
**Note**

- The password used here is the same as the password specified in [Network settings] - [Administrator account settings]. (see page 68)
- The default settings are as described below:
  - Administrator privileges
    Specify the user name and password you set in [Administrator account settings]. (see page 68)
  - User privileges
    User name: dispuser
    Password: None

  Change the password first.
- When [Reset] for [Network settings] of this unit is executed, the password change is also required after log-in. (see page 74)
- The password can be changed on the Password Setup screen after logging in (see page 101). The user name can be changed when connecting by logging in with administer privileges.
- If a wrong user name/password is entered 3 times in succession when you log in, the access screen will be locked for several minutes.
- When using [Detailed set up] (see page 96), log in with the administrator rights.
- Depending on the web browser, displayed operations may differ.
- Under no circumstances, Panasonic Connect Co., Ltd. or its associated companies will ask customers their password directly.
  Even if you are asked directly, please do not reveal your password.

## Operating with web browser

### ■ Description of each section




① **Page tabs**
Click these to switch pages.

② **[Status]**
Click this item, and the status of the Display is displayed.

③ **[Display control]**
Click this item, and the Display control page is displayed.

④ **[Detailed set up]**
Click this item, and the Detailed set up page is displayed.

⑤ **[Change password]**

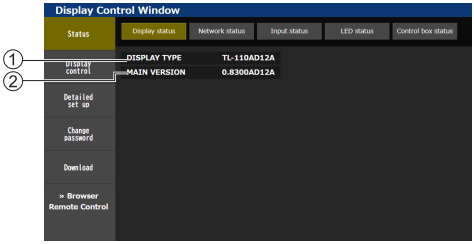
⑥ **[Download]**
Click this item, and the download page for the dedicated application [Screen Transfer] is displayed.

⑦ **[Browser Remote Control]**
Click this item to display the Browser Remote Control on the web browser, which is the same as the supplied remote control.

### ■ Display status page

Displays the unit's status.

Click [Status] → [Display status].




① Displays the type of display.

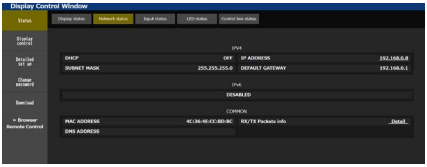
② Displays the firmware version of the display.

## ■ Network information page

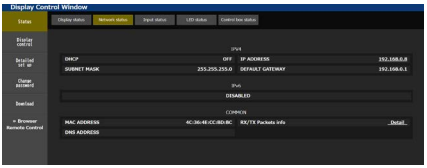
Displays the setting information for the current network (wired LAN).

Click [Status] → [Network status].

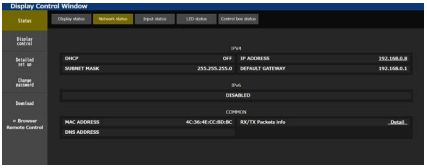
(1) When IPv4 is set




(2) When IPv6 is set




(3) When IPv4 & IPv6 is set




## ■ Input information page

Displays information about the unit's input.

Click [Status] → [Input status].


① Displays information about the input terminal.

② Displays information about the input signal.

③ Displays the input image in a simple image.

**Note**

- If an input is other than USB/Internal Memory input or MEMORY VIEWER input, the name of the input signal is displayed.
- In the case of USB/Internal Memory input and MEMORY VIEWER input, the name of the file being played is displayed.
- [----] is displayed in standby mode.
- For HDCP protected image, no image is displayed.
- Depending on the settings of the display unit, the displayed image may differ from the original image.

## ■ LED panel information page

Displays the status information for the current LED panel.

Click [Status] → [LED status].


① Displays the LED panel number.

② Displays unlit information for the LED panel.

③ Displays temperature information for the LED cabinet.

④ Colors (normal: green, warning: yellow, error: red) are used to indicate the status of the LED panel or LED cabinet.

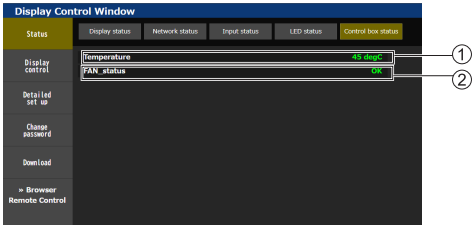
**Note**

- If the information could not be read due to a communication error, etc., gray is used to indicate that the status could not be determined.

## ■ Control box information page

Displays information about the status of the control box.

Click [Status] → [Control box status].



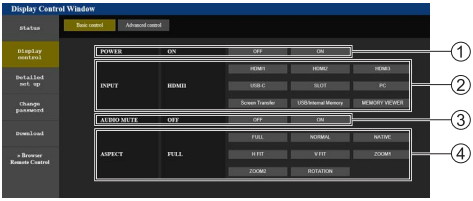

① Displays the internal temperature of the control box.

② Displays information about the status inside the control box.

## ■ Basic control page

The basic operations of the unit can be performed.

Click [Display control] → [Basic control].




① Power On/Off control

② Input switching

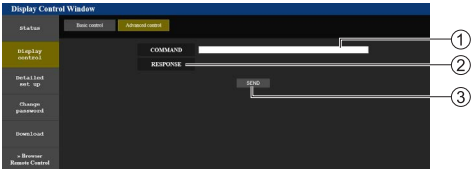
③ AUDIO mute

④ Switches the screen mode

## ■ Advanced control page

Operations of advanced functions of the unit can be performed.

Click [Display control] → [Advanced control].




① Enter a command. Use the same command used for the serial control.

② A response from the unit is displayed.

③ A command is sent and run.

**Note**

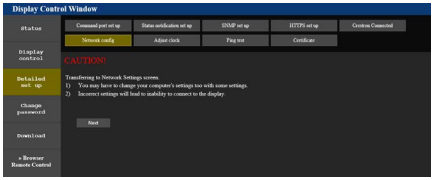
- After the settings are changed, it may take a while until the display status is displayed.
- The input button of the Panasonic DIGITAL LINK switcher (ET-YFB200G) is only displayed when input is switched to the SLOT to which the DIGITAL LINK switcher is connected.

## ■ Advanced settings

When connecting by logging in with administer privileges, you can make advanced network settings for the display.

## ■ LAN settings page

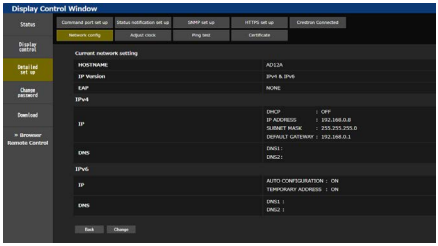
### 1 Click [Detailed set up] in the main menu.




### 2 Click [Next].

The settings window appears, showing the current settings.

- To change the LAN settings, click [Change].
- To return to the previous window, click [Back].

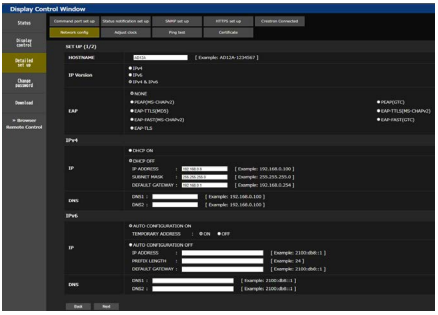


## 3 Complete the detailed settings and click [Next].

In this window, DNS server and HOSTNAME (up to 20 characters) settings can be made as well as address information set on the [LAN setup] menu of the display.

After all required items have been entered, click [Next]. Then, a window to confirm the entered content appears when [EAP] is set to [NONE].

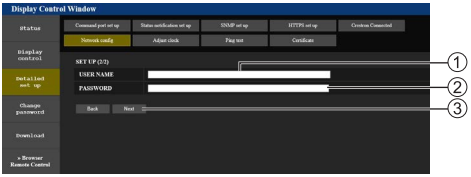
When [EAP] is set to items other than [NONE], the next page appears.



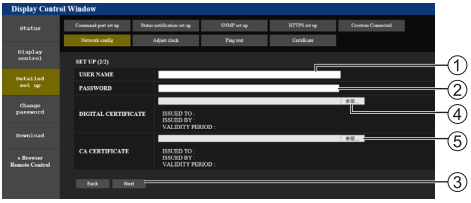

**Note**

- When [DHCP ON] is set, if the DNS server address is acquired from the DHCP server, the acquired address is valid.

When [EAP] is set to items other than [NONE] or [EAP-TLS]




When [EAP] is set to [EAP-TLS]




① **[USER NAME]**

Enter the user name for authentication with one-byte alphanumeric characters (excluding spaces). (Up to 64 characters)

② **[PASSWORD]**

Enter the password for authentication with one-byte alphanumeric characters. (Up to 64 characters)

③ **[Back], [Next]**

Click [Back] to return to the previous window. Click [Next] to display the screen to confirm the setting contents.

④ **[DIGITAL CERTIFICATE]**

Register the electronic certificate (extension: PFX) for authentication.

⑤ **[CA CERTIFICATE]**

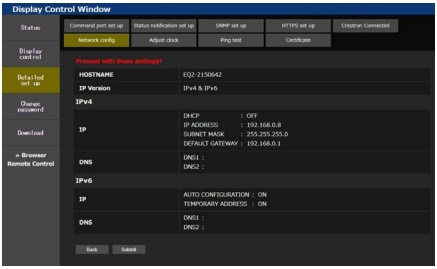
Register the CA certificate (extension: CER) for authentication.

**Note**

- When [EAP] is [EAP-TLS], date and time need to be set on the adjust clock page. (see page 98)

## 4 Click [Submit].

The settings will be registered.

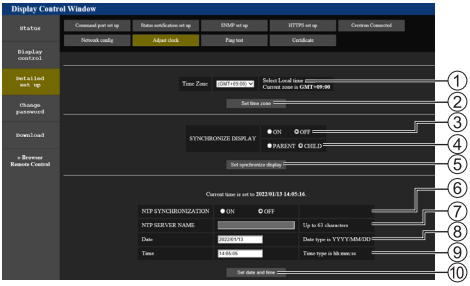



**Note**

- Changing the setting of LAN while connected with LAN might disconnect the connection.
- Depending on the settings for [LAN setup] and [Auto setting], contents displayed on the screen may differ.

## ■ Adjust clock page

Sets the clock-related items of this unit.
Click [Detailed set up] → [Adjust clock].



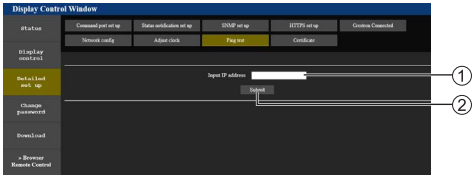

① Time zone selection field
(Japan is GMT+ 09.00)
② Time zone setting refresh button
③ Synchronize display selection field
④ Parent/Child selection field for synchronize display
⑤ Synchronize display setting refresh button
⑥ NTP synchronization selection field
⑦ NTP server input field
(When setting date and time with NTP synchronization, enter the IP address or server name. To enter the server name, setting the DNS server is required.)
⑧ Date entry field
⑨ Time entry field
⑩ NTP synchronization setting and date setting refresh button

**Note**

- Date and time are displayed as [- -] when they are not set.
- When [Network control] is set to [On] and it is in standby mode, date and time display will be blank and they cannot be set. Time zone, Synchronize display and NTP synchronization also cannot be set.
- When [SYNCHRONIZE DISPLAY] is set to [ON]/[CHILD], [NTP SYNCHRONIZATION] settings and [Date] and [Time] settings are not possible.
- When [NTP SYNCHRONIZATION] is [ON], [Date] and [Time] settings are not possible.
- If the time becomes incorrect immediately after setting the correct time, contact the dealer where you purchased the product.
- NTP synchronization is only possible in power-on state or in schedule standby state.

## ■ Ping test page

This page makes it possible to check whether the network is connected to the DNS server, etc.
Click [Detailed set up] → [Ping test].




① Enter the IP address of the server to be tested.
② Button for conducting the test

Example of the display when connection was successful

```
PING 192.168.0.60 (192.168.0.60): 56 data bytes
64 bytes from 192.168.0.60: seq=0 ttl=128 time=1.474 ms
64 bytes from 192.168.0.60: seq=1 ttl=128 time=1.255 ms
64 bytes from 192.168.0.60: seq=2 ttl=128 time=1.146 ms
64 bytes from 192.168.0.60: seq=3 ttl=128 time=1.052 ms

--- 192.168.0.60 ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 1.052/1.231/1.474 ms
```

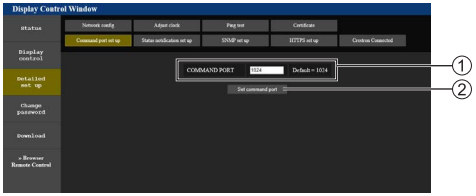
Example of the display when connection failed

```
PING 192.168.0.100 (192.168.0.100): 56 data bytes

--- 192.168.0.100 ping statistics ---
4 packets transmitted, 0 packets received, 100% packet loss
```

## ■ Command port set up page

Set the port number to be used with command control.
Click [Detailed set up] → [Command port set up].



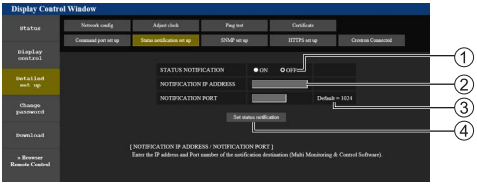

① Input the port number to be used with command control.
② Setting update button

## ■ Status notification set up page

Sets the IP address and port number of the PC where Multi Monitoring & Control Software (see page 91) is running when informing the PC of the status of this unit.

Click [Detailed set up] → [Status notification set up].

When the status notification is set, if the unit is malfunctioning and its power indicator is blinking red, the error details can be understood even from a location where the power indicator cannot be seen directly.




① Selection field of status notification

② IP address input field for notification destination PC

③ Port number input field for notification destination PC

④ Setting update button

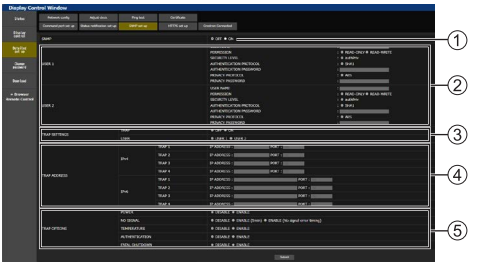
## ■ SNMP set up page

Sets the various items for SNMP.

SNMP (Simple Network Management Protocol) is a protocol to manage devices connected to the network.

If the SNMP manager is used for connection, the information of the target device can be obtained, and its settings can be changed.

Click [Detailed set up] → [SNMP set up].




① **[SNMP]:** Select to use the SNMP function.

② **[USER1], [USER2]:** Makes various settings for using SNMPv3.

**[USER NAME]:** Enter the user name.

**[PERMISSION]:** Select whether to obtain only information or to both obtain information and make the setting.

**[SECURITY LEVEL]:** This is authPriv on this model.

**[AUTHENTICATION PROTOCOL]:**

The authentication protocol on this model is SHA1.

**[AUTHENTICATION PASSWORD]:**

Set the authentication password.

**[PRIVACY PROTOCOL]:**

The encryption protocol on this model is AES.

**[PRIVACY PASSWORD]:**

Set the encryption password.

③ **[TRAP SETTINGS]**

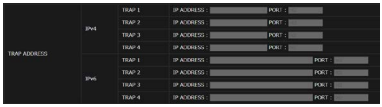
**[TRAP]:** Set to use the TRAP function.

**[COMMUNITY/USER]:**

Select the COMMUNITY/USER used when sending TRAP.

USER1 or USER2 can be set on this unit.

④ **[TRAP ADDRESS]**




**[IPV4-ADDRESS]:** Set the address for IPv4 for the SNMP manager notifying TRAP.

**[IPV4-PORT]:** Set the reception port number for TRAP IPv4 for the SNMP manager notifying TRAP.

**[IPV6-ADDRESS]:** Set the address for IPv6 for the SNMP manager notifying TRAP.

**[IPV6-PORT]:** Set the reception port number for TRAP IPv6 for the SNMP manager notifying TRAP.

⑤ **[TRAP OPTIONS]**

**[POWER]:** TRAP is sent if the unit enters the standby mode by Power management, No signal power off or No activity power off.

**[NO SIGNAL]:** TRAP is sent if no-signal continues in the following conditions:

**When set to [ENABLE(5min)]:**

TRAP is sent if no-signal continues for 5 minutes.

**When set to [ENABLE(No signal error timing)]:**

TRAP is sent if a no-signal error set with [Setup] – [Information timing] occurs. (see page 83)

**[TEMPERATURE]:** TRAP is sent if a temperature error occurs.

**[AUTHENTICATION]:**

TRAP is sent if the SNMP authentication fails.

**[FATAL SHUTDOWN]:**

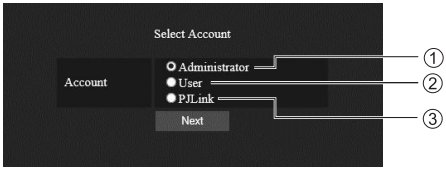
TRAP is sent if a fatal error that requires the power to be forcibly turned off occurs. However, not all fatal errors support TRAP.

**Note**

- This unit supports only SNMPv3.
- The maximum number of characters that can be used for a community name is 32 with one-byte alphanumeric characters.
- The maximum number of characters that can be used for a user name and password is 32 with one-byte alphanumeric characters.
  Note that the password must be set with 8 characters or more.
- Change the password periodically, and set one which is difficult to guess.
- The SNMP manager must be operating in the system configuration used.
  For MIB (Management Information Base) of this unit, see the website below.
  https://docs.connect.panasonic.com/prodisplays/
- For the settings of the SNMP manager, consult with the network administrator.

## ■ Change User name / Password page

Sets the password.
Click [Change password].

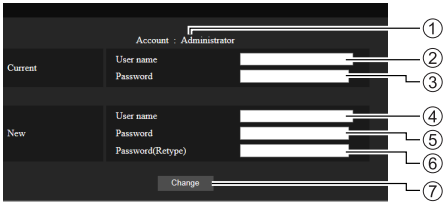



① Select [Administrator].

② Select [User].

③ Select [PJLink].

### About [Administrator]




① The account to be changed

② Current user name input field

③ Current password input field

④ New user name input field

⑤ New password input field

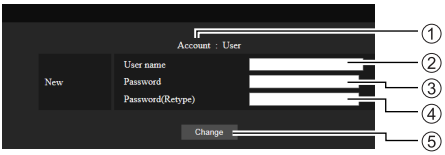
⑥ New password input field (re-enter for confirmation)

⑦ Button for executing password change

**Note**

- If this unit has already been registered to application software such as Multi Monitoring & Control Software that uses communication control via LAN, changing an Administrator user name or password will disable the communication with this unit.
  If the Administrator user name or password is changed, update the registration information of applicable application software.

### About [User]




① The account to be changed

② New user name input field

③ New password input field

④ New password input field (re-enter for confirmation)

⑤ Button for executing password change

### Password change (user privileges)

Only password change is enabled when using user privileges.


① Current password input field

② New password input field

③ New password input field (for confirmation)

④ Button for executing password change

**Note**

- Alphanumeric characters can be used for a user name.
- Up to 16 characters can be used for a user name and a password.
- Enter both “current user name” and “current password” when changing the administrator account.
- When changing the account for logging in with administrator privileges:
  - It is recommended not to use the current user name/password or default values for a new user name/password.
- When changing the password for logging in with user privileges:
  - It is recommended not to use the same password for the new password as the old password, or to use the same password as the default setting.
- It is recommended not to use the same password as your PC or other devices.
- For password complexity (for both administrator privileges and user privileges) it is recommended to:
  Include at least 3 kinds of characters from the following 4, and use 8 or more characters.
  - Uppercase alphabet (A to Z)
  - Lowercase alphabet (a to z)
  - Numbers (0 to 9)
  - Special characters
    (~ ! @ # $ % ^ & * ( ) _ + | } { [ ] < > . , / ? ‘ etc.)

It is recommended to set the password using the above types of characters without leaving the password field blank.

### About [PJLink]


① Password input field

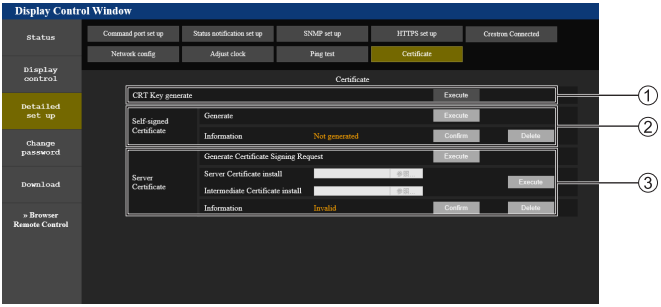
**Note**

- Only setting is required for the PJLink password input.
- Up to 16 characters can be used for a password.
- When changing the password for logging in with user privileges:
  - It is recommended not to use the same password for the new password as the old password, or to use the same password as the default setting.
- It is recommended not to use the same password as your PC or other devices.
- For password complexity (for both administrator privileges and user privileges) it is recommended to:
  Include at least 3 kinds of characters from the following 4, and use 8 or more characters.
  - Uppercase alphabet (A to Z)
  - Lowercase alphabet (a to z)
  - Numbers (0 to 9)
  - Special characters
    (~ ! @ # $ % ^ & * ( ) _ + | } { [ ] < > . , / ? ‘ etc.)

## ■ Certificate page

To perform the HTTPS communication or use the control system or application software of Crestron Electronics, Inc., it is necessary to install the certificate for authentication into the Display.

Click [Detailed set up] → [Certificate].




**①[CRT Key generate]**

Generates the CRT (Certificate) key.

The page to generate the CRT key is displayed by clicking [Execute].

For details, refer to “Generating the CRT key” (see page 104).

**②[Self-signed Certificate]**

**[Generate]:**

Generates the self-signed certificate by this unit.

The page to generate the self-signed certificate is displayed by clicking [Execute].

For details, refer to “Generating a self-signed certificate” (see page 108).

**[Information]:**

Displays the status of the self-signed certificate.

- **[Not generated]:**
  Self-signed certificate is not generated
- **(host name):**
  Self-signed certificate is generated and valid.
  The host name registered in the self-signed certificate is displayed.
- **[Invalid] (Reason: Server Certificate installed):**
  The server certificate is valid, so the generated self-signed certificate is invalid.

Information of the generated self-signed certificate is displayed by clicking [Confirm].

The generated self-signed certificate can be deleted by clicking [Delete].

For details, refer to “Confirming the information of the self-signed certificate” (see page 109).

**③[Server Certificate]**

**[Generate Certificate Signing Request] (CSR):**

The page to generate the signing request is displayed by clicking [Execute].

For details, refer to “Generating the signing request” (see page 106).

**[Server Certificate install]/[Intermediate Certificate install]:**

Installs the server certificate and the intermediate certificate.

The certificate is installed into the unit by specifying the certificate file and clicking [Execute].

For details, refer to “Installing the certificate” (see page 107).

**[Information]:**

Displays the status of the server certificate.

- **[Invalid]:** The server certificate is not installed. Or, the current CRT key is different from the CRT key used for requesting the installed server certificate.
- **(host name):** The server certificate is installed and valid.
  The host name registered in the server certificate is displayed.
- **[Expired]:** Valid period of the server certificate has expired.

The host name registered in the server certificate is displayed when the server certificate is installed and valid.

Information of the installed server certificate is displayed by clicking [Confirm].

The installed server certificate and the intermediate certificate can be deleted by clicking [Delete].

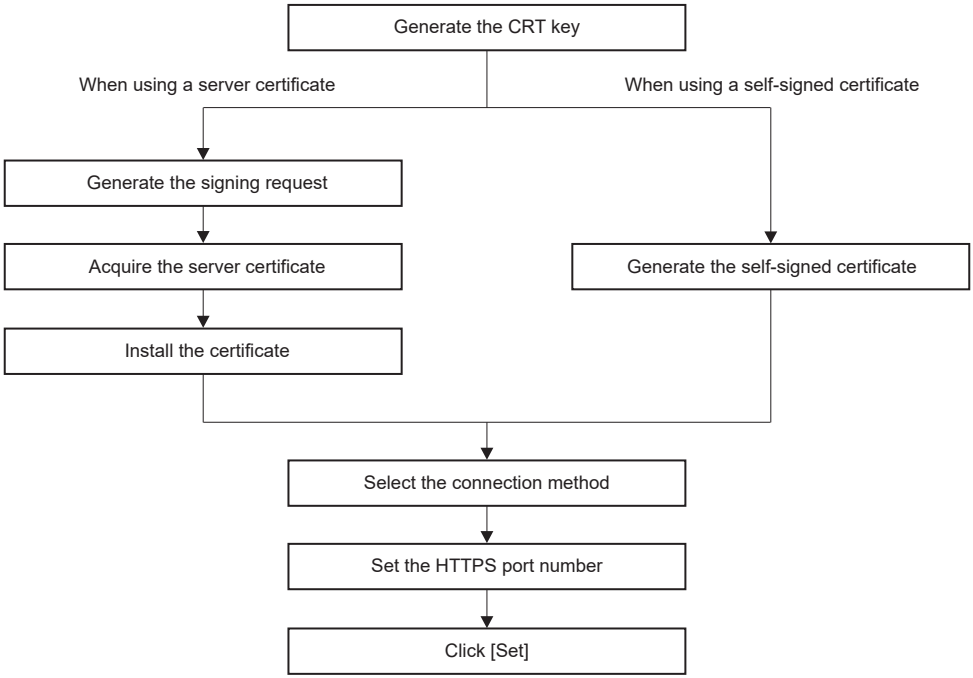
For details, refer to “Confirming the information of the server certificate” (see page 107).

**Note**

- Depending on the PC or web browser, operations to install certificates may not be possible.

**Flow for setting**

The flow for setting depends whether a server certificate or a self-signed certificate is to be used as the security certificate.




**Note**

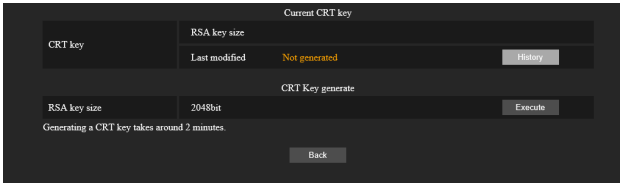
- When using a server certificate, the procedure from applying to the certification organization to the issuing of the server certificate is to be performed between the customer and the certification organization. Contact the certification organization for information on how to apply.

### Generating the CRT key

Generate the CRT key used for encryption with the RSA (Rivest-Shamir-Adleman cryptosystem) public key encryption method. CRT key is a type of the private key.

**1 Click [Certificate] → [CRT Key generate] → [Execute].**

The page to generate the CRT key is displayed.




**2 Click [Execute]**

When generating the CRT key for the first time, a message (shown below) is displayed after the CRT key is generated. Proceed to step **4**.

[CRT key - Generated]

When generating the CRT key for the second time or later, the following message is displayed:

[The CRT key will be generated. In updating the CRT key, the Server Certificate corresponds to the current CRT key will become unavailable. Continue?]

**3 Click [OK].**

The CRT key will be generated and the following message will be displayed:

[CRT key - Generated]

**4 Click [OK].**

Clicking [Certificate] → [CRT Key generate] → [Execute] again can confirm the key length and generation date and time of the current CRT key with the [RSA key size] and [Last modified] of [Current CRT key] at the upper row of the CRT key generation page.

**Note**

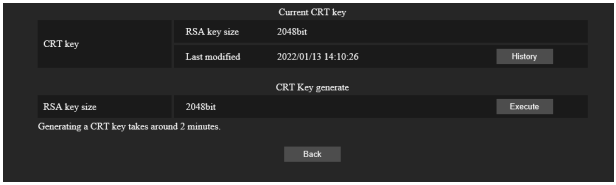
- [Not generated] displayed next to [Last modified] indicates that the CRT key has not been generated.
- [RSA key size] is fixed to [2048bit]. The server certificate may not be issued depending on the certification organization you are applying to if the key length is 2048-bit.
- Generation of the CRT key may take up to approximately two minutes.
- When the CRT key is updated, apply for the server certificate or generate the self-signed certificate again using that CRT key. A certificate linked to the CRT key is required.
- Previously generated CRT key information is saved even if the CRT key is updated. To return to the previous CRT key, refer to “Canceling the update of the CRT key” (see page 105).

**Canceling the update of the CRT key**

Even if you have updated the CRT key, you can return one time only to the previouslygenerated CRT key.

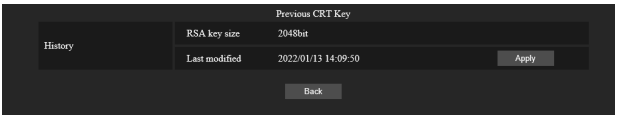
## 1 Click [Certificate] → [CRT Key generate] → [Execute].

The page to generate the CRT key is displayed.




## 2 Click [History].

The following details are displayed:




## 3 Confirm [RSA key size] and [Last modified] of the CRT key to restore.

## 4 Click [Apply].

The following confirmation message is displayed:

[The previous CRT key will be loaded. Please generate Self-signed Certificate or install the Server Certificate corresponds to the CRT key. Continue?]

## 5 Click [OK]

The previously generated CRT key is reflected as the current CRT key.

**Note**

- When returned to the previously generated CRT key, a certificate linked to that CRT key is required.

### Generating the signing request

When using the server certificate issued by the certification organization as a security certificate, generate a signing request necessary for application of issuing to the certification organization. Generate the signing request after generating the CRT key.

## 1 Click [Certificate] → [Generate Certificate Signing Request] → [Execute].

The page to generate the signing request is displayed.


## 2 Enter the information required for application.

The details of each item are as follows. Enter the information following the requirement of the certification organization to apply.

| Item | Details | | Character length limit |
|---|---|---|---|
| [Common Name] | Enter the Display name or the IP address set in the Display. | | 64 characters |
| [Country] | Enter the country code defined in ISO 3166-1 alpha-2 (two uppercase alphabets). | | — |
| [State] | Enter the name of the state, prefecture, etc. | | 128 characters |
| [Locality] | Enter the name of the town or locality. | | 128 characters |
| [Organization] | Enter the name of the organization. | | 64 characters |
| [Organization Unit] | Enter the name of the department in the organization. | | 64 characters |
| [CRT key] | [RSA key size] | Displays the length of the current CRT key. | — |
| | [Last modified] | Displays the date and time the current CRT key was generated. | — |

## 3 Click [OK]

The signing request file is generated. Enter a file name and save the file in the desired folder.

## 4 Enter a file name and click [Save].

The file for signing request is saved in the specified folder.

**Note**

- The characters that can be input are as follows:
  - Single-byte numbers: 0 to 9
  - Single-byte alphabet: A to Z, a to z
  - Single-byte symbols: - . _ , + / ( )
- This unit generates PEM format signing requests (file extension: pem).
- Apply for the server certificate to the certification organization using the saved signing request file (PEM format).

### Installing the certificate

Install the server certificate and the intermediate certificate issued by the certification organization into this unit.

**1 Click [Certificate] → [Server Certificate install] → [Browse].**

The file selection screen is displayed.

**2 Select the server certificate file and click [Open].**

If an intermediate certificate is issued from the certification organization together with the server certificate, proceed to Step **3**.

If only the server certificate is issued from the certification organization, proceed to Step **5**.

**3 Click [Intermediate Certificate install] → [Browse].**

The file selection screen is displayed.

**4 Select the intermediate certificate file and click [Open].**

**5 Click [Execute].**

The server certificate and the intermediate certificate are installed into this unit.

**6 Click [OK].**

**Note**

- To confirm the information of the installed server certificate, refer to “Confirming the information of the server certificate” (see page 107).

### Confirming the information of the server certificate

Confirm the information of the server certificate installed in this unit.

**1 Click [Certificate] → [Server Certificate] → [Information] → [Confirm].**

The information of the installed server certificate is displayed. The details of each item are as follows:

| Item | Details | |
|---|---|---|
| [Common Name] | Displays the Display name or the IP address. | |
| [Country] | Displays the country code defined in ISO 3166-1 alpha-2 (two uppercase alphabets). | |
| [State] | Displays the name of the state, prefecture, etc. | |
| [Locality] | Enter the name of the town or locality. | |
| [Organization] | Enter the name of the organization. | |
| [Organization Unit] | Enter the name of the department in the organization. | |
| [Not Before] | Displays the date and time the server certificate was issued. | |
| [Not After] | Displays the date and time the server certificate expires. | |
| [CRT key] | [RSA key size] | Displays the length of the CRT key. |
| | [Last modified] | Displays the date and time the CRT key was generated. |

**Note**

- The installed server certificate and the intermediate certificate can be deleted by clicking [Certificate] → [Server Certificate] → [Delete].

  However, they cannot be deleted when [HTTPS set up] → [Connection] is set to [HTTPS]. Delete them after changing the setting to enable HTTP communication.

  To delete the server certificate within the valid period, confirm that the certificate file used for installing is available on hand. It will be necessary when installing the server certificate again.

### Generating a self-signed certificate

When a server certificate issued by the certification organization is not to be used as the security certificate, it is possible to use a self-signed certificate generated in this unit. Generate the self-signed certificate after generating the CRT key.

## 1 Click [Certificate] → [Self-signed Certificate] → [Generate] → [Execute].

The page to generate the self-signed certificate is displayed.


## 2 Enter the information required for generating.

The details of each item are as follows:

| Item | Details | | Character length limit |
|---|---|---|---|
| [Common Name] | Enter the Display name or the IP address set in the Display. | | 64 characters |
| [Country] | Enter the country code defined in ISO 3166-1 alpha-2 (two uppercase alphabets). | | — |
| [State] | Enter the name of the state, prefecture, etc. | | 128 characters |
| [Locality] | Enter the name of the town or locality. | | 128 characters |
| [Organization] | Enter the name of the organization. | | 64 characters |
| [Organization Unit] | Enter the name of the department in the organization. | | 64 characters |
| [CRT key] | [RSA key size] | Displays the length of the current CRT key. | — |
| | [Last modified] | Displays the date and time the current CRT key was generated. | — |

## 3 Click [OK].

The self-signed certificate is generated.

**Note**

- The characters that can be input are as follows:
  - Single-byte numbers: 0 to 9
  - Single-byte alphabet: A to Z, a to z
  - Single-byte symbols: - . _ , + / ( )

**Confirming the information of the self-signed certificate**

Confirm the information of the self-signed certificate generated by the unit.

## 1 Click [Certificate] → [Self-signed Certificate] → [Information] → [Confirm].

The information of the generated self-signed certificate is displayed. The details of each item are as follows:

| Item | Details | |
|---|---|---|
| [Common Name] | Displays the Display name or the IP address. | |
| [Country] | Displays the country code defined in ISO 3166-1 alpha-2 (two uppercase alphabets). | |
| [State] | Displays the name of the state, prefecture, etc. | |
| [Locality] | Displays the name of the town or locality. | |
| [Organization] | Displays the name of the organization. | |
| [Organization Unit] | Displays the name of the department in the organization. | |
| [Not Before] | Displays the date and time the self-signed certificate was issued. | |
| [Not After] | Displays the date and time that the self-signed certificate will expire (local time corresponding to 23:59, December 31, 2035 in Greenwich Mean Time). | |
| [CRT key] | [RSA key size] | Displays the length of the CRT key. |
| | [Last modified] | Displays the date and time the CRT key was generated. |

**Note**

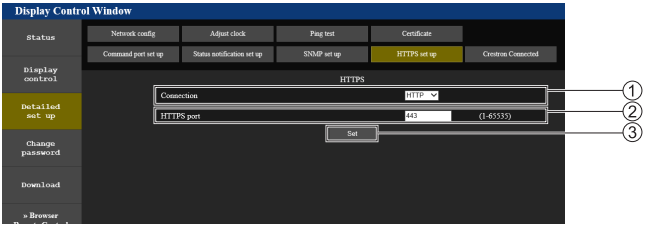
- The generated self-signed certificate can be deleted by clicking [Certificate] → [Self-signed Certificate] → [Delete]. However, it cannot be deleted when [HTTPS set up] → [Connection] is set to [HTTPS]. Delete it after changing the setting to enable HTTP communication.
- If a self-signed certificate is generated while the date and time of this unit are not set properly, the date and time of issuing and expiry for the self-signed certificate may not be set correctly.
  For this reason, correctly set [Date and time] before generating the self-signed certificate. (see page 66)

## ■ HTTPS set up page

Set this page when HTTPS (Hypertext Transfer Protocol Secure) communication encrypted with the SSL/TLS protocol is to be performed between the computer and the Display while the web control function is used.

Click [Detailed set up] → [HTTPS set up].

To perform the HTTPS communication, it is necessary to install the certificate for authentication into the Display in advance. For details of installing the certificate, refer to “Certificate page” (see page 102).




**①[Connection]**

Sets the connection method to the Display.

**[HTTP]:** Uses the HTTP communication. (Factory setting)

**[HTTPS]:** Uses the HTTPS communication.

**②[HTTPS port]**

Sets the port number to be used with the HTTPS communication.

Allowed port number: 1 to 65535

Factory setting: 443

**③[Set]**

Enables the settings.

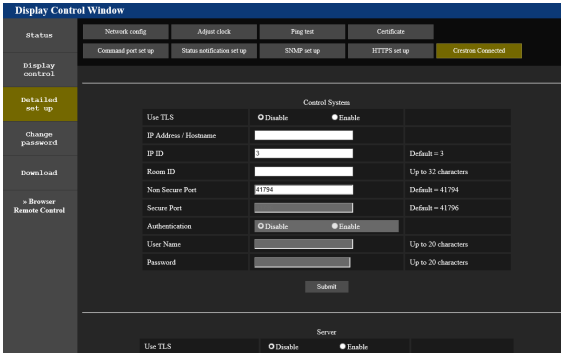
**Note**

- When the [Connection] setting is changed from [HTTPS] to [HTTP], the screen may not be displayed when the operation or update of the web control screen is performed. In such case, delete the cache of the web browser.

## ■ Crestron Connected page

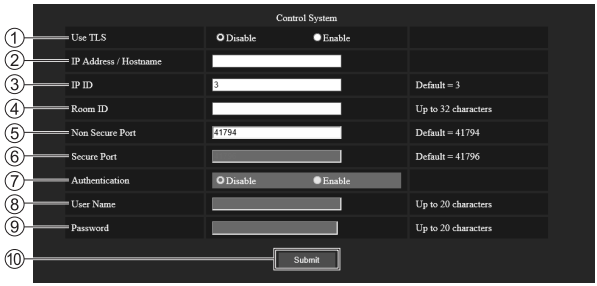
Set the information required for connecting the control system of Crestron Electronics, Inc. to the Display, and the information to monitor/control the Display using the control system of Crestron Electronics, Inc.

Click [Detailed set up] → [Crestron Connected].



**[Control System]**

Configure the settings for the control system required to connect to the Display as a client.




① **[Use TLS]**

Sets the secure communication.

**[Disable]:**

Performs the unsecured communication.

**[Enable]:**

Performs the secure communication using TLS (Transport Layer Security).

② **[IP Address / Hostname]**

Enter the IP address or the host name of the connection destination.

③ **[IP ID]**

Sets the IP ID used to recognize the Display on a network. (A number up to four digits)

Default value: 3

④ **[Room ID]**

Sets the Room ID used to recognize the Display on a network. (Up to 32 one-byte characters)

⑤ **[Non Secure Port]**

Sets the port number to be used with the unsecured communication.

Default value: 41794

⑥ **[Secure Port]**

Sets the port number to be used with the secure communication.

Default value: 41796

⑦ **[Authentication]**

Select the authentication with the connection destination used with the secure communication.

**[Disable]:**

No connection authentication is performed.

**[Enable]:**

Performs the connection authentication.

⑧ **[User Name]**

Enter the user name used for the connection authentication.
(Up to 20 one-byte characters)

⑨ **[Password]**

Enter the password used for the connection authentication.
(Up to 20 one-byte characters)

⑩ **[Submit]**

Updates the [Control System] setting.

**Note**

- When [Use TLS] is set to [Disable], [Authentication] is fixed to [Disable], and [Secure Port] cannot be set.

**[Server]**

Configure the settings required to use the control system for accessing the Display when the Display is positioned as a server.


①**[Use TLS]**

Sets the secure communication.

**[Disable]:**

Performs the unsecured communication.

**[Enable]:**

Performs the secure communication using TLS (Transport Layer Security).

②**[IP ID]**

Sets the IP ID used to recognize the Display on a network. (A number up to four digits)

③**[Non Secure Port]**

Sets the port number to be used with the unsecured communication.

Default value: 41794

④**[Secure Port]**

Sets the port number to be used with the secure communication.

Default value: 41796

⑤**[Authentication]**

Select the authentication with the connection destination used with the secure communication.

**[Disable]:**

No connection authentication is performed.

**[Enable]:**

Performs the connection authentication.

⑥**[User Name]**

Enter the user name used for the connection authentication. (Up to 20 one-byte characters)

⑦**[Password]**

Enter the password used for the connection authentication. (Up to 20 one-byte characters)

⑧**[Crestron Fusion in the Cloud (FITC)]**

Sets whether to use the Fusion server in the Cloud.

**[Disable]:**

Does not use the Fusion server in the Cloud.

**[Enable]:**

Uses the Fusion server in the Cloud.

⑨**[FITC URL]**

Enter the URL of the Fusion server in the Cloud.

⑩**[Submit]**

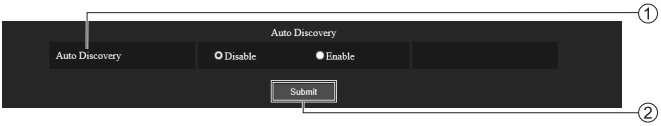
Updates the [Server] settings.

**Note**

- [Use TLS] will be fixed to [Disable] if neither the server certificate nor the self-signed certificate is installed.
- When [Use TLS] is set to [Disable], [Authentication] is fixed to [Disable], and [Secure Port] cannot be set.
- When [Crestron Fusion in the Cloud (FITC)] is set to [Disable], [FITC URL] cannot be entered.

### [Auto Discovery]

Set the standby process for the search protocols of the control system and the application software.




①**[Auto Discovery]**

**[Disable]:**

Disables the standby process.

**[Enable]:**

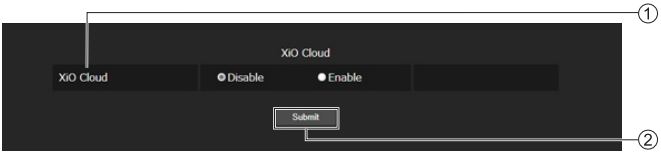
Enables the standby process and enables the automatic detection of displays.

②**[Submit]**

Refreshes the [Auto Discovery] setting.

### [XiO Cloud]

Configure the setting to control devices using XiO Cloud.




①**[XiO Cloud]**

**[Disable]:**

Disables the XiO Cloud function.

**[Enable]:**

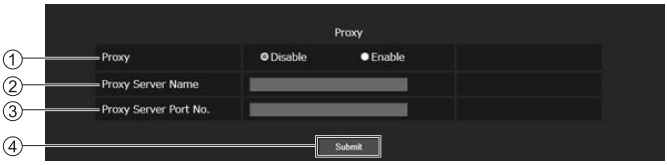
Enables the XiO Cloud function.

②**[Submit]**

Refreshes the [XiO Cloud] setting.

### [Proxy]

Configure the proxy server settings.




①**[Proxy]**

**[Disable]:**

Does not use the proxy server.

**[Enable]:**

Uses the proxy server.

②**[Proxy Server Name]**

Enter the proxy server name or IPv4 address.

③**[Proxy Server Port No.]**

Enter the port number of the proxy server.

④**[Submit]**

Updates the [Proxy] settings.

**Note**

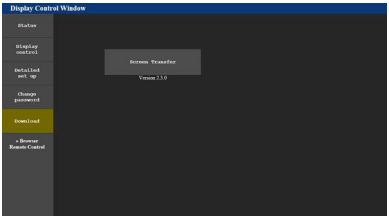
- [Proxy Server Name] does not support the IPv6 address.

## ■ [Download]

[Screen Transfer] software that sends a screen of a PC to the display via LAN can be downloaded.

Click [Download].

The Download screen is displayed.




Click [Screen Transfer] to download the installer “setup.msi”.

After [Screen Transfer] is installed, the screen of a PC can be sent to this unit via LAN.

- For more details, visit the following website: https://docs.connect.panasonic.com/prodisplays/

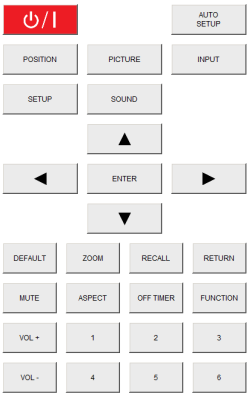
## ■ [Browser Remote Control]

It is possible to operate the control box with the operation buttons displayed on the web browser.

Click [Browser Remote Control].

The Browser Remote Control screen is displayed.

Browser Remote Control




The Browser Remote Control can be operated in the same way as the supplied remote control.

Refer to page 26 for the allocation/function of each button.

To close the Browser Remote Control, click [>>Display Control Window] or exit the browser.

**Note**

- Make sure [Network control] is set to [On]. (see page 68)
- The Browser Remote Control screen can also be displayed by entering “http://xxx.xxx.xxx.xxx/remote/” in the web browser URL input field.
  - xxx.xxx.xxx.xxx is the IP address set for this control box.
- Button press and hold operations are not possible.
- Restrictions for remote control button operation set in [Controller user level] in the [Setup] menu (see page 85) do not apply.
- Avoid operating multiple Browser Remote Controls simultaneously.
- The same operations are available to both administrator privileges and user privileges.
- If the Browser Remote Control screen is not displayed, consult your network administrator.
- The screen may turn white for a moment when updating the Browser Remote Control screen, but this is not a malfunction.
- While operating the Browser Remote Control, do not operate the unit by other methods such as the web control screen, the remote control, or external control commands.
- If the “Back” or “Forward” function on the web browser is used, the screen display may be abnormal. In this case, the subsequent operations are not guaranteed. Refresh the web browser to the most recent state.

# Using the USB media player

**Note**

- This section describes the function on the premise that a USB memory device connected to the USB terminal is used.

  The internal memory is used when [Internal memory] is the setting in [Use memory select].

## Description of the function

The USB media player is a function that displays still pictures and videos saved in a USB memory device by inserting the USB memory device into the control box.

**Note**

- To use this function, set [USB media player] to [Enable] in [Setup] - [USB media player settings]. (see page 75)
- When using the Single Media Player, the unit prevents a black screen from appearing at the switching timing of still pictures or videos. Note the following restrictions:

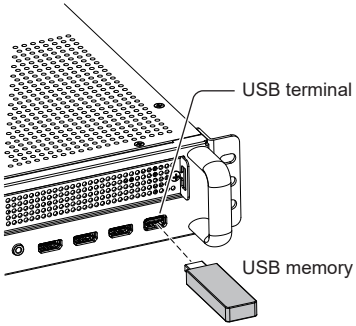
  (1) A black screen may appear when switching a motion picture codec.

  (2) A black screen may appear or images may be disturbed when switching to motion pictures of a different frame rate or aspect ratio. If an angle of view other than 16:9 is used, images may be disturbed near the end of playback.

  Inserting a black screen (approx. 2 sec.) at the switching timing for all the videos can avoid image disturbance in above (2). (“[USB media player settings]”, see page 75)
- Using the content list delivery function of the Multi Monitoring & Control Software (see page 91), content (still pictures/videos) played back on a USB media player and the playback list can be delivered. (The still pictures that can be delivered are jpg files only and the videos that can be delivered are those other than H.265/HEVC.)
  For details, refer to the manual of Multi Monitoring & Control Software.

**Single Media Player**

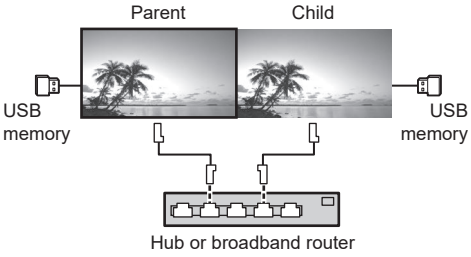
Files are played by a single unit.




**Multi Media Player**

Files in the USB memory device are played back simultaneously on multiple units by connecting them with LAN cables. One of the multiple units becomes the parent, and the others are children. The two-unit configuration example is shown below.

For LAN connection, see “Network environment (Multi Media Player only)” on page 121.




**Note**

- For Multi Media Player, one USB memory device is required for each unit.
- For Multi Media Player, the parent requires both “scenario.dat” and “filelist.dat”, and the child requires “filelist.dat” only.
- Describe “GroupID:G01” without changing characters other than numbers (2-digit description required). The Multi Media Player cannot function without this description.
- When videos are played on the multi media player, a black screen may be displayed for a certain period of time at the switching timing of videos.

## Preparation

### ■ Supported devices

- Commercially available USB memory devices are supported. (Those with security functions are not supported. Operation is not guaranteed.)
- Devices other than those formatted in FAT16 or FAT32 cannot be used.
- The maximum memory size for USB devices is 32 GB.
- Only single partition configuration is supported.

### ■ Preparation

Prepare the following files immediately below the root directory in the USB memory device for the media player.

- Play file
- Scenario (as necessary)
- File list (as necessary)

**Note**

- Delete files irrelevant to playback from the USB memory device.
- There can be up to 999 play files. If more than the maximum number of files are present, some files are not played back. An error is displayed by the scenario file check (see page 75).
- Up to 999 lines of scenario files are valid.

### ■ Play file

The unit's Media Player supports the formats below.

Save immediately below the root directory in the USB memory device.

**Still pictures**

| Extension | Format | Limitations |
|---|---|---|
| jpg/jpeg/ jpe | JPEG | Number of pixels:<br>Minimum 32 x 18<br>Maximum 4 096 x 4 096 (Only baseline is supported)<br>YUV formats:<br>YUV444, YUV442, and YUV440 are supported<br>Color mode:<br>Only RGB is supported |
| bmp | Windows Bitmap | Number of pixels:<br>Minimum 32 x 18<br>Maximum 4 096 x 4 096 (1 bit, 4 bits, 8 bits, 24bits)<br>The following formats are not supported:<br>Run-length encoding, bit field, top-down, transparent data |

**Video**

| Extension | Codec | |
|---|---|---|
| | Picture | Audio |
| avi | H.264/MPEG4 AVC<br>MPEG4 Visual<br>VC-1 Advanced<br>VC-1 Simple & Main | AAC-LC/LPCM/MP/ WMA Standard |
| mkv | H.264/MPEG4 AVC<br>MPEG4 Visual<br>VC-1 Advanced<br>VC-1 Simple & Main<br>H.265/HEVC | AAC-LC/HE-AAC/LPCM/ MP3 |
| wmv asf | H.264/MPEG4 AVC<br>MPEG4 Visual<br>VC-1 Advanced<br>VC-1 Simple & Main | LPCM/MP3/WMA Standard/WMA9/ WMA10 Pro |
| mp4/ mov/flv | H.264/MPEG4 AVC<br>MPEG4 Visual<br>H.265/HEVC | AAC-LC/HE-AAC/MP3 |
| ts/mts | H.264/MPEG4 AVC<br>H.265/HEVC | AAC-LC/HE-AAC/LPCM/ MP3 |

| Limitations | |
|---|---|
| **Picture** | |
| **Codec** | **Resolution** |
| H.264/ MPEG4 AVC MP@L5.1/ HP@L5.1 | 1 920 x 1 080p@60.0<br>3 840 x 2 160p@30.0<br>Bit rate: Maximum 80Mbps<br>• MVC (Multi-view Video Coding) is not supported. |
| H.265 MP@L5.1/ MP10@L5.1 | 3 840 x 2 160p@60.0<br>1 920 x 1 080p@60.0<br>Bit rate: Maximum 80Mbps<br>• Only 1 warp-point GMC supported<br>• Data Partitioning not supported |
| MPEG4 Visual SP@L5/ ASP@L5 | 1 920 x 1 080p@30.0<br>Bit rate: Maximum 40Mbps<br>• Video standard specified by MPEG4 Part2 |
| VC-1 Advanced AP@L3 | 1 920 x 1 080i@30.0<br>1 920 x 1 080p@24.0<br>Bit rate: Maximum 40Mbps |
| VC-1 Simple & Main SP@LL/ SP@ML/ MP@LL/ MP@ML/ MP@HL | 1 920 x 1 080p@30.0<br>Bit rate: Maximum 40Mbps |

| Audio | | |
|---|---|---|
| **Codec** | **Sampling frequency (kHz)** | **Bit rate (kbps)** |
| MP3 | 8/11.025/12/16/ 22.05/24/32/44.1/ 48 | 8 to 320 |
| WMA Standard | | 32 to 384 |
| WMA 9 | | 32 to 384 |
| WMA 10 Pro | | 32 to 384 |
| LPCM | | 64 to 1 536<br>Supported quantization bit: 8/16/24/32 |
| AAC(LC) | | 8 to 1 440 |
| HE-AAC (Ver.2 Level4) | | 8 to 256 |

**Note**

- The maximum bit rate is the upper limit on USB 3.0 memory, and depends on the performance of the USB memory device to be used.
- Maximum size per file is 2GB.
- Some files may not be played back even if they are supported formats described above.
- Files protected by Digital Rights Management (DRM) cannot be played back.
- If files or folders include characters other than one-byte alphanumeric characters, they may not be displayed correctly, or the playback may not be done properly.
  It is recommended to use only one-byte alphanumeric characters for files and folders.
- Make sure that both audio codec and video codec are supported. If the audio codec of the video file is incompatible in format, the pictures may not be correctly displayed. In addition, files which contain only audio cannot be played back.
- Playback is not possible if the maximum bit rate specified in the codec Profile or Level is exceeded. Also, depending on the USB memory device, playback may be impossible even if the bit rate is less than the indicated maximum bit rate.
- If the number of pixels of a file exceeds the screen size, the picture quality will change.
- Depending on the type of video, the images may be distorted momentarily during playback.
- You can confirm some information about still pictures/ motion pictures on a PC that can access the relevant files.
  Example of an operation
  Windows:
  1. Right-click the file, and then click [Properties].
  2. Click the [Details] tab.

  Mac:
  1. Control-click the file, and then click [Get Info].
  2. Click [Details].

### ■ Scenario

The play order and time can be specified for play files.

Save under the name (one-byte alphabetical characters) “scenario.dat” immediately below the root directory in the USB memory device.

- Save files as UTF-8N format.
- A scenario can have 1 to 999 lines specified.

### ■ File list

A list of play files.

Save under the name (one-byte alphabetical characters) “filelist.dat” immediately below the root directory in the USB memory device.

- Save files as UTF-8N format.

■ **Terms related to Scenario/File list**

**File name**

The play file name.

The file name must include an extension.

Example: Introduction.jpg
Contents_Video01.wmv

- Enter the extension of a file name using one-byte alphanumeric characters.

**File definition**

File definitions shared by the scenario and files.

PHOTO_xxx: Still picture file definition

VIDEO_xxx: Video file definition

- The “xxx” portion can be set from 001 to 999.
- Enter a file definition using one-byte alphanumeric characters.

**Play time**

The play time for a file.

Play time can be specified from 3 seconds to 24 hours. (Unit: second)

Example: 10: 10 seconds
86400: 24 hours
10.5: 10.5 seconds. It can be set down to one-tenth (1/10) of a second using a decimal point (full stop).

Play time can be omitted.

For still pictures, files are played for the period of time selected in [USB media player settings] - [Slide show duration]. (see page 76)

For videos, files are played for the duration of the play time of the file.

- Enter play time using one-byte numeric characters.
- When playing back large files, if you set the play time short, they may not be played back properly, for example, noise appears on the screen. In that case, specify a longer play time (10 seconds or longer).
- If play time is specified for a video that is longer than the play time of the video file, the last image of the file is displayed after the playback of the video has finished.

**Group ID (for Multi Media Player)**

ID used for grouping networks when using as a Multi Media Player.

GroupID:Gxx: Group xx

- The “xxx” portion can be set from 01 to 10.
- Enter a group ID using one-byte alphanumeric characters.

**Note**

- UTF-8N: UTF-8 encoding without BOM.
Notepad for Windows doesn’t support this encoding.
Use a text editor that supports the encoding.

## File playback

■ **Example of setting in each mode**

**Single Media Player (Type 1)**

Files are played in name order on the USB memory device.

**Scenario, file list**

Scenario: Unnecessary

File list: Unnecessary

**Setting example**

**USB memory contents**

```
┬ 000_Introduction.jpg
├ 001_Contents_Video1.wmv
├ 002_Contents_Video2.wmv
├ 003_Contents_Video3.wmv
```

**Play contents**

For the above setting example, the following contents will be played on repeat (loop).

1. 000_Introduction.jpg (*1)
2. 001_Contents_Video1.wmv (*2)
3. 002_Contents_Video2.wmv (*2)
4. 003_Contents_Video3.wmv (*2)

*1 Played for the duration set in [Slide show duration].

*2 Played for the duration of the play time of the file.

**Single Media Player (Type 2)**

Files will be played in the order they were listed in the scenario.

**Scenario, file list**

Scenario:

Enter [File name: Play time].

File list: Unnecessary

**Setting example**

**USB memory contents**

```
┬ scenario.dat
├ Introduction.jpg
├ Contents_Video1.wmv
├ Contents_Video2.wmv
├ Contents_Video3.wmv
```

**scenario.dat (scenario)**

```
Introduction.jpg:10
Contents_Video1.wmv:10
Contents_Video2.wmv:20
Contents_Video3.wmv:
```

**Play contents**

For the above setting example, the following contents will be played on repeat (loop).

1. Introduction.jpg (10 seconds)
2. Contents_Video1.wmv (10 seconds)
3. Contents_Video2.wmv (20 seconds)
4. Contents_Video3.wmv (Played for the duration of the play time of the file)

**Single Media Player (Type 3)**

Files will be played in the order they were listed in the scenario.

**Scenario, file list**

Scenario:

Enter [File definition: Play time].

File list:

Enter [File definition: File name].

**Setting example**

**USB memory contents**

```
┬ filelist.dat
├ scenario.dat
├ Introduction.jpg
├ Contents_Video1.wmv
├ Contents_Video2.wmv
├ Contents_Video3.wmv
```

**scenario.dat (scenario)**

```
PHOTO_001:10
VIDEO_001:10
VIDEO_002:20
VIDEO_003:
```

**filelist.dat (file list)**

```
PHOTO_001:Introduction.jpg
VIDEO_001:Contents_Video1.wmv
VIDEO_002:Contents_Video2.wmv
VIDEO_003:Contents_Video3.wmv
```

**Play contents**

For the above setting example, the following contents will be played on repeat (loop).

1. Introduction.jpg (10 seconds)
2. Contents_Video1.wmv (10 seconds)
3. Contents_Video2.wmv (20 seconds)
4. Contents_Video3.wmv (Played for the duration of the play time of the file)

**Multi Media Player**

Files are played in the order listed in the parent's scenario.

**Scenario and file list**

Parent side

Scenario:

Enter [File definition: Play time].

File list - The first line:

Enter [Group ID].

File list - The second and subsequent lines:

Enter [File definition: File name].

Child side

Scenario: Unnecessary

File list - The first line:

Enter [Group ID].

File list - The second and subsequent lines:

Enter [File definition: File name].

**Setting example**

Parent side

**USB memory contents**

```
┬ filelist.dat
├ scenario.dat
├ L_Introduction.jpg
├ L_Contents_Video1.wmv
├ L_Contents_Video2.wmv
├ L_Contents_Video3.wmv
```

**scenario.dat (scenario)**

```
PHOTO_001:10
VIDEO_001:10
VIDEO_002:20
VIDEO_003:
```

**filelist.dat (file list)**

```
GroupID:G01
PHOTO_001:L_Introduction.jpg
VIDEO_001:L_Contents_Video1.wmv
VIDEO_002:L_Contents_Video2.wmv
VIDEO_003:L_Contents_Video3.wmv
```

Child side

**USB memory contents**

```
┬ filelist.dat
├ R_Introduction.jpg
├ R_Contents_Video1.wmv
├ R_Contents_Video2.wmv
├ R_Contents_Video3.wmv
```

**filelist.dat (file list)**

```
GroupID:G01
PHOTO_001:R_Introduction.jpg
VIDEO_001:R_Contents_Video1.wmv
VIDEO_002:R_Contents_Video2.wmv
VIDEO_003:R_Contents_Video3.wmv
```

**Play contents**

For the above setting example, the following contents will be played on repeat (loop).

Parent side

1. L_Introduction.jpg (10 seconds)
2. L_Contents_Video1.wmv (10 seconds)
3. L_Contents_Video2.wmv (20 seconds)
4. L_Contents_Video3.wmv (*1)

Child side

1. R_Introduction.jpg (10 seconds)
2. R_Contents_Video1.wmv (10 seconds)
3. R_Contents_Video2.wmv (20 seconds)
4. R_Contents_Video3.wmv (*1)

*1 Played for the duration of the play time of L_Contents_Video3.wmv (on the parent).

**Note**

- While the menu screen is not displayed, you can skip to the next playback file with ▶, to the previous playback file with ◀, or play back again from the beginning of the file with ▼ (Remote control operation only). When this operation is performed, a black screen is inserted before playback. When the Schedule play function is enabled, the skip operation is disabled.
- If the date and time are changed by the [Date and time] (see page 66) setting, the playback of the file currently being played is stopped, and the playback will be performed again from the beginning of the file.
- The Multi Media player does not work during communication with IPv6 settings.

### ■ USB memory contents check

You can run a USB memory contents check in [USB media player settings] - [Scenario file check]. (see page 75)

If an error is present, the information is given with the following details.

A(B): C

D

A: Name of the file with an error

B: Row with an error

C: Error code

D: Detail of the error

**Note**

- Here are the main error codes.

Details of the detected errors are as follows:

| Error code | Detail of the error |
|---|---|
| 1. | No USB memory device is inserted. |
| 2. | scenario.dat/filelist.dat cannot be opened. |
| 3. | There is an error in the contents of scenario.dat/filelist.dat. |
| 4. | The play file format is not supported. |
| 5. | No play file exists. |
| 6. | The necessary group ID for Multi Media Player has not been specified. |
| 7. | There are several identical file definitions. |
| 8. | The scenario's play time is over the limit. |
| 9. | The file definition listed in the scenario is not in the file list. |
| 10. | The scenario contains 0 or over 1000 play files. |
| 11. | There are 0 or over 1000 play files. (Single Media Player (Type 1) only) |
| 12. | Only the group ID is listed on the file list. (Multi Media Player only) |

* For error code 1 and 11, only the error code and the detail of the error are displayed as shown below.

1

No USB memory device is inserted.

Supplementary note

The USB memory contents check does not determine whether or not a play file is playable.

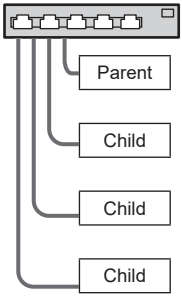
If a file cannot be played while Media Player is active, an error message will be displayed.

When performing the synchronized playback on the Multi Media Player, check in [USB media player settings] - [Scenario file check] that the file is playable.

## Network environment (Multi Media Player only)

### ■ Example of setting up LAN connection and IP address/Subnet mask

As mentioned below, connect several units together with LAN cables and set up IP addresses/Subnet masks so that all the displays exist on the same network.




**Note**

- Set [Network control] of all displays to [On]. (see page 68)
- Depending on the network environment, synchronization may be largely lost.
- Do not connect other devices to prevent network traffic jam.
- Connection is not possible if there is a router between displays. Use within the same subnet.
- Do not use wireless LAN for connection since playback may not be performed normally.

## Starting/ending Media Player

**Note**

- Select the USB terminal you will use in "[USB connect setting]". (see page 84)
- The amount of power supplied to external devices depends on the USB terminal. ("Example USB terminal connection", see page 23)

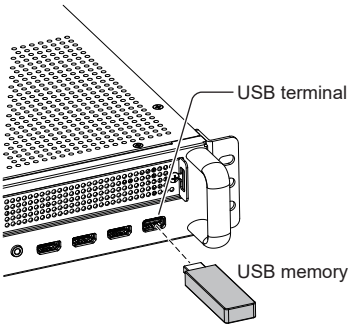
### ■ For Single Media Player

**Start**

**1. Insert the USB memory device for Media Player into the USB terminal on the front of the control box.**

**Note**

- Depending on the type of a USB memory device, it may come in contact with the periphery such as the back cover, and cannot be attached. Use a device that you can attach to this unit.




**2. Run a USB memory contents check.**

**3. Change the input to [USB].**

**End**

**Change the input to other than [USB].**

### ■ For Multi Media Player

**Start**

**1. Connect several units with LAN cables.**
("Example of setting up LAN connection and IP address/Subnet mask", see page 121)

**2. Insert the USB memory device for Media Player into each control box.**

**3. Run a USB memory content check on each control box.**

**4. Change the input on the child to [USB].**

**5. Change the input on the parent to [USB].**

**End**

**Change the input on the parent to other than [USB].**

## Resume play function

After Media Player ends, the file to be played back next time varies depending on the setting of [USB media player settings] - [Resume play].

**When the setting is [On]:**

The file played prior to the end of Media Player starts playing from the beginning.

**When the setting is [Off]:**

Play starts from the beginning of the first file of the scenario.

**Note**

- The resume play function is retained until the unit is turned off or the USB memory device is taken out.

## Playlist edit function

This function creates and edits a scenario file for the USB media player. Select [Setup] – [USB media player settings] – [Playlist edit] to select the desired content, set the playback order and play time, and output the file (scenario.dat) to the USB memory device.

**Note**

- This section describes the function on the premise that a USB memory device connected to the USB terminal is used.
  The internal memory is used when [Internal memory] is the setting in [Use memory select].
- The descriptions in the scenario (scenario.dat) follow the restrictions of the USB media player.
- After editing a playlist, it works as a Single Media Player (Type 2).
- If a scenario file (scenario.dat) already exists in the USB memory device or internal memory, delete it and create a new one.
- If there is a file list file (filelist.dat) in the USB memory device or internal memory, delete it.
- While editing the playlist, the following functions are disabled:
  [Position]
  [Sound]
  [Picture]
  [Setup]
  - [Signal]
  - [Input label]
  - [Power management settings] - [No signal power off]
  - [Image settings] - [Read user image]
  - [Multi display switching]
  - [Function button settings]
  - [Failover/Failback]
  - [Audio input select]

  Digital zoom

- The picture and audio quality while editing the playlist is adjusted with the same content as that for the MEMORY VIEWER input.
- Editing the playlist requires 2 MB or more of space in the USB memory device.
- Use a USB memory device for which file reading and writing can be normally performed.
- Use the remote control for the playlist editing function operation.

### 1. File selection screen

Select content files to play.

After selecting the files, press <6> to go to the next editing screen.

Press the remote control buttons to perform the following operations.

<VOL +> Selects content files. (Adds a check mark on the upper left of the thumbnail.)

<VOL -> Cancels content selection. (Removes the check mark if there was one.)

▲▼◀▶ Moves the focus

<4> Removes all the check marks.

<ENTER> Plays content files or moves to a different hierarchy.

<RETURN> Finishes editing the playlist or moves to a higher hierarchy.

<6> Goes to the next editing screen.

**Note**

- If a scenario (scenario.dat) exists in the USB memory device or internal memory, it will be loaded automatically. If applicable files are present, they are already in the selected status on the content selection screen.
- Up to 999 lines can be read from a scenario (scenario.dat).
- If a file list (filelist.dat) exists in the USB memory device or internal memory, it will not be loaded even if a scenario (scenario.dat) is present, and then the content selection screen appears with no content files selected.
- In addition to files immediately below the root directory in the USB memory device, files in folders can also be selected.
- A maximum of 999 content files can be selected.
- If 999 files are selected, pressing <VOL +> for files not selected cannot select such files.
- When removing all check marks with <4>, a confirmation screen is displayed before removal.

### 2. Play order/Play time setting screen

Arrange the selected content files in playback order, and set the playback time.

Press the remote control buttons to perform the following operations.

<VOL +> Moves a content file up by one position.

<VOL -> Moves a content file down by one position.

▲▼◀▶ Moves the focus

<1> Copies the currently selected content file to add it to the list.

<4> Deletes the currently selected content file from the list.

<ENTER> Displays a screen to set playback time.

<RETURN> Returns to the previous editing screen.

<6> Goes to the next editing screen.

Pressing <ENTER> will display a screen to set playback time.

Refer to “Entering numbers” (page 70) for the method for entering numbers.


**Note**

- The setting range for playback time is 0, 3 (minimum) to 86400 (maximum). If 0 is set, the playback time setting is deleted.
- Playback time can be set in one second increments with the playlist editing function. If a scenario (scenario.dat) is already present and the playback time of the applicable files are specified with decimal points, writing the scenario file will convert the playback time to that in one second increments.
- For content files whose playback time is set, “: playback time (sec.)” is displayed on the right side of the file names.

  For content files whose playback time is not set, “:(number)” is displayed on the right side of the file names if they are still picture files. (The numbers are values set for [USB media player settings] - [Slide show duration] (see page 76).) For video files, “:(---)” is displayed on the right side of the file names.
- When deleting content from the list with <4>, a confirmation screen is displayed before deletion.
- If 999 content files already exist, another file cannot be added even if <1> is pressed.

**3. File output screen**

Select [Yes] with ◀▶ and press <ENTER>.

File output to the USB memory device or internal memory starts.

**4. Exit screen**

The exit screen is displayed.

## Schedule playback function using content management software

This unit supports “Content Management Software” to create schedule data on a PC required to play back still pictures and videos.

Functions that can be set with content management software are as follows:

- Content playback (still pictures/video)
- Music playback
- Input switching
- Power control
- Multi display settings
- Caption display

For setting methods and details of each function, refer to the content management software manual.

**Note**

- This section describes the function on the premise that a USB memory device connected to the USB terminal is used.

  The internal memory is used when [Internal memory] is the setting in [Use memory select].
- The schedule play function with content management software does not work during communication with IPv6 settings.
- To use this function, set both [USB media player] and [Schedule play function] to [Enable] in [Setup] - [USB media player settings]. (see page 75)
- Refer to “Supported devices” (page 116) for information about supported devices.
- When using this function, insert the USB memory device in power-on state or in schedule standby state. If the USB memory device is inserted in conditions other than the said states, the schedule playback is not performed.
- Functions restricted when using the USB media player are also restricted when using the schedule playback function.

## ■ Schedule play mode

When [USB media player] is set to [Enable] and [Schedule play function] is set to [Enable], this unit enters schedule play mode, and the content is played back according to the set schedule.

If the schedule play mode is entered and the time specified by the schedule has passed, then one of the following happens according to the [Play mode] (see page 76):

- In individual play mode

  Play starts from the beginning of the specified schedule.
- In synchronize play mode

  Synchronize play starts at the start time for the next content.

**Note**

- When the unit enters [Schedule play mode], input automatically switches to [USB] or [Internal memory].
- Some functions of this unit are disabled during [Schedule play mode].
- If the input is switched during [Schedule play mode], schedule play is suspended.

  To resume schedule play:
  - Switching input to [USB] or [Internal memory] will resume play from the next schedule.
  - If the power is turned off using the remote control, the power is turned on at the next power-on schedule. Then schedule play starts.

  Schedule play is restored by the above operations.
- When <RECALL> is pressed during [Schedule play mode], [Schedule play mode] appears.
- The scenario play function of the media player does not work during [Schedule play mode].

## ■ Content play

Specified content is played at the time set in the schedule.

Playback files in the following formats are supported:

**Still pictures**

| Extension | Format | Limitations |
|---|---|---|
| jpg/jpeg/ jpe | JPEG | Number of pixels:<br>Minimum 32 x 18<br>Maximum 4 096 x 4 096 (Only baseline is supported)<br>YUV formats:<br>YUV444, YUV442, and YUV440 are supported<br>Color mode:<br>Only RGB is supported |
| bmp | Windows Bitmap | Number of pixels:<br>Minimum 32 x 18<br>Maximum 2 000 x 2 000 (1bit, 4bit, 8bit, 24bit)<br>The following formats are not supported:<br>Run-length encoding, bit field, top-down, transparent data |

**Video**

| Extension | Codec | |
|---|---|---|
| | Picture | Audio |
| avi | H.264/MPEG4 AVC<br>MPEG4 Visual<br>VC-1 Advanced<br>VC-1 Simple & Main | AAC-LC/LPCM/MP3<br>WMA Standard |
| wmv | H.264/MPEG4 AVC<br>MPEG4 Visual<br>VC-1 Advanced<br>VC-1 Simple & Main | LPCM/MP3/WMA Standard/WMA9/WMA10 Pro |
| mp4 / mov | H.264/MPEG4 AVC<br>MPEG4 Visual<br>H.265/HEVC | AAC-LC/HE-AAC/MP3 |

**Note**

- Some files may not be played back even if they are supported formats shown above.
- Refer to “Play file” (page 116) for restrictions regarding the video codecs of play files.
- If the contents of setting files (under [PRIVATE] folder) created and delivered using content management software are changed, operations are not guaranteed.
- During a time period for which no content is set, the screen is black with nothing displayed.

  During this period, the [Schedule waiting] message is displayed on the upper right of the screen.

  To hide this display on the screen, set the [Onscreen display] function to [Off] in [Setup] - [OSD settings] menu.
- For details about codecs of content, check the restriction items for play content of the USB media player function.

## ■ Music playback

Music content is played at the times set in the schedule data.

Playback files in the following formats are supported:

**Music**

| Extension | Codec | Format |
|---|---|---|
| mp3 | MPEG-1/2 Audio Layer-3<br>AAC(LC) | Sampling rate<br>Maximum 48kHz<br>Channels: Maximum 2ch |
| wma | WMA | Bit rate:<br>Maximum 320kbps |

**Note**

- Some files may not be played back even if they are supported formats shown above.
- If incompatible music content is scheduled, the music content is not played.
- Music content can be played only with the USB or Internal Memory input.
- Video content and music content cannot be played simultaneously. If 2 pieces of content are set to be played at the same time, video content takes priority.
- If play of video content starts while music content is playing, the music content stops.
- When playing music content after play of video content has finished, play starts from the beginning of the music content.
- Synchronize play of music content with other displays is not possible.
- There will be a few seconds required for preparation when switching music content.

## ■ Input switching

Input switches to the specified input at the time set in the schedule data. When the set time has passed, input returns to USB or Internal Memory again.

**Note**

- Input switches even if there is no signal in the input being switched to.
- When the input is switched, the input display does not appear.

## ■ Power control

The power is turned on/off at the time set in the schedule data.

**Note**

- If the power is turned off during schedule play mode, the unit enters the schedule standby mode.
- The standby electricity will be more than normal during the schedule standby mode.
- Some of the control box functions in [Schedule play mode] remain invalid during the schedule standby mode.
- The power-on schedule operates one minute before the specified schedule time.
- If the unit enters the schedule standby mode within one minute before the power-on schedule, the power is not turned on at the specified time by the schedule play function.
- The power-on operation by the schedule play function does not work in standby states other than the schedule standby mode.

## ■ Multi screen display settings to use multiple displays

Set the following for play content.

- Playing in the individual play mode
- Playing in the synchronize play mode
- Changing the setting of [Multi display settings] - [Multi screen display] of the control box

**Individual play mode**

Content is played only on one display.

**Synchronize play mode**

Content is played on multiple displays in synchronization.

To play in the synchronize play mode, set the following for correct operation.

- Set [USB media player] to [Enable]
- Set [Schedule play function] to [Enable]
- Set [Synchronize display] to [On]
- For [Parent or child setting], set 1 display with reference time to [Parent], and the other sets to [Child]

**Note**

- The operations of “Individual play mode” and “Synchronize play mode” are different from those of single media player and multi media player of the USB media player.
- When playing in synchronize play mode, approx. 5 seconds are required for preparation when switching content.
- When playing in synchronize play mode with multiple displays, set the [Synchronize display] function to [On], and set the same time for all the displays.
- If the time is not synchronized correctly with [Synchronize display] set to [On], the function may not work properly. Confirm the operation conditions of [Synchronize display]. (see page 67)
- If [Multi display settings] - [Multi screen display] is specified in the schedule data of content management software, the setting is switched to the specified multi screen display.
  The setting of [Multi screen display] cannot be changed during the specified schedule play. When the specified schedule has finished, the setting of [Multi screen display] is restored to the state before setting.

## ■ Caption display

Captions are displayed at the times set in the schedule data.

**Note**

- Captions are displayed over the images.
- A maximum of 600 characters can be displayed as captions.
- The scrolling of captions may stop around when there is a switchover in content or music playback.
- Captions stop being displayed when you switch input. However, if the input switching is due to the schedule play function, the captions continue to be shown.
  Also, when the schedule play function is resumed, the captions are shown from the beginning.
- When you change the [OSD language] setting or display the display ID/display name, the captions being displayed are deleted.
- When [Scroll] is set to [No] when creating schedule data, if a caption with many characters is displayed, the characters will run off the screen.
- Captions do not synchronize with other displays even if the play mode is set to synchronize play.

## ■ Disabled functions

The following functions of this unit are set to [Disable] ([Off]) during [Schedule play mode].

- [Set up timer]
- [Screensaver]
- Power management function
- [No signal power off]
- [HDMI-CEC settings]
- [No activity power off]
- [OSD transparency]
- [Image settings] (Read user image disabled)
- [Input search]
- [Initial input]
- [Input lock]
- [Failover/Failback]

**Note**

- Disabled functions are grayed out on the on-screen menus. Also, serial commands will return “ER401” (including the inquiry command).
- During [Schedule play mode], disabled functions are set to [Disable] ([Off]), and those operations are forcibly stopped.
- When [Schedule play mode] has finished, the functions disabled in this unit are restored to the original setting values.
- For [Multi display settings] – [Multi screen display], only [Horizontal scale], [Vertical scale] and [Location] can be set. Bezel settings are not available.
- The ARC function cannot be used. Make sure you set [ARC] to [Off] in [Setup] - [HDMI-CEC settings] menu. (see page 60)

## ■ Resume play

Sets the operation for when [Schedule play mode] is suspended and then schedule play is restored again.

**When the setting is [On]:**

The previous content before schedule play mode is stopped is played from the beginning.

**When the setting is [Off]:**

The playlist scheduled to be played at the current time is played from the beginning.

**Note**

- When the schedule is for synchronize play mode, play starts at the set time, whether the setting is [On] or [Off].

# Using memory viewer

The memory viewer is a function that selects still pictures and videos stored on USB memory devices or the internal memory, and shows them on the display.

**Note**

- This section describes the function on the premise that a USB memory device connected to the USB terminal is used.
  The internal memory is used when [Internal memory] is the setting in [Use memory select].

## Preparation

### ■ Files that can be played with the memory viewer function

The following files can be played:

**Still**

| Extension | Format | Limitations |
|---|---|---|
| jpg/jpeg/ jpe | JPEG | Number of pixels:<br>Minimum 32 x 32<br>Maximum 4 096 x 4 096 (Only baseline is supported)<br>YUV formats:<br>YUV444, YUV442, and YUV440 are supported<br>Color mode:<br>Only RGB is supported |
| bmp | Windows Bitmap | Number of pixels:<br>Minimum 32 x 32<br>Maximum 4 096 x 4 096 (1 bit, 4 bits, 8 bits, 24bits)<br>The following formats are not supported:<br>Run-length encoding, bit field, top-down, transparent data<br>If the number of pixels exceeds 1 920 x 1 080, a long time may be required to display. |

**Video**

| Extension | Codec | |
|---|---|---|
| | Picture | Audio |
| avi | H.264/MPEG4 AVC<br>MPEG4 Visual<br>VC-1 Advanced<br>VC-1 Simple & Main | AAC-LC/LPCM/MP/WMA Standard |
| mkv | H.264/MPEG4 AVC<br>MPEG4 Visual<br>VC-1 Advanced<br>VC-1 Simple & Main<br>H.265/HEVC | AAC-LC/HE-AAC/LPCM/ MP3 |
| wmv asf | H.264/MPEG4 AVC<br>MPEG4 Visual<br>VC-1 Advanced<br>VC-1 Simple & Main | LPCM/MP3/WMA Standard/WMA9/WMA10 Pro |
| mp4/ mov/flv | H.264/MPEG4 AVC<br>MPEG4 Visual<br>H.265/HEVC | AAC-LC/HE-AAC/MP3 |
| ts/mts | H.264/MPEG4 AVC<br>H.265/HEVC | AAC-LC/HE-AAC/LPCM/ MP3 |

| Limitations | |
|---|---|
| **Picture** | |
| **Codec** | **Resolution** |
| H.264/ MPEG4 AVC<br>MP@L5.1/ HP@L5.1 | 1 920 x 1 080p@60.0<br>3 840 x 2 160p@30.0<br>Bit rate: Maximum 80Mbps<br>• MVC (Multi-view Video Coding) is not supported. |
| H.265<br>MP@L5.1/ MP10@L5.1 | 3 840 x 2 160p@60.0<br>1 920 x 1 080p@60.0<br>Bit rate: Maximum 80Mbps<br>• Only 1 warp-point GMC supported<br>• Data Partitioning not supported |
| MPEG4 Visual<br>SP@L5/ ASP@L5 | 1 920 x 1 080p@30.0<br>Bit rate: Maximum 40Mbps<br>• Video standard specified by MPEG4 Part2 |
| VC-1 Advanced<br>AP@L3 | 1 920 x 1 080i@30.0<br>1 920 x 1 080p@24.0<br>Bit rate: Maximum 40Mbps |
| VC-1 Simple & Main<br>SP@LL/ SP@ML/ MP@LL/ MP@ML/ MP@HL | 1 920 x 1 080p@30.0<br>Bit rate: Maximum 40Mbps |

| Audio | | |
|---|---|---|
| **Codec** | **Sampling frequency (kHz)** | **Bit rate (kbps)** |
| MP3 | 8/11.025/12/16/ 22.05/24/32/44.1/ 48 | 8 to 320 |
| WMA Standard | | 32 to 384 |
| WMA 9 | | 32 to 384 |
| WMA 10 Pro | | 32 to 384 |
| LPCM | | 64 to 1 536<br>Supported quantization bit: 8/16/24/32 |
| AAC(LC) | | 8 to 1 440 |
| HE-AAC (Ver.2 Level4) | | 8 to 256 |

**Music**

| Extension | Codec | |
|---|---|---|
| mp3 | MPEG-1/2 Audio Layer-3<br>AAC(LC)<br>HE-AAC (Ver.1) | Sampling rate<br>Maximum 48kHz<br>Channels:<br>Maximum 2ch<br>Bit rate:<br>Maximum 320kbps |
| wma | WMA | |

**Note**

- The maximum bit rate is the upper limit on USB 3.0 memory, and depends on the performance of the USB memory device to be used.
- You can confirm some information about still pictures/ videos on a PC that can access the relevant files.
- Refer to “Supported devices” (page 116) for information about supported devices.
- Some files may not be played back even if they are supported formats shown above.
- If the number of pixels of a file exceeds the screen size, the picture quality will change.

**Example of an operation**

– Windows:

1. Right-click the file, and then click [Properties].
2. Click the [Details] tab.

– Mac:

1. Control-click the file, and then click [Get Info].
2. Click [Details].

- Maximum size per file is 2 GB.
- File/folder maximum: Up to 2000. If exceeded, only the files/folders up to the 2000th are displayed.
- Files protected by Digital Rights Management (DRM) cannot be played back.
- If files or folders include characters other than one-byte alphanumeric characters, they may not be displayed correctly, or the playback may not be done properly.
  It is recommended to use only one-byte alphanumeric characters for files and folders.
- Thumbnails may not be displayed properly even if the file is one that can be played.
- If the file name including the file path (folder information) and extension has 248 one-byte alphanumeric characters or more, the thumbnail is not displayed. (see page 130)
- When playing back in series several kinds of content with different aspect ratios, the image may be distorted momentarily when switching content.
  It is recommended to unify the aspect ratio for consecutive playback.
- Depending on the type of video, the images may be distorted momentarily when displaying thumbnails or during playback.

## Displaying the Memory Viewer screen

**Press <INPUT> to switch the input to [MEMORY VIEWER].**

Assigning the [Input] function to the numeric buttons (<1> to <6>) allows you to switch to [MEMORY VIEWER] with a single button press. (see page 79)

The thumbnails or the file list is displayed.

You can switch the display between the thumbnail view and file list view by setting [Setup] - [Memory viewer settings]. (see page 76)

**Note**

- Use the remote control to operate Memory Viewer.

### ■ Thumbnail view


**1 Thumbnails**

Displays folders, still pictures, videos and music files. The following icons will be displayed.


Moves to the upper level when selected.


Moves to the lower level when selected.


Picture file.


Video file.


Music file.


The file has a supported extension but cannot be played.

In the thumbnail view, if images for thumbnails can be displayed, icons are replaced with automatically created thumbnail images.

**Note**

- If the image includes Exif information, orientations of the thumbnail image and the playback image may differ.

**2 Displays the information of the selected file.**

**3 Remote control operation guide**

**4 Status indicator icon**

Displays the type of content, display order and playback method with icons.

**Type of content**


Still pictures


Still pictures/ Video


Video


Video/Music


Music


Still pictures/ Music


All

**Display order**


File name: Ascending


Date and time: Ascending


File name: descending


Date and time: descending

**Play method**


No repeat


Random


Single repeat


Select


All repeat


Program

■ **File list view**


**1 File list**
Displays folders, pictures, videos and music files.

**2 Displays the information of the selected file.**

**3 Remote control operation guide**

## Playing the pictures

**Select a file in the same manner in the file list view.**

### 1 In the thumbnail view / the file list view, press ▲▼◀▶ to select the file you want to play.

**Note**

- When [Play method] is [Select] or [Program], press <VOL +> <VOL -> to specify the file you want to play. (see page 77)
  File selection is canceled by the following operations:
  - Move folder
  - Change [Play method]
  - Remove USB memory device
  - Input switch
  - Power off

### 2 Press <ENTER>.

The still picture will be displayed on the full screen.


**1 Remote control operation guide**
Press the remote control buttons to perform the following operations.

◀ Skip to the previous file.

▶ Skip to the next file.

▲ Rotate the picture clockwise (90°).

▼ Rotate the picture counterclockwise (90°).

<ENTER> Pause/Restart playing.

<RETURN> Return to the list view.

<1> Not used

<2> Display/Hide the detail of the content that is being played back.

<3> Not used

<4> Not used

<5> Display/Hide the remote control operation guide.

<6> Not used

Pressing <ENTER> during play stops play temporarily. Press it again to restart play.

Pressing ◀ during play starts the play from the previous picture and pressing ▶ from the next picture.

It is possible to set play duration in [Setup] - [Memory viewer settings]. (see page 76)

### 3 Press <RETURN>.

Returns to the thumbnail view or file list view.

## Playing the video / music

### 1 Select the file you want to play in the same manner as “Playing the pictures”. (see page 131)

### 2 Press <ENTER>.

The video will be displayed on the full screen.

**Note**

- The music icon is displayed on the screen when playing music.


**1 Fast forward / Rewind / Pause indication**

- ▷ Normal play
- ▯▯ Pause
- ▷▷ Fast forward (first stage)
- ▷▷▷ Fast forward (second stage)
- ◁◁ Rewind (first stage)
- ◁◁◁ Rewind (second stage)

**2 Time bar**

**3 Remote control operation guide**

Press the remote control buttons to perform the following operations.

Pressing <4> during play will rewind and <6> will fast forward the video. The speed changes in 2 steps each time you press the button, and then returns to normal play.

- ◀ Skip to the previous file.
- ▶ Skip to the next file.
- ▲ Play from the beginning. (Plays the current file from the beginning.)
- ▼ Play from the beginning. (Plays the current file from the beginning.)

<ENTER> Pause/Restart playing.
<RETURN> Return to the list view.
<1> Skip 10 seconds backward.
<2> Display/Hide the detail of the content that is being played back.
<3> Skip 30 seconds forward.
<4> Rewind.
<5> Display/Hide the remote control operation guide.
<6> Fast forward

**Note**

- Depending on the content to be played, “Skip 10 seconds backward” or “Skip 30 seconds forward” may not operate correctly.

### 3 Press <RETURN>.

Returns to the thumbnail view or file list view.

### ■ Disabled functions

While using the Memory viewer function, the following control box functions are disabled.

- [Read user image] in [Image settings]
- Multi screen display using multiple displays
- Digital zoom
- No signal power off
- [Position]
- Function button settings (Disabled while content is being played)

**Note**

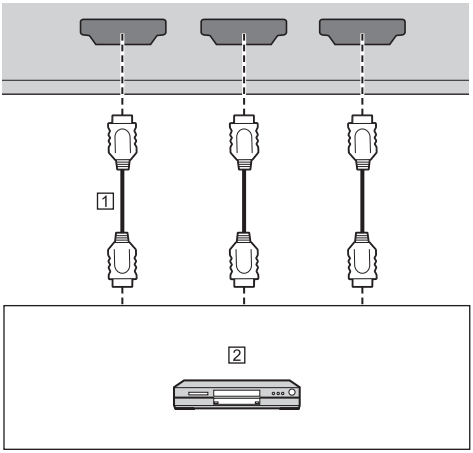
- To alleviate afterimage on the LED panel, it is recommended to use the screensaver. (see page 53)

# Using HDMI-CEC function

By linking control of this unit and an HDMI-CEC compatible device, the HDMI-CEC function enables basic operations for the HDMI-CEC compatible device to be performed by the remote control of this unit. This function also enables you to turn the power of this unit off/on and switch the input with the remote control (or main unit's buttons) of a HDMI-CEC compatible device.

## Connection example

Connect the HDMI-CEC compatible device to the HDMI IN 1, HDMI IN 2, HDMI IN 3, SLOT1 or SLOT2 terminal.




1 HDMI cable (commercially available)
2 Blu-ray disc player

## Settings

① Make the setting on the connected HDMI-CEC compatible device so this function can operate.

② Set [HDMI-CEC settings] - [HDMI-CEC control] to [Enable]. (see page 59)

③ Turn on all the devices, and turn this unit off and on. Then check if images can be seen correctly with the HDMI1, HDMI2, HDMI3, SLOT1 or SLOT2 input.

## Device linking

The following linked operations are possible by setting each item of [Link function] for [HDMI-CEC settings].

### ■ [Display → Device] linking

- **When the setting is [Power off] or [Power off / on]:**
  When this unit is turned off, the power of all the connected HDMI-CEC compatible devices turns off.
- **When the setting is [Power off / on]:**
  When this unit is turned on and the input is [HDMI1], [HDMI2], [HDMI3], [SLOT1] or [SLOT2], then the power of the HDMICEC compatible device connected to the [HDMI1], [HDMI2], [HDMI3], [SLOT1] or [SLOT2] input is turned on.
- When the input of this unit is switched to [HDMI1], [HDMI2], [HDMI3], [SLOT1] or [SLOT2], the power of the connected HDMI-CEC compatible device is turned on.

**Note**

- When the power of this unit is turned on when [Power off / on] is set, input is [HDMI1], [HDMI2], [HDMI3], [SLOT1] or [SLOT2], and more than one device is connected, the power of the most recently used device is turned on.
- When the power of this unit is turned on when [Power off / on] is set, input is [HDMI1], [HDMI2], [HDMI3], [SLOT1] or [SLOT2], and the most recently used device is no longer connected, then the power of the device indicated in [HDMI1], [HDMI2], [HDMI3], [SLOT1] or [SLOT2] in [HDMI-CEC settings] is turned on.

### ■ [Device → Display] linking

**When the setting is [Power off] or [Power off / on]:**

- When the power of the HDMI-CEC compatible device is turned on, the power of this unit is turned on and input switches to [HDMI1], [HDMI2], [HDMI3], [SLOT1] or [SLOT2] where the device is connected.
- When play is started on the HDMI-CEC compatible device, the power of this unit is turned on and input switches to [HDMI1], [HDMI2], [HDMI3], [SLOT1] or [SLOT2] where the device is connected.
- When play is started on the HDMI-CEC compatible device, the input of this unit switches to [HDMI1], [HDMI2], [HDMI3], [SLOT1] or [SLOT2] where the device is connected.

**When the setting is [Power off / on]:**

- This unit turns off when the HDMI-CEC compatible device at the current input (HDMI1/HDMI2/HDMI3/SLOT1/SLOT2) is turned off.

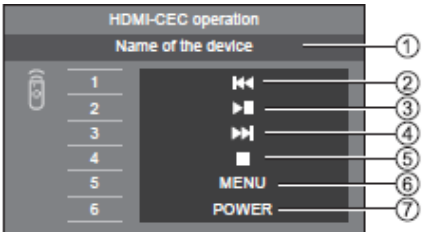
**Note**

- The device linking function that turns off this unit performs linking operations by monitoring the signal statuses of devices. Depending on the device setting, the signal continues to be output even in the power-off state. In this case, the linking function does not work. In such a case, refer to the instructions for the device.
- Input will not be switched when [Input lock] in the [Setup] menu is set.
- Depending on the status of the display or video equipment, such as when it is starting up, the devices may not link.

## Operating a device (using the remote control of this unit)

Display the operation screen in [Setup] - [HDMI-CEC settings] -[HDMI-CEC operation].

### Operation screen




① Displays the name of the device to operate.

② Plays from the position where programs or scenes are skipped backward by the number of pressed times.

③ Play/Pause (Toggle operation)

④ Plays from the position where programs or scenes are skipped forward by the number of pressed times.

⑤ Stop

⑥ Displays the setting menu of the device. (“[MENU code]”, see page 60)

⑦ Controls the power of the device.

**Note**

- It is possible to operate the HDMI-CEC compatible device with the numeric buttons <1> to <6>.

### ■ Menu operation of HDMI-CEC compatible devices

When the setting menu of the HDMI-CEC compatible device is displayed, it is possible to operate the menu with <ENTER>, ▼▲◀▶, and <RETURN> on the remote control of this unit.


**Note**

- It is not possible to operate the menu of the HDMI-CEC compatible device in the following condition.
  - When this unit is displaying menus (Setup, Picture, Sound, Position) and submenus

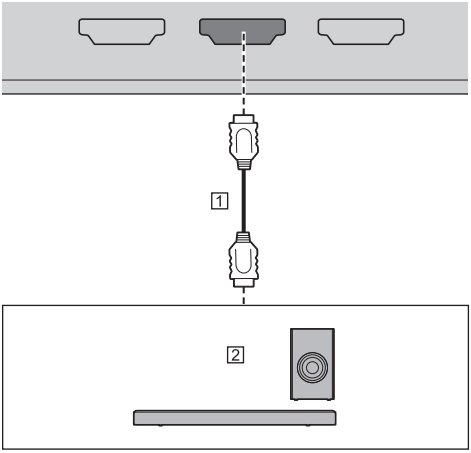
# Using ARC function

ARC (Audio Return Channel) is a function that sends digital audio signals from an HDMI terminal.

It is a function that enables the audio input into the HDMI terminal, audio input terminal, etc. of this unit to be sent to an ARC-compatible device instead of outputting from AUDIO OUT or DIGITAL AUDIO OUT.

## Connection example

Connect an ARC-compatible device to the HDMI IN 2 terminal.




1 HDMI cable (commercially available)
2 ARC-compatible audio device

## Settings

① Make the setting on the connected device (ARC-compatible device) so this function can operate.

② Set [Setup] - [HDMI-CEC settings] - [HDMI-CEC control] to [Enable]. (see page 59)

③ Set [HDMI-CEC settings] - [Link function] - [ARC] to [Auto] or [On].

④ Turn on all the devices, and turn this unit off and on. Then ensure that audio input into this unit or audio of played video, etc. is correctly played back on the ARC-compatible device.

## Switching audio output destination

The following operations are possible by setting each item of [ARC] in [HDMI-CEC settings].

### ■ [ARC]: Auto

- When the ARC-compatible device is connected to the HDMI IN 2 terminal:
  Outputs audio from the ARC-compatible device.
- When the ARC-compatible device is not connected to the HDMI IN 2 terminal, or the ARC-compatible device is not turned on:
  Outputs audio to the output destination set for [Sound] - [Output select].

### ■ [ARC]: On

- Always outputs audio from the ARC-compatible device.
- When an ARC-compatible device is not connected, audio is not output.

### ■ [ARC]: Off

- Always outputs audio to the output destination set for [Sound] - [Output select].
- Even if an ARC-compatible device is connected to the HDMI IN 2 terminal, audio is not output to the ARC-compatible device.

**Note**

- When audio is played back on the ARC-compatible device, audio is not output from AUDIO OUT or DIGITAL AUDIO OUT. The setting items in [Sound] are grayed out, and cannot be set.
- When switching audio output to AUDIO OUT or DIGITAL AUDIO OUT, set [Setup] - [HDMI-CEC settings] - [ARC] to [Off].
- Operations performed with buttons or remote control of the ARC-compatible device to operate the ARC-compatible device may not be reflected properly in display operations or on the display.
- When the ARC-compatible device is disconnected from and then connected to the control box, be sure to turn off the power of the control box, then turn it on again.
- When the ARC-compatible device is connected and [ARC] is set to [Auto] or [On], the ARC-compatible device is turned on regardless of the setting of [Display → Device].

# Using data cloning

Menu settings and adjusted values of a single control box can be copied to multiple control boxes by using a USB memory device or via LAN.

**Note**

- If the sizes of the displays are different, the cloning function does not operate. Use the same size.
- Set the input to a setting other than [USB] or [MEMORY VIEWER] to perform the data cloning.
- The cloning password is the one set for [Cloning password].
- The initial password in the factory default state is “AAAA”.
- The remote control is necessary to operate the [LAN data cloning] menu.

## ■ Data that can be copied

Menu settings and adjustment values for [Picture], [Sound], [Setup], and [Position]

User images registered in [Setup] - [Image settings]

The following content of the [Detailed set up] page on the web control screen:

[Status notification set up]

Settings for internal applications

- The following data is not copied. Setting is required for each control box.

[Cloning password]

[Security password]

[Date and time] - [Date and time]

[Date and time] - [Synchronize display setting]

[Network settings] - [Administrator account settings]

[Network settings] - [PJLink settings]

[Network settings] - [Display name]

Setting content for [Network settings] - [LAN setup]

[Time zone]

[NTP synchronization]

NTP server name

DNS server

[Control settings] - [Display ID]

The setting contents of the [Change password] page on the web control screen

The following contents of the [Detailed set up] page on the web control screen:

[Network config]

[Adjust clock]

[Command port set up]

[Certificate]

[Crestron Connected]

[HTTPS set up]

The setting contents of the [Crestron Connected] page on the web control screen

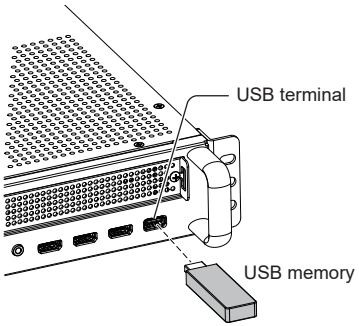
Content in the internal memory

## ■ Supported devices

- Commercially available USB memory devices are supported. (Those with security functions are not supported)
- Devices other than those formatted in FAT16 or FAT32 cannot be used.
- The maximum memory size for USB devices is 32 GB.
- Only single partition configuration is supported.

## Copying the control box data to the USB memory device

**1 Insert the USB memory device to the USB terminal on the front of the control box.**




**Note**

- Depending on the type of USB memory device, surrounding parts may interfere and it may not be possible to attach. Use a device that you can attach to this unit.
- An error message is displayed if saving to or reading from the USB memory device fails.

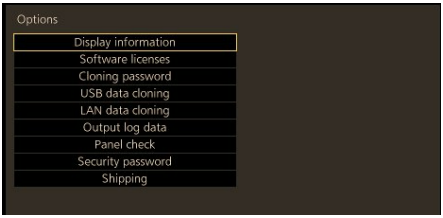
**2 After the cloning password screen is displayed, go to step 6.**

When the cloning password screen is not displayed, follow steps 3 to 5 to display it.

**3 Press <SETUP> to display the [Setup] menu.**

**4 Select [Options] with ▲▼ and press <ENTER>.**

A screen such as the following is displayed.




**5 Select [USB data cloning] with ▲▼ and press <ENTER>.**

The cloning password screen is displayed.

**6 Enter the cloning password and press <ENTER>.**

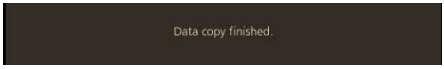
The data cloning screen is displayed.

**7 Select [Display → USB memory] with ▲▼ and press <ENTER>.**


**8 Select [Yes] with ◀▶ and press <ENTER>.**

Data cloning to the USB memory device begins.


The following message is displayed after data cloning has finished.




**9 After data cloning has finished, remove the USB memory device from the USB terminal.**

## Copying data on the USB memory device to the control box (cloning)

**1 Insert the USB memory device to which the data has been copied to the USB terminal of the control box to which the data is to be copied (the same as the one in step 1 above).**

**2 After the cloning password screen is displayed, go to step 6.**

When the cloning password screen is not displayed, follow steps 3 to 5 to display it.

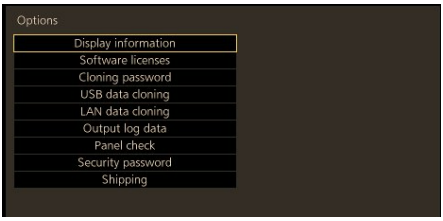
**Note**

- If the USB memory device containing the data for cloning is connected in power-on state, the cloning password screen is displayed.

**3 Press <SETUP> to display the [Setup] menu.**

**4 Select [Options] with ▲▼ and press <ENTER>.**

A screen such as the following is displayed.



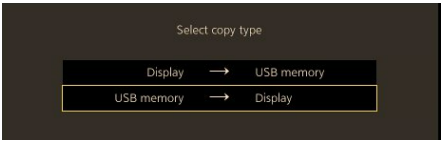

**5 Select [USB data cloning] with ▲▼ and press <ENTER>.**

The cloning password screen is displayed.

**6 Enter the cloning password and press <ENTER>.**

The data cloning screen is displayed.

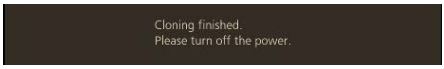
**7 Select [USB memory → Display] with ▲▼ and press <ENTER>.**




**8 Select [Yes] with ◀▶ and press <ENTER>**

Data cloning to the display begins.


The following message is displayed after data cloning has finished.




**9 After data cloning has finished, remove the USB memory device from the USB terminal.**

**10 Press the power button on the remote control to turn the power off, and then turn the power on. Or remove the power plug from the outlet once, wait for 30 seconds or more, and then insert the power plug.**

The cloned content is applied to the display.

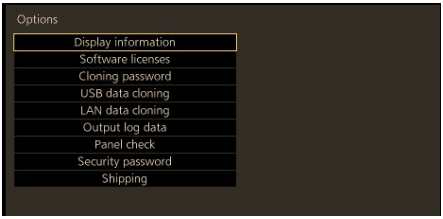
*If you did not remove the USB memory device in step 9, the cloning password screen is displayed when you turn the unit on again.

## Copying data to other control boxes via LAN

**1 Press <SETUP> to display the [Setup] menu.**

**2 Select [Options] with ▲▼ and press <ENTER>.**

A screen such as the following is displayed.




**3 Select [LAN data cloning] with ▲▼ and press <ENTER>.**

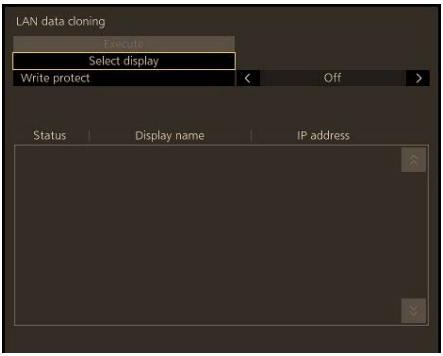
The cloning password screen is displayed.

**4 Enter the cloning password and press <ENTER>.**

The LAN data cloning screen is displayed.

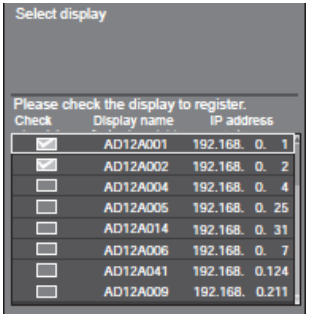
**5 Select [Select display] with ▲▼ and press <ENTER>.**

A list of displays on the same subnet is displayed.



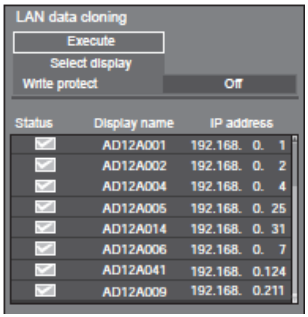

**6 Move the cursor to the display you want copy with ▲▼ and press <VOL +>.**

Select all the displays you want to copy.




**7 Press <ENTER>.**

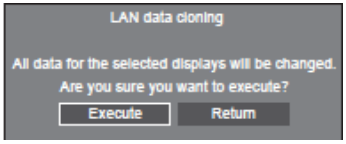
**8 Select [Execute] with ▲▼ and press <ENTER>.**



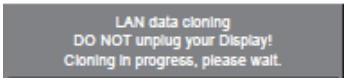

**Note**

- Data cannot be copied to displays for which [Write protect] is set to [On]. Set this to [On] to prevent [LAN data cloning] from being performed mistakenly when data copy is not necessary.
- Once [LAN data cloning] is performed, [Write protect] is set to [On].

**9 A confirmation window appears. Select [Execute] with ◀▶ and press <ENTER>.**

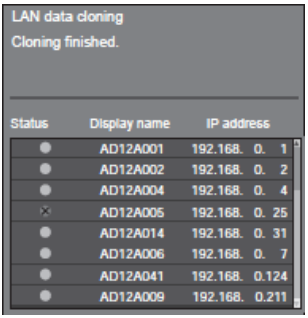



Data copy to the display begins.

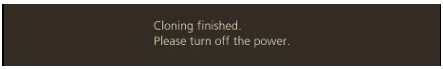


## 10 The exit screen appears.

The blue mark on the list shows the data has been copied successfully. The red mark shows failure. If the red mark appears, check the LAN cable connection or power status of the display of the copy destination.




If the data copy has finished, a message appears on the display of the copy destination.

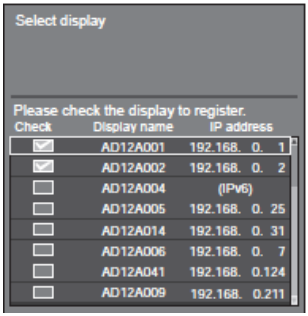



## 11 Press the power button on the remote control to turn the power off, and then turn the power on. Or remove the power plug from the outlet once, wait for 30 seconds or more, and then insert the power plug.

The copied content is applied to the display.

**Note**

- When a display with an IPv6 address is connected in LAN data cloning operation, the IP address is displayed as (IPv6). Note that if the display can communicate with both IPv4 and IPv6, the IPv4 address is displayed.



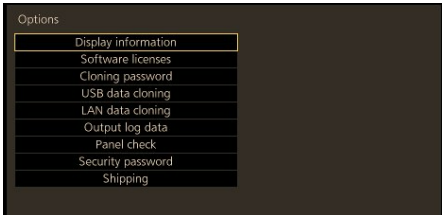

## Changing the cloning password

**Changes the cloning password required to use the cloning function.**

### 1 Press <SETUP> to display the [Setup] menu.

### 2 Select [Options] with ▲▼ and press <ENTER>.

A screen such as the following is displayed.




### 3 Select [Cloning password] with ▲▼ and press <ENTER>.

The cloning password screen is displayed.

### 4 Enter the current password, and press [Ok].

### 5 Enter the new password, and press [Ok].

### 6 Enter the new password again for confirmation, and press [Ok].

**Note**

- The initial password in the factory default state is “AAAA”.
- Change the password periodically, and set one which is difficult to guess.
- For the method to initialize the cloning password, consult the dealer where you purchased the product.

# USB memory network settings

Using a USB memory device, network settings can be made for multiple control boxes.

## ■ About the settings

The following items in [Network settings] - [LAN setup] can be set:

**IP address, subnet mask, gateway, command port, EAP**

**Note**

- [Network settings] - [LAN setup] - [DHCP] is set to [Off].
- [Network settings] - [Network control] is set to [On].
- Make sure that [Network settings] - [USB memory network settings] is set to [Permit].
  If it is set to [Prohibit], network settings cannot be made with this function. (see page 74)
- Once the network settings have been made with a USB memory device, [Network settings] - [USB memory network settings] is set to [Prohibit].
- Network setting with this function does not work during communication with IPv6 settings.

## ■ Supported devices

- Commercially available USB memory devices are supported. (Those with security functions are not supported. Operation is not guaranteed.)
- Devices other than those formatted in FAT16 or FAT32 cannot be used.
- The maximum memory size for USB memory devices is 32 GB.
- Only single partition configuration is supported.
- Use a write-enabled USB memory device.

## Saving the LAN setting file to the USB memory device

**Create the following file, and save it to the USB memory device.**

**File name: tl-110AD12A_network.sh**

**Setting example**

```
TL-110AD12A_LAN_SETTINGS
A:192.168.0.18
S:255.255.255.0
G:192.168.0.1
P:1024
I:ON
E:EAP-TLS
E_U:EAPUSER
E_P:eappassword
E_D:digitalcertificate.pfx
E_C:cacerficate.cer
```

**TL-110AD12A_LAN_SETTINGS:**

Fixed characters represent the model name. Be sure to input as follows.

TH-(inch size)(Model name)_LAN_SETTINGS

**A:** Specifies the IP address.

**S:** Specifies the subnet mask.

**G:** Specifies the gateway address.

**P:** Specifies the port number to be used with command control.

**I:** Setting this to [ON] enables setting of individual IP addresses for each unit.
Within the specifiable IP address range, each control box is assigned a single IP address, counting up 1 at a time.

**E**: Selects the EAP setting. Define the setting referring to the following.

- NONE
- PEAP(MS-CHAPv2)
- PEAP(GTC)
- EAP-TTLS(MD5)
- EAP-TTLS(MS-CHAPv2)
- EAP-FAST(MS-CHAPv2)
- EAP-FAST(GTC)
- EAP-TLS

**E_U:** Specifies the EAP user name. This is referred to only when EAP is set to something other than [NONE].

**E_P:** Specifies the EAP password. This is referred to only when EAP is set to something other than [NONE].

**E_D:** Define the file name of the electronic certificate (extension: PFX) used for authentication. This is referred to only when EAP is set to [EAP-TLS].

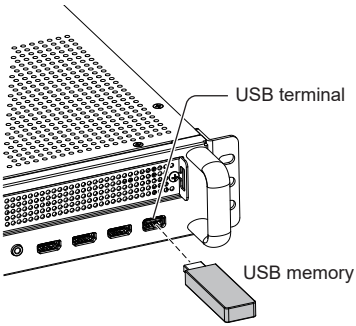
**E_C:** Define the file name of the CA certificate (extension: CER) used for authentication. This is referred to only when EAP is set to [EAP-TLS].

**Note**

- Deleting the rows “S”, “G”, “P” or “E” will not overwrite the deleted setting items. The original setting contents are retained.
- When the row “I” is deleted, it will be set to [On] automatically.
- Be sure to fill in the rows of the fixed characters and IP address.
- If the network settings fail with this function, an error message is displayed.
  If it fails, the network settings are not changed.
  Confirm the file descriptions, and insert the USB memory device again.
- This function works only when a file with the above file name exists in the USB memory device.
- Use one-byte alphanumeric characters to describe file contents.

## Copying the USB memory data to this unit

**1 Insert the USB memory device to the USB terminal on the front of the control box.**




**2 The [LAN setup] screen is displayed after data copy has finished.**

**3 Remove the USB memory device from the USB terminal.**

# Using the ID remote control function

When using multiple control boxes near each other, you can use the remote control to control each control box individually. To do so, match the ID number of the Display set in [Control settings] - [Display ID] and the remote control ID number. Set the remote control ID number with the following procedure.

**Note**

- You will need a separately sold ID remote control (model number N2QAYA000093) to use this function.


## Setting the remote control's ID number

**1 Set [Control settings] - [Controller ID function] to [On].**

(see page 82)

**2 Set the remote control's <ID MODE> switch to <ON>.**

**3 Pointing the remote control at the Display you want to control, press <ID SET>.**


**4 Press one of <0> – <9>.**

(Sets the first digit)

**5 Press one of <0> – <9>.**

(Sets the second digit)

- Complete steps 3 to 5 within 5 seconds.
- ID numbers can be set between 0 and 100.

  Example:
  - To set the ID to "1": After step 3, press <0> and then <1>.
  - To set the ID to "12": After step 3, press <1> and then <2>.
  - To set the ID to "100": After step 3, press <1>, <0>, and then <0>.

## Canceling the remote control ID number setting (ID "0")

You can operate control boxes even if the ID number of the remote control does not match the ID number set in [Control settings] - [Display ID].

**1 Press <ID SET> for 3 seconds or more.**

(This has the same effect as pressing <ID SET>, <0>, and then <0>.)

# Entering characters

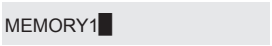
Depending on the setting, you may need to enter characters.

Select the characters from the keyboard displayed on the screen to enter them.

Example: Entering a profile name ([Memory save])


[MEMORY1] is already displayed in the input box of the keyboard screen, and we will change this to the memory name [MY PICTURE].

**1 Press ▲▼◀▶ to select [All delete], then press <ENTER>.**




All text is deleted.

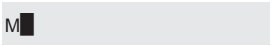
To delete individual characters, select [Delete].

**2 Press ▲▼◀▶ to select [a/A/@] then press <ENTER>.**


Switches the keyboard to the uppercase alphabet.

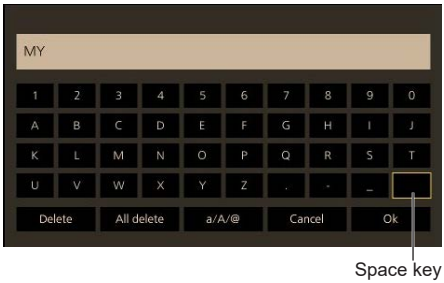
Each time <ENTER> is pressed, the keyboard is switched in the order of lowercase, uppercase and symbols.

**3 Press ▲▼◀▶ to select [M] then press <ENTER>.**




Repeat this process to enter the next character.

**4 Press ▲▼◀▶ to select the space key, then press <ENTER>.**




As shown in step 3, select the characters to enter [Picture].

**5 When you finished entering the profile name, select [Ok] with ▲▼◀▶ and press <ENTER>.**


- To cancel saving the profile, select [Cancel].

# Preset signals

This unit can display the video signals shown in the table below.

| Supported signals | Resolution (dots) | Scanning frequency | | Dot clock frequency (MHz) | Plug and play-supported signals*2 | | |
|---|---|---|---|---|---|---|---|
| | | | | | HDMI | | |
| | | Horizontal (kHz) | Vertical (Hz) | | 4K/60p*3 | 4K/30P | 2K |
| 480/60i | 720 (1 440) x 480i*1 | 15.73 | 59.94 | 27.00 | ○ | ○ | ○ |
| 576/50i | 720 (1 440) x 576i*1 | 15.63 | 50.00 | 27.00 | ○ | ○ | ○ |
| 480/60p | 720 x 483 | 31.47 | 59.94 | 27.00 | ○ | ○ | ○ |
| 576/50p | 720 x 576 | 31.25 | 50.00 | 27.00 | ○ | ○ | ○ |
| 720/60p | 1 280 x 720 | 45.00 | 60.00 | 74.25 | ○ | ○ | ○ |
| 720/50p | 1 280 x 720 | 37.50 | 50.00 | 74.25 | ○ | ○ | ○ |
| 1080/60i | 1 920 x 1 080i | 33.75 | 60.00 | 74.25 | ○ | ○ | ○ |
| 1080/50i | 1 920 x 1 080i | 28.13 | 50.00 | 74.25 | ○ | ○ | ○ |
| 1080/24p | 1 920 x 1 080 | 27.00 | 24.00 | 74.25 | ○ | ○ | ○ |
| 1080/24PsF | 1 920 x 1 080i | 27.00 | 48.00 | 74.25 | — | — | — |
| 1080/25p | 1 920 x 1 080 | 28.13 | 25.00 | 74.25 | ○ | ○ | ○ |
| 1080/30p | 1 920 x 1 080 | 33.75 | 30.00 | 74.25 | ○ | ○ | ○ |
| 1080/60p | 1 920 x 1 080 | 67.50 | 60.00 | 148.50 | ○ | ○ | ○ |
| 1080/50p | 1 920 x 1 080 | 56.25 | 50.00 | 148.50 | ○ | ○ | ○ |
| 2K/24p | 2 048 x 1 080 | 27.00 | 24.00 | 74.25 | — | — | — |
| 2K/25p | 2 048 x 1 080 | 28.13 | 25.00 | 74.25 | — | — | — |
| 2K/30p | 2 048 x 1 080 | 33.75 | 30.00 | 74.25 | — | — | — |
| 2K/48p | 2 048 x 1 080 | 54.00 | 48.00 | 148.50 | — | — | — |
| 2K/60p | 2 048 x 1 080 | 67.50 | 60.00 | 148.50 | — | — | — |
| 2K/50p | 2 048 x 1 080 | 56.25 | 50.00 | 148.50 | — | — | — |
| 3840 x 2160/24p | 3 840 x 2 160 | 54.00 | 24.00 | 297.00 | ○ | ○ | — |
| 3840 x 2160/25p | 3 840 x 2 160 | 56.25 | 25.00 | 297.00 | ○ | ○ | — |
| 3840 x 2160/30p | 3 840 x 2 160 | 67.50 | 30.00 | 297.00 | ○ | ○ | — |
| 3840 x 2160/60p | 3 840 x 2 160 | 135.00 | 60.00 | 594.00 | ○ | — | — |
| 3840 x 2160/50p | 3 840 x 2 160 | 112.50 | 50.00 | 594.00 | ○ | — | — |
| 4096 x 2160/24p | 4 096 x 2 160 | 54.00 | 24.00 | 297.00 | ○ | ○ | — |
| 4096 x 2160/25p | 4 096 x 2 160 | 56.25 | 25.00 | 297.00 | ○ | ○ | — |
| 4096 x 2160/30p | 4 096 x 2 160 | 67.50 | 30.00 | 297.00 | ○ | ○ | — |
| 4096 x 2160/60p | 4 096 x 2 160 | 135.00 | 60.00 | 594.00 | ○ | — | — |
| 4096 x 2160/50p | 4 096 x 2 160 | 112.50 | 50.00 | 594.00 | ○ | — | — |
| 640 x 400/70 | 640 x 400 | 31.47 | 70.09 | 25.18 | — | — | — |
| 640 x 400/85 | 640 x 400 | 37.86 | 85.08 | 31.50 | — | — | — |
| 640 x 480/60 | 640 x 480 | 31.47 | 59.94 | 25.18 | ○ | ○ | ○ |
| 640 x 480/67 | 640 x 480 | 35.00 | 66.67 | 30.24 | — | — | — |
| 640 x 480/73 | 640 x 480 | 37.86 | 72.81 | 31.50 | — | — | — |
| 640 x 480/75 | 640 x 480 | 37.50 | 75.00 | 31.50 | — | — | — |
| 640 x 480/85 | 640 x 480 | 43.27 | 85.01 | 36.00 | — | — | — |
| 800 x 600/56 | 800 x 600 | 35.16 | 56.25 | 36.00 | — | — | — |
| 800 x 600/60 | 800 x 600 | 37.88 | 60.32 | 40.00 | ○ | ○ | ○ |
| 800 x 600/72 | 800 x 600 | 48.08 | 72.19 | 50.00 | — | — | — |
| 800 x 600/75 | 800 x 600 | 46.88 | 75.00 | 49.50 | — | — | — |
| 800 x 600/85 | 800 x 600 | 53.67 | 85.06 | 56.25 | — | — | — |
| 832 x 624/75 | 832 x 624 | 49.72 | 74.55 | 57.28 | — | — | — |
| 852 x 480/60 | 852 x 480 | 31.47 | 59.94 | 34.24 | — | — | — |

| Supported signals | Resolution (dots) | Scanning frequency | | Dot clock frequency (MHz) | Plug and play-supported signals*2 | | |
|---|---|---|---|---|---|---|---|
| | | | | | HDMI | | |
| | | Horizontal (kHz) | Vertical (Hz) | | 4K/60p*3 | 4K/30P | 2K |
| 1024 x 768/50 | 1 024 x 768 | 39.55 | 50.00 | 51.89 | — | — | — |
| 1024 x 768/60 | 1 024 x 768 | 48.36 | 60.00 | 65.00 | ○ | ○ | ○ |
| 1024 x 768/70 | 1 024 x 768 | 56.48 | 70.07 | 75.00 | — | — | — |
| 1024 x 768/75 | 1 024 x 768 | 60.02 | 75.03 | 78.75 | — | — | — |
| 1024 x 768/82 | 1 024 x 768 | 65.55 | 81.63 | 86.00 | — | — | — |
| 1024 x 768/85 | 1 024 x 768 | 68.68 | 85.00 | 94.50 | — | — | — |
| 1066 x 600/60 | 1 066 x 600 | 37.64 | 59.94 | 53.00 | — | — | — |
| 1152 x 864/60 | 1 152 x 864 | 53.70 | 60.00 | 81.62 | — | — | — |
| 1152 x 864/70 | 1 152 x 864 | 63.99 | 70.02 | 94.20 | — | — | — |
| 1152 x 864/75 | 1 152 x 864 | 67.50 | 75.00 | 108.00 | — | — | — |
| 1152 x 864/85 | 1 152 x 864 | 77.09 | 85.00 | 119.65 | — | — | — |
| 1152 x 870/75 | 1 152 x 870 | 68.68 | 75.06 | 100.00 | — | — | — |
| 1280 x 720/60 | 1 280 x 720 | 44.76 | 60.00 | 74.48 | — | — | — |
| 1280 x 768/50 | 1 280 x 768 | 39.55 | 49.94 | 65.18 | — | — | — |
| 1280 x 768/60 | 1 280 x 768 | 47.70 | 60.00 | 80.14 | — | — | — |
| 1280 x 768/60 | 1 280 x 768 | 47.78 | 59.87 | 79.50 | — | — | — |
| 1280 x 800/50 | 1 280 x 800 | 41.20 | 50.00 | 68.56 | — | — | — |
| 1280 x 800/60 | 1 280 x 800 | 49.31 | 59.91 | 71.00 | — | — | — |
| 1280 x 800/60 | 1 280 x 800 | 49.70 | 59.81 | 83.50 | — | — | — |
| 1280 x 960/60 | 1 280 x 960 | 60.00 | 60.00 | 108.00 | — | — | — |
| 1280 x 1024/60 | 1 280 x 1 024 | 63.98 | 60.02 | 108.00 | ○ | ○ | ○ |
| 1280 x 1024/75 | 1 280 x 1 024 | 79.98 | 75.02 | 135.00 | — | — | — |
| 1280 x 1024/85 | 1 280 x 1 024 | 91.15 | 85.02 | 157.50 | — | — | — |
| 1360 x 768/60 | 1 360 x 768 | 47.71 | 60.02 | 85.50 | — | — | — |
| 1360 x 768/60 | 1 360 x 768 | 47.70 | 60.00 | 84.72 | — | — | — |
| 1360 x 768/60 | 1 360 x 768 | 47.72 | 59.80 | 84.75 | — | — | — |
| 1366 x 768/50 | 1 366 x 768 | 39.55 | 50.00 | 69.92 | — | — | — |
| 1366 x 768/60 | 1 366 x 768 | 48.39 | 60.03 | 86.71 | — | — | — |
| 1366 x 768/60 | 1 366 x 768 | 48.00 | 60.00 | 72.00 | — | — | — |
| 1366 x 768/50 | 1 366 x 768 | 39.56 | 49.89 | 69.00 | — | — | — |
| 1366 x 768/60 | 1 366 x 768 | 47.71 | 59.79 | 85.50 | — | — | — |
| 1400 x 1050/60 | 1 400 x 1 050 | 65.22 | 60.00 | 122.61 | — | — | — |
| 1400 x 1050/75 | 1 400 x 1 050 | 82.20 | 75.00 | 155.85 | — | — | — |
| 1440 x 900/60 | 1 440 x 900 | 55.47 | 59.90 | 88.75 | — | — | — |
| 1440 x 900/60 | 1 440 x 900 | 55.92 | 60.00 | 106.47 | — | — | — |
| 1600 x 900/50 | 1 600 x 900 | 46.30 | 50.00 | 97.05 | — | — | — |
| 1600 x 900/60 | 1 600 x 900 | 60.00 | 60.00 | 108.00 | — | — | — |
| 1600 x 900/60 | 1 600 x 900 | 55.99 | 59.95 | 118.25 | — | — | — |
| 1600 x 900/60 | 1 600 x 900 | 55.92 | 60.00 | 119.00 | — | — | — |
| 1600 x 1200/60 | 1 600 x 1 200 | 75.00 | 60.00 | 162.00 | — | — | — |
| 1680 x 1050/60 | 1 680 x 1 050 | 65.29 | 59.95 | 146.25 | — | — | — |
| 1920 x 1080/60 | 1 920 x 1 080*4 | 66.59 | 59.93 | 138.50 | — | — | — |
| 1920 x 1080/60 | 1 920 x 1 080 | 67.50 | 60.00 | 148.50 | ○ | ○ | ○ |
| 1920 x 1200/60 | 1 920 x 1 200 | 74.04 | 59.95 | 154.00 | ○ | ○ | ○ |
| 1920 x 2160/60 | 1 920 x 2 160 | 133.29 | 59.99 | 277.25 | — | — | — |
| 1920 x 2160/60 | 1 920 x 2 160 | 135.00 | 60.00 | 297.00 | — | — | — |
| 2560 x 1440/60 | 2 560 x 1 440 | 88.79 | 59.95 | 241.50 | — | ○ | — |
| 2560 x 1600/50 | 2 560 x 1 600 | 82.37 | 49.95 | 286.00 | — | — | — |
| 2560 x 1600/60 | 2 560 x 1 600 | 98.71 | 59.97 | 268.50 | — | — | — |

| Supported signals | Resolution (dots) | Scanning frequency | | Dot clock frequency (MHz) | Plug and play-supported signals*2 | | |
|---|---|---|---|---|---|---|---|
| | | | | | HDMI | | |
| | | Horizontal (kHz) | Vertical (Hz) | | 4K/60p*3 | 4K/30P | 2K |
| 3840 x 1080/60 | 3 840 x 1 080 | 66.63 | 59.97 | 266.50 | — | — | — |
| 3840 x 2160/30 | 3 840 x 2 160 | 65.69 | 29.98 | 262.75 | — | — | — |
| 3840 x 2160/60 | 3 840 x 2 160 | 133.31 | 60.00 | 533.25 | — | — | — |

*1: Pixel-Repetition signal (dot clock frequency 27.0 MHz) only

*2: Signals with ○ in the Plug and play-supported signals column are the ones described in EDID (Extended Display Identification Data) of this unit.
For signals without ○ in the Plug and play-supported signals column, resolutions may not be selected on the PC side even if this unit supports those signals.

*3: 4K/60p means 4K/60p/HDR and 4K/60p/SDR.

*4: Conforms to VESA CVT-RB (Reduced Blanking)

**Note**

- All LED displays have a resolution of 1920 x 1 080. Signals with a different resolution are converted to this resolution.
- An auto detected signal format may be differently displayed from the actual input signal.
- [ i ] shown after the number of dots of resolution means the interlace signal.
- When 1080/30PsF signal and 1080/25PsF signal are input, they are processed as 1080/60i signal and 1080/50i signal, and then displayed.

# Restoring factory settings

Return the following data to the factory settings.

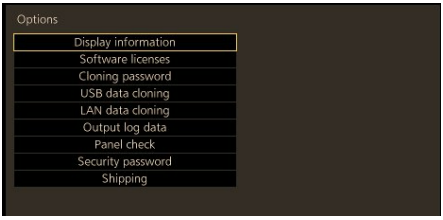
Menu settings and adjustment values for [Picture], [Sound], [Setup], and [Position], user images registered in [Setup] - [Image settings]

■ **Remote control**

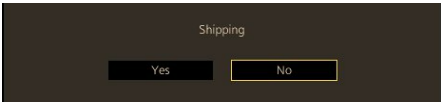
**1 Press <SETUP> to display the [Setup] menu.**

**2 Select [Options] with ▲▼ and press <ENTER>.**

A screen such as the following is displayed.




**3 Select [Shipping] with ▲▼ and press <ENTER>.**




**4 Select [Yes] with ◀▶ and press <ENTER>.**

The message [Shipping ( Wait a moment )] will be displayed.

**5 After the message [Please turn off the power.] is displayed, press the power switch on this unit (⏻/I) to turn off the power.**

*If the power switch cannot be operated, disconnect the power plug from the socket outlet.

# Restoring the remote control user level to the standard value

If you are unable to control this unit using the remote control due to the settings in [Controller user level] and [Controller ID function], use the following procedure to turn the settings [Off] to make operation possible again.

## If you have made [Controller user level] or [Controller ID function] settings

**1 Press and hold <SETUP> on the remote control for 5 seconds or more.**

The [Controller user level] and [Controller ID function] settings return to [Off].

# Troubleshooting

**Before you call for service, determine the symptoms and make a few simple checks as shown below.**

| Symptoms | Check | Reference page |
|---|---|---|
| Some points on the screen are not lighting | ● LED panels are made using high-precision technologies, but on the screen there will be some point defects where they may not light or may remain on. These do not indicate a malfunction. | — |
| No power | ● Not plugged into AC outlet, connector loose | 17 |
| Automatic power off | ● Check if [No signal power off], Power management function for each input, or [No activity power off] is set to [On] ([Enable]). | 56, 57, 62 |
| Power indicator is blinking in red. | ● There may be a malfunction. Consult the dealer where you purchased the product. | — |
| The power indicator blinks in the power status color (green, orange, or red) at 1 second intervals. | ● The LAN cable connecting the control box and power box may not be connected. | — |
| No remote control operation | ● Batteries depleted. Incorrect battery installation.<br>● Check whether the remote control sensor is exposed to light from outside or strong fluorescent light.<br>● Check whether any obstacle is present between the remote control sensor and the remote control.<br>● Not using dedicated remote control for this unit (Other remote control transmitters will not work)<br>● Check whether the option other than [Off] is selected in [Controller user level].<br>● Check whether [Controller ID function] is set to [On].<br>● Check whether <ID MODE> switch on the remote control is set to <ON>. (When using ID remote controller) | —<br>—<br>—<br>—<br>85<br>82<br>143 |
| Controller ID function cannot be used. (When using ID remote controller) | ● Check whether [Controller ID function] is set to [On]. Also check whether <ID MODE> switch on the remote control is set to <ON>. (When [Controller ID function] is set to [On], you need to set <ID MODE> switch on the remote control to <ON> and set the ID number.) | 82 |
| Takes time for images to appear | ● A variety of signals go through digital processing to produce brilliant images on this unit, so when the power is turned on and the input is switched, it may take some time for the images to appear on the screen. | — |
| Spots on the screen | ● Possible interference from automobiles, trains, high-voltage power lines, neon lights, etc. | — |
| Pale colors | ● Check if color shade is adjusted correctly. (Check the image adjustment values.) | 39 |
| Colored patterns appear<br>Colors disappear | ● Receiving interference from AV devices<br>This can be improved by changing the installation location of this unit. | — |

| Symptoms | Check | Reference page |
|---|---|---|
| Missing parts at the top or bottom of the screen | ● Position of the image on the screen adjusted incorrectly<br>Readjust the screen position. | 37 |
| Parts of the screen at the top and bottom do not show images | ● Image software shot using an aspect ratio longer than 16:9 (cinema-size software, etc.) results in bands at the top and bottom of the screen. | — |
| There is flickering in the outlines in the images | ● In parts of images with movement, there may be some observable flickering in outlines. This is due to the characteristics of the system driving the LED panel and is not a malfunction. | — |
| No picture appears or no sound is heard, occasionally. | ● If the HDMI signal is input to this unit via a selector or image distributor, depending on the device being used, images and sound may not be output correctly.<br>The symptoms may be rectified by either turning this unit off and on again or replacing the selector or image distributor. | — |
| Distorted sound, noticeable noise | ● Audio exceeding the rating (0.5 Vrms) is being input to the audio input terminal (AUDIO IN).<br>Input within the rating. | 152 |
| Unusual display, no images, for example, or remote control operations suddenly stop | ● Sophisticated software is used in this unit. If you feel like there is something unusual happening, such as no remote control operations or disrupted displays, unplug the power plug from the socket outlet, then after waiting at least about 5 seconds, plug it in again and turn on the power. | 27 |
| No RS-232C control | ● Connections | 21 |
| No LAN control | ● Connections<br>● To control with web browser control or command control, check that [Network settings] - [Network control] is set to [On].<br>● Check that [LAN setup] is set properly.<br>● When connected to an AMX, Extron or Crestron Electronics, Inc. device, make the [AMX D. D.], [Extron XTP] or [Crestron Connected™] settings to match the device.<br>● See the [DIGITAL LINK status] - [Signal quality] information to check the LAN cable status such as whether the LAN cable is disconnected or the cable is not shielded. | 87<br>68<br>70<br>69, 74<br>73 |
| There is no picture or sound output from the DIGITAL LINK IN terminal | ● Check whether the connection has been made properly between the video (output) equipment and twisted pair cable transmitter and between the twisted pair cable transmitter and this unit.<br>● Check that [Network settings] - [DIGITAL LINK mode] is not set to [Ethernet]. | —<br>72 |
| Files can be played with the USB Media Player but not with the Memory Viewer. | ● Check the specifications of the USB Media Player play file and the specifications of the Memory Viewer play file. | 116, 128 |

# Specifications

## Product

| Model No. | TY-CTRFHD1W |
|---|---|
| Device type | Control Box |
| Power supply | AC 220 V – 240 V, 50/60 Hz |
| | 1.0 A |
| Power consumption | 57 W *1 |
| | 0.5 W when the operating power is turned off by the remote control transmitter |
| Operating condition | Temperature: 0 °C – 40 °C (32 °F – 104 °F) *2<br>Humidity: 10 % – 80 % (no condensation) |
| Operating time | 24 hours/day |
| Supply power for SLOT 1 | 3.3 V / max 1.1 A, 12 V / max 5.5 A |
| Supply power for SLOT 2 | 3.3 V / max 1.1 A, 12 V / max 2.75 A |
| HDMI input terminals<br>HDMI IN 1<br>HDMI IN 2<br>HDMI IN 3 | TYPE A Connector*3 × 3 (Supports 4K)<br>Compatible with HDCP 2.2<br>Audio signal: Linear PCM (sampling frequencies: 48 kHz, 44.1 kHz, 32 kHz) |
| HDMI output terminal<br>HDMI OUT | TYPE A connector × 1 (Supports 4K)<br>Compatible with HDCP 2.2<br>Audio signal: Linear PCM (sampling frequencies: 48 kHz, 44.1 kHz, 32 kHz) |
| Audio input terminal<br>AUDIO IN | Stereo mini jack (M3) (φ 3.5 mm) × 1, 0.5 Vrms |
| Audio output terminal<br>AUDIO OUT | Stereo mini jack (M3) (φ 3.5 mm) × 1, 0.5 Vrms |
| Digital audio output terminal<br>DIGITAL AUDIO OUT | SPDIF |
| Serial input terminal<br>SERIAL IN | External Control Terminal<br>D-sub 9 Pin × 1: RS-232C compatible |
| LAN terminal<br>LAN | RJ45 × 1: For network connection, compatible with PJLink<br>Communication method: RJ45, 10BASE-T / 100BASE-TX |
| Remote control input terminal<br>IR IN | Stereo mini jack (M3) (φ 3.5 mm) × 1 |
| USB terminal<br>USB | USB connector × 1, TYPE A<br>DC 5 V / max 1 A, Compatible with USB 3.0 |
| LED drive output terminal<br>LED DRIVE OUT | RJ45 × 8: For LED video signal output |
| Power Box control terminal<br>CONTROL for PB | RJ45 × 1: For Power Box control |
| USB terminals (for service use)<br>(SERVICE ONLY) | USB connector × 1, TYPE A<br>USB connector × 1, TYPE mini B |
| Dimensions (W × H × D) | 441 mm × 62 mm × 696 mm / 17.37” × 2.44” × 27.41” |
| Mass | Approx. 6.7 kg / 14.8 lbs |

## Remote Control Transmitter

| Power source | DC 3 V (battery (AAA/R03/LR03 type) × 2) |
|---|---|
| Operating range | Approx. 7 m (22.9 ft)<br>(when operated directly in front of remote control sensor) |
| Mass | Approx. 63 g / 2.22 oz (including batteries) |
| Dimensions (W × H × D) | 48 mm × 134 mm × 20 mm / 1.89” × 5.28” × 0.76” |

*1 Shipping condition
*2 Environmental temperature to use this unit at high altitudes (1 400 m (4 593 ft) and higher and below 2 800 m (9 186 ft) above sea level): 0 °C to 35 °C (32 °F to 95 °F)
*3 VIERA LINK is not supported.

**Note**

- Design and specifications are subject to change without notice. Mass and dimensions shown are approximate.

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Contact Information:
oss-cd-request@gg.jp.panasonic.com

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## Disposal of Old Equipment and Batteries

## Only for European Union and countries with recycling systems

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries must not be mixed with general household waste. For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points in accordance with your national legislation. By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment. For more information about collection and recycling, please contact your local authority. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

**Note for the battery symbol (bottom symbol)**
This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

## Customer's Record

The model number and serial number of this product may be found on its rear panel. You should note this serial number in the space provided below and retain this book, plus your purchase receipt, as a permanent record of your purchase to aid in identification in the event of theft or loss, and for Warranty Service purposes.

**Model Number** **Serial Number**

Manufactured by:
Panasonic Projector & Display Corporation
2-15 Matsuba-cho, Kadoma City, Osaka 571-8503, Japan
Importer:
Panasonic Connect Europe GmbH
Hagenauer Strasse 43, 65203 Wiesbaden, Germany
Authorized Representative in EU:
Panasonic Connect Europe GmbH
Panasonic Testing Centre
Winsbergring 15, 22525 Hamburg, Germany

Importer for UK:
Panasonic Connect UK,
a branch of Panasonic Connect Europe GmbH,
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