Panasonic®

Operating Instructions

UHD LCD Display | For business use

Model No. **TH-84LQ70U** 84-inch model
TH-98LQ70U 98-inch model
TH-84LQ70W 84-inch model
TH-98LQ70W 98-inch model

4K
PROFESSIONAL
*Actual resolution: 3840 × 2160p

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

HƆMI

Dear Panasonic Customer

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

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   http://panasonic.net

Table of Contents

Before use

- Illustrations and screens in this Operating Instructions are images for illustration purposes, and may be different from the actual ones.
- Descriptive illustrations in this Operating Instructions are created mainly based on the 84-inch model.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

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

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 containers with water (flower vase, cups, cosmetics, etc.) above the set.

(including on shelves above, etc.)

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) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) 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.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments / accessories specified by the manufacturer.
12) 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.
13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) 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.
15) To prevent electric shock, ensure the grounding pin on the AC cord power plug is securely connected.

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced technician for help.

This device complies with Part15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC CAUTION:

To assure continued compliance, follow the attached installation instructions and use only shielded interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by Panasonic Corp. of North America could void the user's authority to operate this device.

FCC Declaration of Conformity

Model No.

TH-84LQ70U, TH-98LQ70U

Responsible Party:

Panasonic Corporation of North America

Two Riverfront Plaza, Newark, New Jersey

07102-5490

Contact Source:

Panasonic System Communications Company of North America

1-877-655-2357

CANADIAN NOTICE:

This Class B digital apparatus complies with Canadian ICES-003.

Note:

Image retention may occur. If you display a still picture for an extended period, the image might remain on the screen. However, it will disappear when a general moving picture is displayed for a while.

Trademark Credits

- Microsoft®, Windows®, Windows Vista®, Windows®7, Windows®8 and Internet Explorer® are the registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Macintosh, Mac, Mac OS, OS X and Safari are the trademarks of Apple Inc. registered in the United States and other countries.
- PJLink is a registered or pending trademark in Japan, the United States, and other countries and regions.
- HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.
- DisplayPort is a trademark owned by the Video Electronics Standards Association in the United States and other countries.
- JavaScript is a registered trademark or a trademark of Oracle Corporation and its subsidiary and associated companies in the United States and/or other countries.

Even if no special notation has been made of company or product trademarks, these trademarks have been fully respected.

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 containers with water (flower vase, cups, cosmetics, etc.) above the set. (including on shelves above, etc.)

   No naked flame sources, such as lighted candles, should be placed on / above the set.

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.

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

IMPORTANT INFORMATION

If a display is not positioned in a sufficiently stable location, it can be potentially hazardous due to falling. Many injuries, particularly to children, can be avoided by taking simple precautions such as:

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

IMPORTANT: THE MOULDED PLUG
FOR YOUR SAFETY, PLEASE READ THE FOLLOWING TEXT CAREFULLY.

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

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

If the plug contains a removable fuse cover, you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from 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 display.
The supplied mains lead and moulded plug are designed to be used with this display to avoid interference and for your safety.
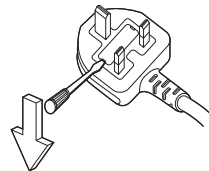
If the socket outlet in your home is not suitable, get it changed by a qualified electrician.

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

WARNING : — THIS DISPLAY MUST BE EARTHED.

How to replace the fuse.

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

Safety Precautions

WARNING

■ Setup

This LCD Display is for use only with the following optional accessories.

Use with any other type of optional accessories may cause instability which could result in the possibility of injury.

(All of the following accessories are manufactured by Panasonic Corporation.)

- Pedestal*
  - TY-ST85P12 [84-inch model]
  - TY-ST103PF9 [98-inch model]
- Mobile stand for Display
  - TY-ST85PB1 [84-inch model]
- Wall-hanging bracket (vertical)*
  - TY-WK85PV12 [84-inch model]
  - TY-WK103PV9 [98-inch model]
- Ceiling-hanging bracket*
  - TY-CE85PS12 [84-inch model]
  - TY-CE103PS10 [98-inch model]
- 3G-SDI Terminal Board with Audio
  - TY-TBN03G
- Digital Interface Box
  - ET-YFB100G

∗: The diameter of the screws for attaching these fixing brackets is M16.

When using 3G-SDI Terminal Board with Audio (TY-TBN03G), please read the manual included with it and follow the instruction.

We are not responsible for any product damage, etc. caused by use of the pedestal, wall-hanging bracket or ceiling-hanging bracket made by other companies, or by failures in the installation environment for the pedestal, wall-hanging bracket or ceiling-hanging bracket even during the warranty period.

Always be sure to ask a qualified technician to carry out set-up.

> The optional fixing brackets and pedestals are made to be used for both LCD and Plasma displays.
>
> When using with this unit, visit the web site below, check the instructions on your fixing brackets and pedestals to be used with LCD Displays, and then install.
>
> http://panasonic.net/prodisplays/download/options02.html

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 Display on sloped or unstable surfaces, and ensure that the Display does not hang over the edge of the base.

- The Display 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.

Do not place any objects on top of the Display.

- If foreign objects or water get inside the Display, a short-circuit may occur which could result in fire or electric shock. If any foreign objects get inside the Display, please consult your local Panasonic dealer.

Transport only in upright position!

- Transporting the unit with its display panel facing upright or downward may cause damage to the internal circuitry.

Ventilation should not be impeded by covering the ventilation openings with items such as newspapers, table cloths and curtains.

For sufficient ventilation, see page 9.

When installing the Display vertically;

When installing the Display vertically, be sure that the Power Indicator comes to the downside. Heat is generated and it may cause fire or damage to the Display.

- Set [Display orientation] in the [Setup] menu to [Portrait]. (see page 51)

Cautions for Wall, Ceiling or Pedestal Installation

- Wall, Ceiling or Pedestal installation should be performed by an installation professional. Installing the Display incorrectly may lead to an accident that results in death or serious injury. Use the optional Pedestal or Wall-hanging bracket.
- If you terminate the use of the Display on the Wall, Ceiling or Pedestal, ask a professional to remove the Display as soon as possible.
- When mounting the Display on the wall, prevent the mounting screws and power cable from contacting metal objects inside the wall. An electric shock may occur if they contact metal objects inside the wall.

Do not install the product to a place where the product is exposed to direct sunlight.

- If the screen is exposed to direct sunlight, the liquid crystal panel may have adverse effect.

■ When using the LCD Display

The Display is designed to operate on 110 - 127 or 220 - 240 V AC, 50/60 Hz.

Do not cover the ventilation holes.

- Doing so may cause the Display to overheat, which can cause fire or damage to the Display.

Do not stick any foreign objects into the Display.

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

Do not remove the cover or modify it in any way.

- High voltages which can cause severe electric shocks are present inside the Display. 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 could cause electric shock or fire.

Securely insert the power supply plug as far as it will go.

• If the plug is not fully inserted, heat may be generated which could cause fire. If the plug is damaged or the wall socket is loose, they shall not be used.

Do not handle the power supply plug with wet hands.

• Doing so may cause electric shocks.

Do not do anything that may damage the power cable. When disconnecting the power cable, pull on the plug body, not the cable.

• 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 remove covers and NEVER modify the Display yourself

• Do not remove the rear cover as live parts are accessible when it is removed. There are no user serviceable parts inside. (High-voltage components may cause serious electrical shock.)

• Have the Display checked, adjusted, or repaired at your local Panasonic dealer.

Keep the supplied AAA/R03/UM4 batteries out of reach of children. If accidentally swallowed, it will be harmful to the body.

• Please contact a doctor immediately in case you doubt that the child may have swallowed it.

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

Picture noise may occur if you connect / disconnect the connection cables of 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.

To prevent the spread of fire, keep candles or other open flames away from this product at all times.

⚠ CAUTION

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.

• Turn the power off immediately, unplug the power supply plug from the wall outlet, and then contact the dealer for repairs.

• 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.

■ When using the LCD Display

Do not bring your hands, face or objects close to the ventilation holes of the Display.

• Heated air comes out from the ventilation holes at the top of Display will be hot. Do not bring your hands or face, or objects which cannot withstand heat, close to this port, otherwise burns or deformation could result.

To carry, move and to unpack the unit, use the supplied Eyebolt, and carry out using suitable hanging equipment and tools.

• Operation with only human power could result in injury by dropping or falling the unit.

Be sure to disconnect all cables before moving the Display.

• If the Display 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.

Clean the power cable regularly to prevent it becoming dusty.

• If dust built up on the power cord plug, the resultant humidity can damage the insulation, which could result in fire. Pull the power cord plug out from the wall outlet and wipe the mains lead with a dry cloth.

Do not step on, or hang from the display or the Pedestal.

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

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. (see page 12)

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.

Do not burn or breakup batteries.

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

Precautions for use

Cautions when installing

Do not set up the Display outdoors.

• The Display is designed for indoor use.

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 2 400 m (7 874 ft) above sea level): 0 °C to 35 °C (32 °F to 95 °F)

When using the unit where it is 1 400 m (4 593 ft) and higher and below 2 400 m (7 874 ft) above sea level, make sure [High altitude mode] is set to [On]. (see page 51)

• Failure to do so may shorten the life of the internal parts and result in malfunctions.

Do not install the unit where it is 2 400 m (7 874 ft) and higher above sea level.

• Failure to do so may shorten the life of the internal parts and result in malfunctions.

About space when installing

84-inch model

When using the pedestal (optional accessory), leave a space of 10 cm (3 15/16”) or more at the top, left and right, and 15 cm (5 29/32”) or more at the rear, and also keep the space between the bottom of the display and the floor surface.

If using some other setting-up method, follow the manual of it. (If there is no specific indication of installation dimension in the installation manual, leave a space of 10 cm (3 15/16”) or more at the top, bottom, left and right, and 15 cm (5 29/32”) or more at the rear.)

Minimum distance:

a: 10 cm (3 15/16”)

b: 15 cm (5 29/32”)
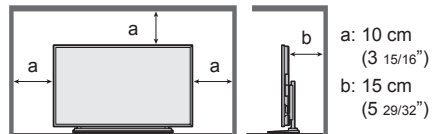
98-inch model

When using the pedestal (optional accessory), leave a space of 10 cm (3 15/16”) or more at the top, left and right, and 20 cm (7 29/32”) or more at the rear, and also keep the space between the bottom of the display and the floor surface.

If using some other setting-up method, follow the manual of it. (If there is no specific indication of installation dimension in the installation manual, leave a space of 10 cm (3 15/16”) or more at the top, bottom, left and right, and 20 cm (7 29/32”) or more at the rear.)
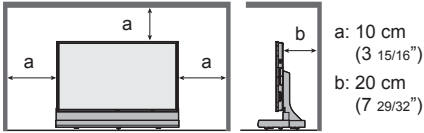
Minimum distance:

a: 10 cm
  (3 15/16")
b: 20 cm
  (7 29/32")

Cleaning and maintenance

The front of the display panel has been specially treated. Wipe the surface of the display protective panel gently using only a cleaning cloth or a soft, lint-free cloth.

- If the surface is particularly dirty, wipe with a soft, lint-free cloth which has been soaked in pure water or water in which neutral detergent has been diluted 100 times, and then wipe it evenly with a dry cloth of the same type until the surface is dry.
- Do not scratch or hit the surface of the panel with fingernails or other hard objects, otherwise the surface may become damaged. Furthermore, avoid contact with volatile substances such as insect sprays, solvents and thinner, otherwise the quality of the surface may be adversely affected.

If the cabinet becomes dirty, wipe it with a soft, dry cloth.

- If the cabinet is particularly dirty, soak the cloth in water to which a small amount of neutral detergent has been added and then wring the cloth dry. Use this cloth to wipe the cabinet, and then wipe it dry with a dry cloth.
- Do not allow any detergent to come into direct contact with the surface of the Display. If water droplets get inside the unit, operating problems may result.
- Avoid contact with volatile substances such as insect sprays, solvents and thinner, otherwise the quality of the cabinet surface may be adversely affected or the coating may peel off. Furthermore, do not leave it for long periods in contact with articles made from rubber or PVC.

Usage of a chemical cloth

- Do not use a chemical cloth for the panel surface.
- Follow the instructions for the chemical cloth to use it for the cabinet.

Wired LAN

When setting up the Display at a place, where electric statistic occurs often, take a sufficient anti-static measure before start using.

- When the Display is used at a location, where static electricity occurs often, such as on a carpet, communications of the DIGITAL LINK and the wired LAN are disconnected more often. In that case, remove static electricity and the noise source that may cause problems with an antistatic mat, and re-connect the DIGITAL LINK and the wired LAN.
- In rare cases, the LAN connection is disabled due to static electricity or noise. In that case, turn off the power of the Display and the connected devices once and then re-turn on the power. Connect the DIGITAL LINK and the LAN.

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

- If there is any facility or equipment, which outputs strong radio wave, near the installation location, set up the Display at a location sufficiently far from the source of the radio wave. Or, wrap the LAN cable connected to the DIGITAL LINK terminal by using a piece of metal foil or a metal pipe, of which is grounded at both ends.

Disposal

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

Accessories

Accessories Supply

Check that you have the accessories and items shown

Operating Instructions (Book)
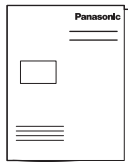
Operating Instructions (CD-ROM)
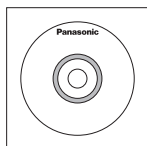
Remote Control Transmitter
● N2QAYA000093

Batteries for the Remote Control Transmitter
(AAA/R03/UM4 type × 2)
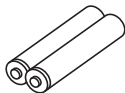
Clamper × 1
● TMME289
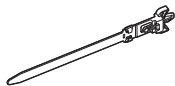
Power supply cord
(Approx. 3 m (118"))

TH-84LQ70U TH-98LQ70U ● TXFMX011UJJ	
TH-84LQ70W TH-98LQ70W ● TXFMX031SHW	
● TXFMX011SHW	
● TXFMX021SHW	
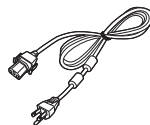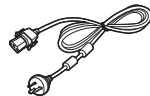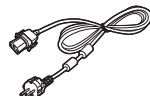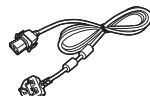
These accessories will be used by professional installers when they install the unit.

Eyebolt cap × 1
● TMME375-1

Eyebolt × 1
(M12)

Panasonic badge × 1

Panasonic

Panasonic badge attachment plate × 1
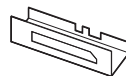
Allen wrench × 1
(M16)

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 indicating the part numbers above. (Available from the customer service)

● Dispose the Power supply cord cap and packaging materials appropriately after taking out the items.

Remote Control Batteries

1. Pull and hold the hook, then open the battery cover.
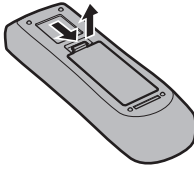
2. Insert batteries - note correct polarity (+ and -).
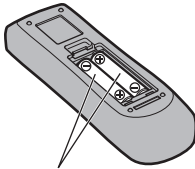
AAA/R03/UM4 type

3. Replace the cover.

(Helpful Hint)

● For frequent remote control users, replace old batteries with Alkaline batteries for longer life.

⚠ **Precaution on battery use**

Incorrect installation can cause battery leakage and corrosion that will damage the remote control transmitter.

Disposal of batteries should be in an environment-friendly manner.

Observe the following precaution:

1. Batteries shall always be replaced as a pair. Always use new batteries when replacing the old set.
2. Do not combine a used battery with a new one.
3. Do not mix battery types (example: "Zinc Carbon" with "Alkaline").
4. Do not attempt to charge, short-circuit, disassemble, heat or burn used batteries.
5. Battery replacement is necessary when remote control acts sporadically or stops operating the Display set.
6. Do not burn or breakup batteries.
7. Batteries must not be exposed to excessive heat such as sunshine, fire or the like.

Important notice when attaching the fixing brackets 98-inch model

When attaching the optional fixing brackets to 98-inch model, attach the stand hooks to the positions as shown in the picture below, in accordance with the types of fixing brackets.

Position to attach stand hook
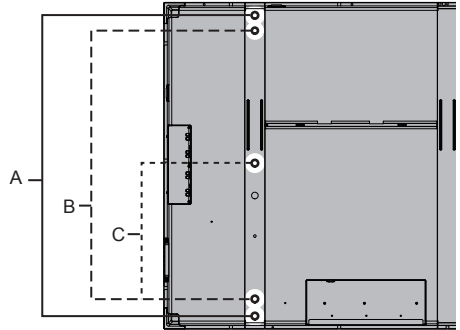
A: Ceiling-hanging bracket (Stand hooks are not needed as supplied bolt is used for installation.)

B: Wall-hanging bracket

C: Pedestal

About Eyebolt

This unit has one Eyebolt (M12) attached to the middle of the upper part at the time of shipment. When installing, use this to pull up the unit. Also, if needed, use the Eyebolt holes as shown in the picture below.

Eyebolt mounting positions
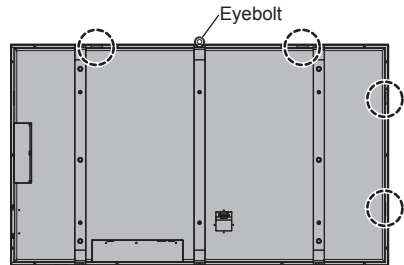
Eyebolt

(Note)

● Ask a qualified technician to carry out installation.
● Do not use Eyebolts or screws other than the ones supplied with the unit.
● After installing, remove the Eyebolt, and then close the hole with the supplied Eyebolt cap.

Vertical Installation

When installing the Display vertically, be sure that the Power Indicator comes to the downside.

Also, set [Display orientation] in [Setup] to [Portrait]. (see page 51)

Portrait

Landscape

Power Indicator

Position to attach Panasonic badge for vertical installation
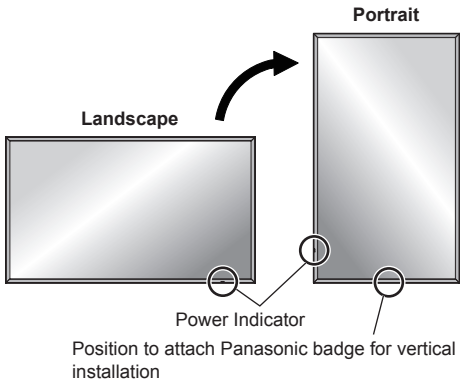
Attaching Panasonic badge

Remove the Panasonic badge attached at the time of shipment, and then attach the supplied Panasonic badge to the position as shown in the picture above.

When removing the badge, remove with care using resinous scraper, etc. When adhesive remained, wipe off with soft cloth.

Resinous scraper
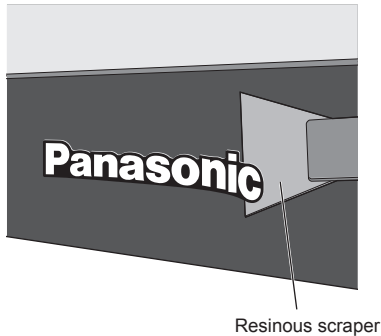
To attach the Panasonic badge, use the supplied Panasonic badge attachment plate.

As shown in the picture below, temporarily tack the Panasonic badge attachment plate by adjusting its notches to fit the 2 screws, and then attach the Panasonic badge.

Adjust to fit the screws.

Bend.

Panasonic badge attachment plate
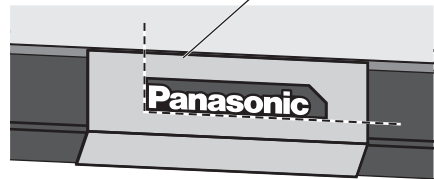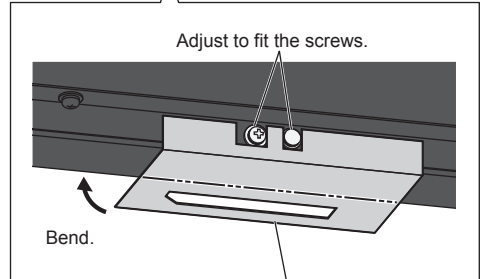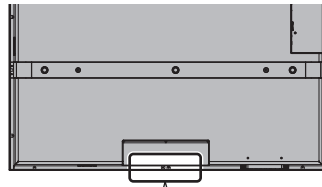
Connections

AC cord connection and fixing

Back of the unit
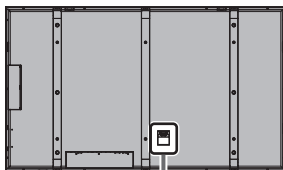
AC cord fixing
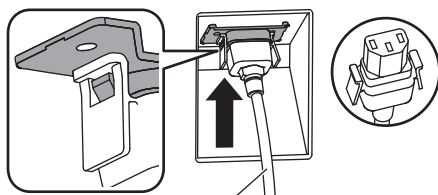
AC cord (supplied)

Plug the connector into the display unit.

Plug the AC cord until it clicks.

Note

● Make sure that the AC cord is locked on both the left and right sides.

Unplug the AC cord
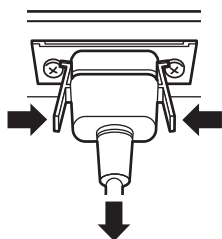
Unplug the connector pressing the two knobs.

Note

● When disconnecting the AC cord, be absolutely sure to disconnect the AC cord plug at the socket outlet first.

Cable fixing

Note

● One clamper is supplied with this unit. In case of securing cables at five positions, please purchase it separately.

  If you need more clampers, purchase them from your dealer. (Available from the customer service)

84-inch model
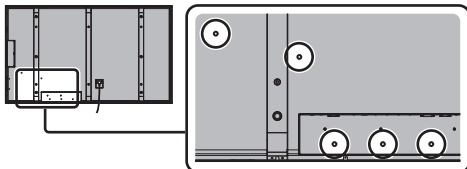
98-inch model

1. Attach the clamper

hole

Insert the clamper in a hole.

To remove from the unit:

snaps

Keep pushing both side snaps

2. Bundle the cables

hooks

Set the tip in the hooks

To loosen:

knob

Keep pushing the knob
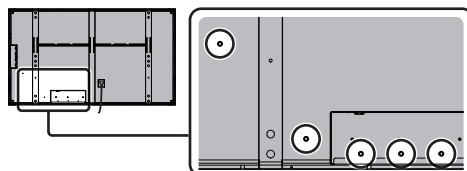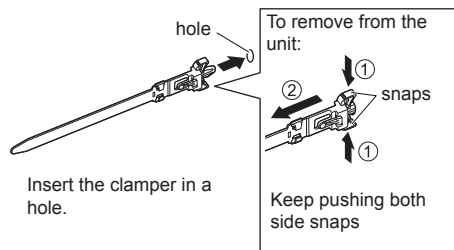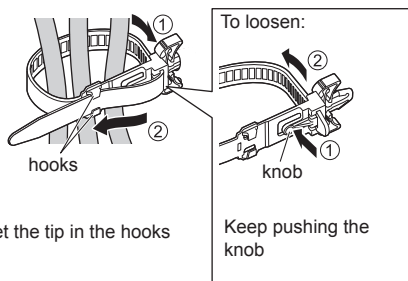
Video equipment connection
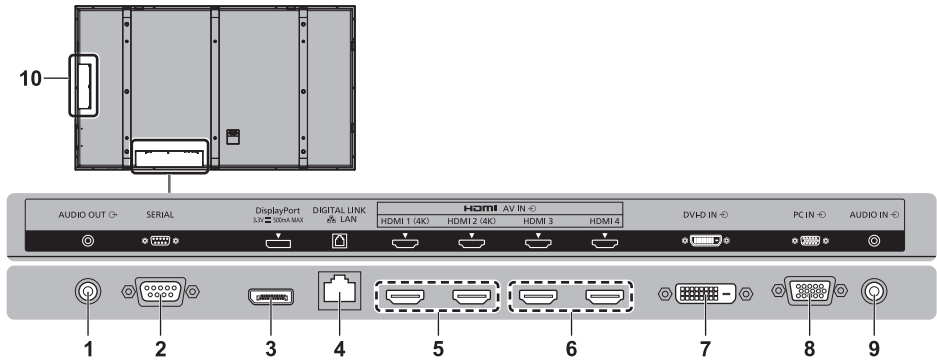
1 AUDIO OUT: **Analogue Audio Output Terminal**

Connect to audio equipment with analogue audio input terminal.

(see page 22)

2 SERIAL: **Serial Control Terminal**

Control the Display by connecting to PC.

(see page 20)

3 DisplayPort: **DisplayPort Input Terminal (Supports 4K picture)**

Connect to PC or video equipment with DisplayPort output terminal.

(see page 19)

4 DIGITAL LINK / LAN*:   **DIGITAL LINK Input Terminal (Supports 4K picture)**

Control the Display by connecting to Network.

Alternatively, connect to a device that sends video and audio signals via the DIGITAL LINK terminal.

(see page 22)

*: DIGITAL LINK is technology that enables signals such as audio and video to be transmitted using twisted pair cables.

For details, see page 63.

5 AV IN (HDMI 1, HDMI 2):   **HDMI Input Terminal (Supports 4K picture)**

Connect to video equipment with 4K signal output or video equipment such as VCR or DVD player, etc.

(see page 16)

6 AV IN (HDMI 3, HDMI 4):   **HDMI Input Terminal**

Connect to video equipment such as VCR or DVD player, etc.

(see page 16)

7 DVI-D IN: **DVI-D Input Terminal**

Connect to video equipment with DVI-D output.

(see page 17)

8 PC IN: **PC Input Terminal**

Connect to video terminal of PC, video equipment with "Y, $P_B(C_B)$, $P_R(C_R)$" or "R, G, B" output.

(see page 18)

9 AUDIO IN: **Audio input terminal shared with DVI-D IN and PC IN**

(see page 17, 18)

10 SLOT 1, SLOT 2:   **Expansion slot**

Connect to optional Terminal Board.

(see page 7)

HDMI 1 to 4 terminals connection

HDMI 1 and HDMI 2 terminals support 4K picture.
Patterns of 4K picture input are as follows.

Note

● Set [HDMI 4K Interface] in [Setup] according to the combination of the inputs. (see page 51)
● Additional equipment and HDMI cable shown are not supplied with this set.
● Some HDMI equipment may not be able to display picture.

■ Examples of 4K video device connection

4K input with one terminal

Connect one 4K video device with 1-terminal output to HDMI 1 and another to HDMI 2 terminal.

● 4K video device with 1-terminal output cannot be connected to HDMI 3 and HDMI 4 terminals.
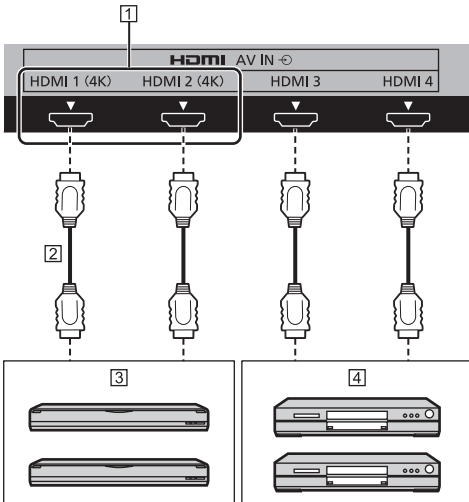
1 Support 4K picture

2 HDMI cable (not supplied)

3 4K video device with 1-terminal output
(BD Recorder, etc.)

4 DVD Player, etc. (4K picture is not supported.)

4K input with 2 terminals (Dual Link)

Connect one 4K video device with 2-terminal output both to HDMI 1 and to HDMI 2 terminals.

● 4K video device with 2-terminal output cannot be connected to HDMI 3 and HDMI 4 terminals.

After connecting, check that the output signal from the video device is displayed in the correct position as shown in the picture.

Displayed image
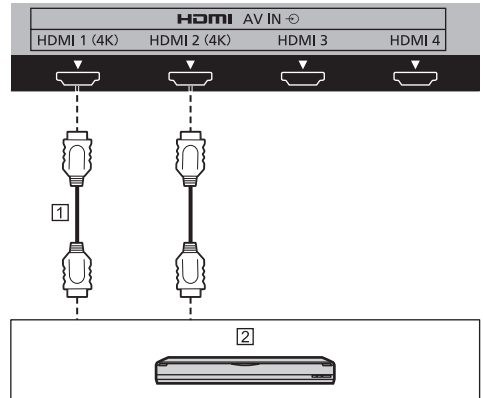
1 HDMI cable (not supplied)

2 4K video device with 2-terminal output
(BD Recorder, etc.)

Pin assignments and signal names for HDMI Terminal
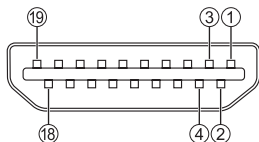
Pin No.	Signal name
①	T.M.D.S Data2+
②	T.M.D.S Data2 Shield
③	T.M.D.S Data2-
④	T.M.D.S Data1+
⑤	T.M.D.S Data1 Shield
⑥	T.M.D.S Data1-
⑦	T.M.D.S Data0+
⑧	T.M.D.S Data0 Shield
⑨	T.M.D.S Data0-
⑩	T.M.D.S Clock+
⑪	T.M.D.S Clock Shield
⑫	T.M.D.S Clock-
⑬	CEC
⑭	————
⑮	SCL
⑯	SDA
⑰	DDC/CEC Ground
⑱	+5V DC
⑲	Hot Plug Detect

DVI-D IN terminal connection

Note

● Additional equipment and cables shown are not supplied with this set.

● Use the DVI-D cable complying with the DVI standard. Image deterioration may occur depending on the length or the quality of the cable.

Shared with PC IN.
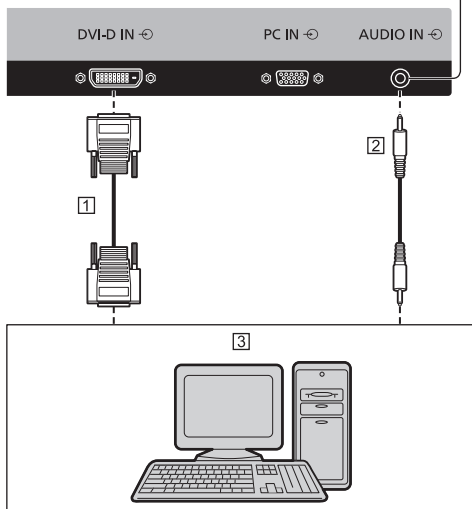
1 DVI-D video cable (Within 5 m) (not supplied)

2 Stereo mini plug (M3)

3 PC with DVI-D video out

Pin assignments and signal names for DVI-D Input Connector
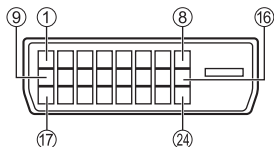
Pin No.	Signal Name
①	T.M.D.S. data 2-
②	T.M.D.S. data 2+
③	T.M.D.S. data 2 shield
④	————
⑤	————
⑥	DDC clock
⑦	DDC data
⑧	————
⑨	T.M.D.S. data 1-
⑩	T.M.D.S. data 1+
⑪	T.M.D.S. data 1 shield
⑫	————
⑬	————
⑭	+5 V DC
⑮	GND (Ground)
⑯	Hot plug detect
⑰	T.M.D.S. data 0-
⑱	T.M.D.S. data 0+
⑲	T.M.D.S. data 0 shield
⑳	————
㉑	————
㉒	T.M.D.S. clock shield
㉓	T.M.D.S. clock+
㉔	T.M.D.S. clock-

PC IN terminal connection

Shared with DVI-D IN.

(Female)

(Male)

Connect a cable which matches the audio output terminal on the computer.
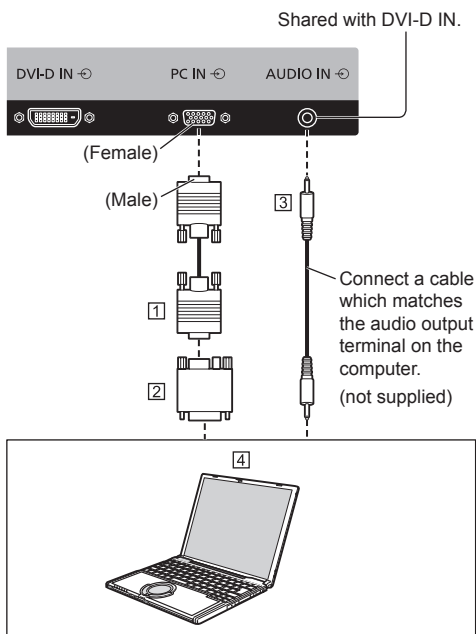
(not supplied)

① Mini D-sub 15p (not supplied)

② Conversion adapter (if necessary) (not supplied)

③ Stereo mini plug (M3)

④ COMPUTER

The type of computer signal that can be connected

● With regard to the typical PC input signals that are described in "Preset Signals" (see page 74), adjustment values such as for the standard picture positions and sizes have already been stored in this unit. You can add up to eight PC input signal types that are not included in the list.

● Computer signals which can be input are those with a horizontal scanning frequency of 15 to 110 kHz and vertical scanning frequency of 48 to 120 Hz.

● The display resolution is a maximum of 1 440 × 1 080 dots when the aspect mode is set to [4:3], and 1 920 × 1 080 dots when the aspect mode is set to [16:9]. If the display resolution exceeds these maximums, it may not be possible to show fine detail with sufficient clarity.

● In [ENGLISH(US)] OSD language, [16:9] is displayed as [FULL].

  Note

● The PC IN terminal is DDC2B-compatible. If the computer being connected is not DDC2B-compatible, you will need to make setting changes to the computer at the time of connection.

● Some PC models cannot be connected to the set.

● There is no need to use an adapter for computers with DOS/V compatible Mini D-sub 15P terminal.

- The computer shown in the illustration is for example purposes only.
- Additional equipment and cables shown are not supplied with this set.
- Do not set the horizontal and vertical scanning frequencies for PC signals which are above or below the specified frequency range.
- Component Input is possible with the pin 1, 2, 3 of the Mini D-sub 15P Connector.
- Change the [Component/RGB-in select] setting in the [Signal] menu to [Component] (when Component signal connection) or [RGB] (when RGB signal connection). (see page 43)

Pin assignments and signal names for PC Input Terminal (Mini D-sub 15P)
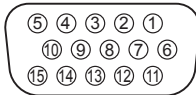
Pin No.	Signal Name
①	R (P_R/C_R)
②	G (Y)
③	B (P_B/C_B)
④	NC (not connected)
⑤	GND (Ground)
⑥	GND (Ground)
⑦	GND (Ground)
⑧	GND (Ground)
⑨	+5 V DC
⑩	GND (Ground)
⑪	NC (not connected)
⑫	SDA
⑬	HD/SYNC
⑭	VD
⑮	SCL

DisplayPort terminal connection
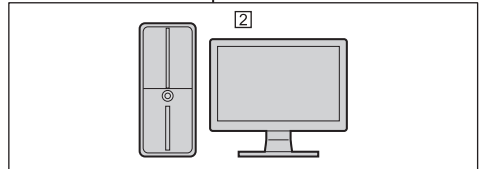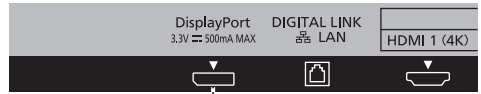
1 DisplayPort cable (not supplied)
2 PC with DisplayPort output

(Note)

- Please use DisplayPort 1.2 compliant cable.

  Depending on the types of cable or mini connector adaptor used, 4K picture may not be displayed.

- In connecting with PC which uses early chipsets or graphic cards compatible with DisplayPort, if the DisplayPort output of the PC is connected to this unit, malfunction of this unit or the PC may occur. In that case, turn the power of the unit or the PC off, and then turn it on again.

  When inputting DisplayPort output to this unit, it is recommended to use the PC which the newest Chipset and Graphics Cards are used.

Pin assignments and signal names for DisplayPort
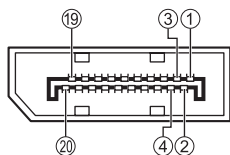
Pin No.	Signal Name
①	ML_Lane 3 (n)
②	GND (Ground)
③	ML_Lane 3 (p)
④	ML_Lane 2 (n)
⑤	GND (Ground)
⑥	ML_Lane 2 (p)
⑦	ML_Lane 1 (n)
⑧	GND (Ground)
⑨	ML_Lane 1 (p)
⑩	ML_Lane 0 (n)
⑪	GND (Ground)
⑫	ML_Lane 0 (p)
⑬	CONFIG1
⑭	CONFIG2
⑮	AUX_CH (p)
⑯	GND (Ground)
⑰	AUX_CH (n)
⑱	Hot Plug Detect
⑲	GND (Ground)
⑳	+ 3.3 V DC output

SERIAL terminal connection

The SERIAL terminal conforms to the RS-232C interface specification, so that the Display can be controlled by a computer which is connected to this terminal.
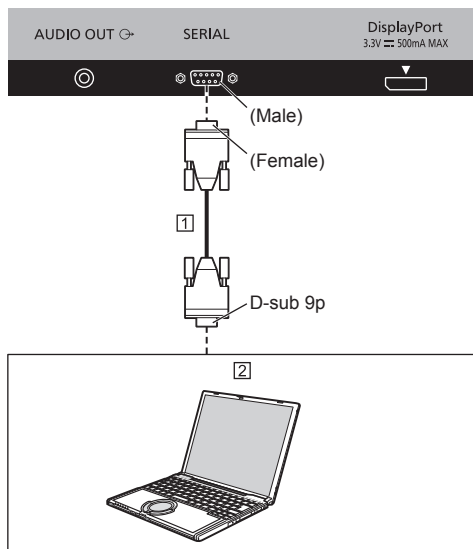
1 RS-232C Straight cable (not supplied)
2 COMPUTER, etc.

Note

● Use the RS-232C straight cable to connect the computer to the Display.
● The computer shown is for example purposes only.
● Additional equipment and cables shown are not supplied with this set.

The computer will require software which allows the sending and receiving of control data which satisfies the conditions given below. Use a computer application such as programming language software. Refer to the documentation for the computer application for details.

Pin assignments and signal names for SERIAL Terminal
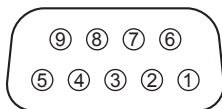
Pin No.	Signal Name
①	NC (not connected)
②	RXD
③	TXD
④	Non use
⑤	GND (Ground)
⑥	Non use
⑦	RTS	Shorted in this set
⑧	CTS	
⑨	NC (not connected)

These signal names are those of computer specifications.

Communication parameters

Signal level: RS-232C compliant

Synchronization method: Asynchronous

Baud rate: 9600 bps

Parity: None

Character length: 8 bits

Stop bit: 1 bit

Flow control: None

Basic format for control data

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. If there are no parameters, then the parameter signal does not need to be sent.

| STX | C1 C2 C3 | : | P1 P2 P3 P4 P5 | ETX |

Start (02h) Colon End (03h)

3-character command (3 bytes)   Parameter(s) (1 - 5 bytes)
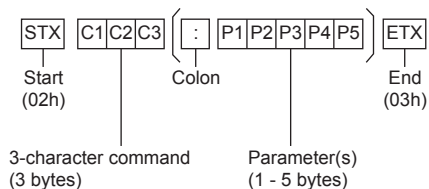
Command

Command	Parameter	Control details
PON	None	Power ON
POF	None	Power OFF
AVL	**	Volume 00 - 63
AMT	0	Audio MUTE OFF
	1	Audio MUTE ON
IMS	None	Input select (toggle)
	SL1	SLOT 1 input (SLOT1)
	S1A	SLOT 1A input (SLOT1A)
	S1B	SLOT 1B input (SLOT1B)
	SL2	SLOT 2 input (SLOT2)
	SL2A	SLOT 2A input (SLOT2A)
	SL2B	SLOT 2B input (SLOT2B)
	HM1	HDMI 1 input (HDMI1)
	HM2	HDMI 2 input (HDMI2)
	HM3	HDMI 3 input (HDMI3)
	HM4	HDMI 4 input (HDMI4)
	DP1	DisplayPort input (DisplayPort)
	DV1	DVI-D IN input (DVI-D)
	PC1	PC IN input (PC)
	DL1	DIGITAL LINK input (DIGITAL LINK)

Note

- If multiple commands are transmitted, be sure to wait for the response for the first command to come from this unit before sending the next command.
- If an incorrect command is sent by mistake, this unit will send an "ER401" command back to the computer.
- In Standby condition (power OFF with remote control), the unit responds to PON command only.
- S1A and S1B of Command IMS are available only when a dual input terminal board is attached.
- Consult your local Panasonic dealer for detail instructions on command usage.

DIGITAL LINK terminal connection

A twisted pair cable transmitter such as the Panasonic Digital Interface Box (ET-YFB100G) uses twisted pair cables to transmit inputted video and audio signals, and these digital signals can be input to the Display via the DIGITAL LINK terminal.

Analogue signal is output as Digital signal.
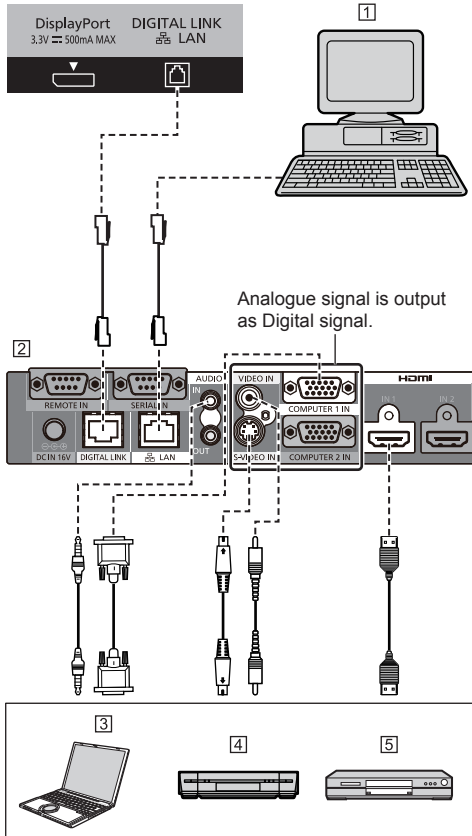
1 Computer to control the unit

2 When a Panasonic ET-YFB100G is used

3 Computer

4 Video Cassette Recorder

5 DVD Player

> **Note**
>
> ● When connecting with DIGITAL LINK, be sure to configure each of the [Network settings] settings.
>
>   For the cautions for DIGITAL LINK setting and connection, see page 64 to 69.
>
> ● Corresponding signal for DIGITAL LINK input is the same as that of HDMI input.
>
> ● The Panasonic Digital Interface Box (ET-YFB100G) does not correspond to 4K signal.

AUDIO OUT terminal connection
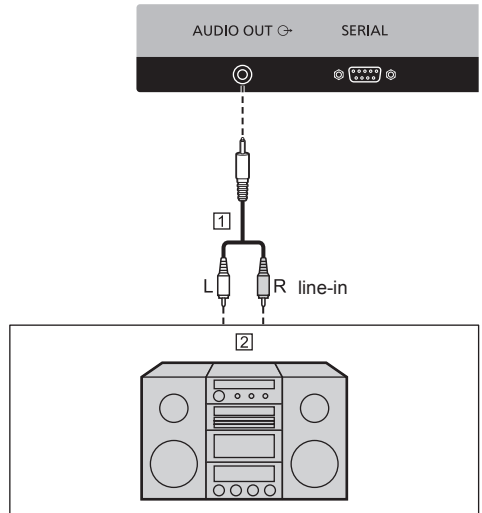
1 Stereophonic sound code (not supplied)

2 Audio equipment

> **Note**
>
> ● Audio equipment and the cable shown are not supplied with this set.
>
> ● To output sound from AUDIO OUT Terminal of the unit, be sure to set [Output select] in the [Sound] menu to [AUDIO OUT]. (see page 35)

Identifying Controls

Main Unit
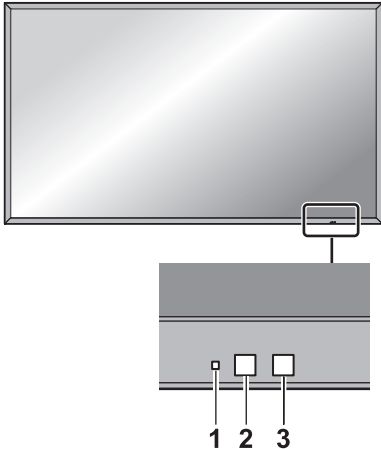
1 Power Indicator

The Power Indicator will light.

When the power of the unit is ON (Main Power On / Off switch: ON)

● Picture is displayed: Green

● Power OFF (Standby) with remote control: Red

  When [Network control] is set to [On] (see page 53): Orange

● Power OFF with "Power management" function: Orange

  "Power management" function (see page 47)

When the power of the unit is OFF (Main Power On / Off switch: OFF): No light

(Note)

● The unit will still consume some power as long as the power cord is still inserted into the wall outlet.

● When the power indicator is orange, power consumption during standby is generally larger than that of when the power indicator is red.

2 Remote control sensor

3 Brightness Sensor

● Detects the brightness in the viewing environment. (see page 46)
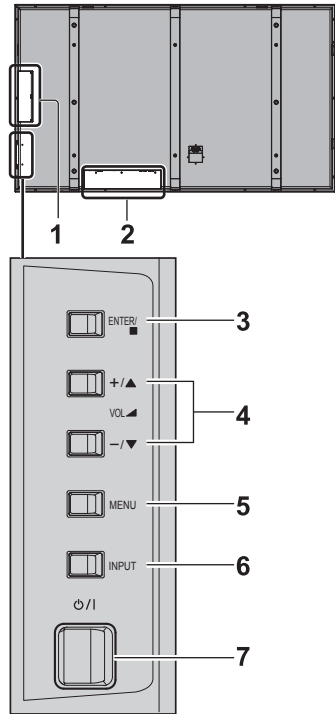
1 SLOT 1, SLOT 2

● Connect to Terminal Board (optional accessories). (see page 7)

2 External Input Terminal

● Connect to video equipment, PC, etc. (see page 16)

3 <ENTER (Unit)>

● Configures the item on menu screen. Switches aspect mode. (see page 32)

● While the item is selected on the menu screen, by pressing <ENTER (Unit)>, ▲ ▼ on the button operation guide will be switched to ◀▶.

4 <VOL + (Unit)> / <VOL - (Unit)>

● Volume Up "+" Down "–"

● When the menu screen is displayed:

  "+" : press to move the cursor up

  "–" : press to move the cursor down

  (see page 28, 32)

5 <MENU (Unit)>

● Each time the <MENU (Unit)> button is pressed, the menu screen will switch. (see page 32)

6 <INPUT (Unit)> (INPUT signal selection)

● Selects the connected device. (see page 27)

7 <Main Power On / Off switch>

● Turns the power On / Off.

English **23**

Remote Control Transmitter

14
POWER ON | STANDBY ⏻

1 — POWER ON |
2 — STANDBY ⏻
3 — ASPECT | MULTI DISPLAY | AUTO SETUP — **15, 16, 17**
4 — DEFAULT | RETURN — **18**
5 — ◄ ▲ ENTER ▼ ►
6 — INPUT | RECALL — **19**
7 — MUTE | VOL− | VOL+ — **20**
8 — PICTURE | SOUND | SETUP — **21**
9 — | — **22**
10 — POSITION | OFF TIMER | ECO — **23**

11 — 1 2 3 / 4 5 6 / 7 8 9

12 — FUNCTION GROUP | 0 | ID SET — **24**
13 — ON ▮▮ OFF ID MODE Panasonic DISPLAY
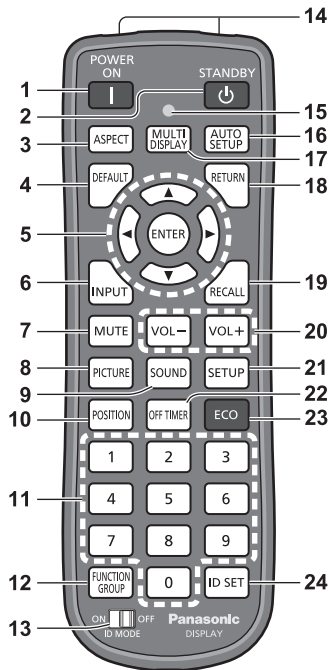
1 POWER ON (|)
● Turns the power on (Picture is displayed.) when the Display is turned on at the power switch and in Standby condition. (see page 25)

2 STANDBY (⏻)
● Turns the power off (Standby condition) when the Display is turned on at the power switch and the picture is displayed. (see page 25)

3 ASPECT
● Adjusts the aspect. (see page 29)

4 DEFAULT
● Resets the settings of picture, sound, etc., to defaults. (see page 33, 35, 36)

5 ENTER / Cursor buttons (▲ ▼ ◄ ►)
● Used to operate the menu screens. (see page 30)

6 INPUT
● Switches input to display on the screen. (see page 27)

7 MUTE
● Sound mute on / off. (see page 28)

8 PICTURE
(see page 36)

9 SOUND
(see page 35)

10 POSITION
(see page 33)

11 Numeric buttons (0 - 9)
● Used to input ID number when using several Displays. (see page 70)
● Used as shortcut buttons by assigning frequently used operations. (see page 48)

12 FUNCTION GROUP
(see page 48)

13 ID MODE
(see page 70)

14 Signal emission

15 Remote control operation Indicator
● Flashes when remote control buttons are pressed.

16 AUTO SETUP
● Automatically adjusts the position/size of the screen. (see page 33)

17 MULTI DISPLAY
● Switches "1-screen display" and "4-screen display". (see page 30)

18 RETURN
● Used to return to the previous menu. (see page 33)

19 RECALL
● Displays the current setting status of Input mode, Aspect mode, etc. (see page 27)

20 VOL + / VOL -
● Adjusts sound volume level. (see page 28)

21 SETUP
(see page 42)

22 OFF TIMER
● Switches to stand-by after a fixed period. (see page 28)

23 ECO
● Switches the settings of Eco mode. (see page 46)

24 ID SET
● Used to set remote control ID number when using several Displays. (see page 70)

> **Note**
> ● Do not place any objects between the unit's remote control signal receiver and the remote control.
> ● Situate the unit away from sunshine or other sources of bright light not to shine on the unit's remote control signal receiver.
> ● In this manual, buttons of the remote control and the unit are indicated as < >.
> (Example: <POWER ON>.)
>
> The operation is mainly explained indicating the remote control buttons but you can also operate with the buttons on the unit when there are the same buttons.

Basic Controls

AC socket outlet

Power supply cord (supplied)

Remote Control Sensor

Power Indicator

Main Power On / Off switch
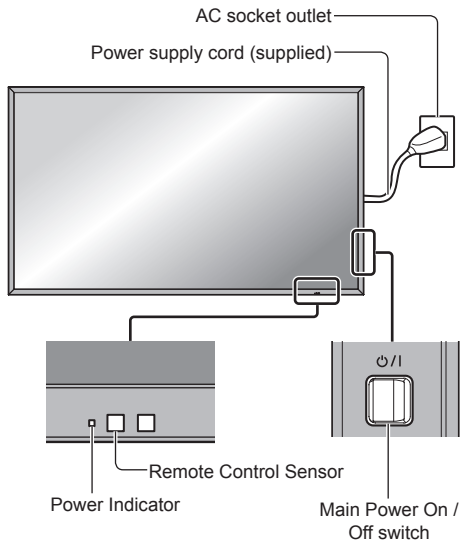
Operate pointing the remote control directly at the unit's Remote Control Sensor.

1 Connect the AC cord plug to the Display.

(see page 14)

2 Connect the plug to the socket outlet.

> **Note**
>
> ● Main plug types vary between countries. The power plug shown at left may, therefore, not be the type fitted to your set.
> ● When disconnecting the AC cord, be absolutely sure to disconnect the AC cord plug at the socket outlet first.

3 Press the <Main Power On / Off switch> on the unit to turn the set on: Power-On.

> ● Power Indicator: Green (Picture is displayed.)
> ● When the power of the unit is ON, remote control operation is possible.

■ **To turn the power ON/OFF with the remote control**

Press the <POWER ON> button to turn the Display on.

● Power Indicator: Green (Picture is displayed.)

Press the <STANDBY> button to turn the Display off.

● Power Indicator: Red (standby)

Press the <Main Power On / Off switch> on the unit to turn the unit off, when the power of the unit is turned on or in standby mode.

> **Note**
>
> ● During operation of the "Power management" function, the power indicator turns orange in the power off state.
>
> "Power management" function (see page 46)

■ When the Unit is turned on for the first time

Following screen will be displayed.

Set with the remote control. Unit buttons are invalid.

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

OSD Language
English (UK)
Deutsch
Français
Italiano
Español
ENGLISH (US)
中文
日本語
Русский

2 Select [Day] or [Time] with ▲ ▼ and set with ◀ ▶.

Day/Time settings	
	Time MONDAY 99:99
Set	
Day	◀ TUESDAY ▶
Time	◀ 18:00 ▶
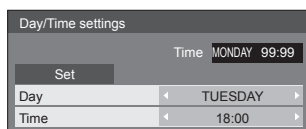
3 Select [Set] with ▲ ▼ and press <ENTER>.

Day/Time settings	
	Time TUESDAY 18:00
Set	
Day	TUESDAY
Time	18:00
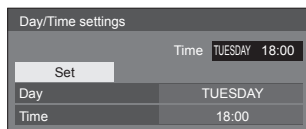
4 For vertical installation, select [Portrait] with ▲ ▼ and press <ENTER>.

Display orientation
Landscape
Portrait
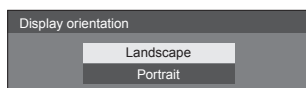
5 Select [On] or [Off] with ◀ ▶ and press <ENTER>.

High altitude mode
Switch to high altitude mode "On" if over 1400m(4593Ft).
On   Off
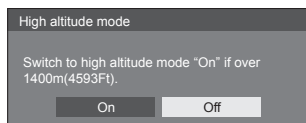
(Note)

● Once the items are set, the screens won't be displayed when switching on the unit next time.

After the setting, the items can be changed in the following menus.

[OSD language] (see page 52)

[Day/Time settings] (see page 50)

[Display orientation] (see page 51)

[High altitude mode] (see page 51)

■ Power ON message

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

No activity power off Precautions

> 'No activity power off' is enabled.

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 51)

"Power management" Information

> Last turn off due to 'Power management'.

When "Power management" is functioned, an information message is displayed every time the power is turned ON. (see page 46)

These message displays can be set with the following menu:

● [Options] menu

Power on message(No activity power off) (see page 61)

Power on message(Power management) (see page 62)

Selecting the input signal

Select the signals input to the unit.

Press <INPUT> or <INPUT (Unit)>.

Unit
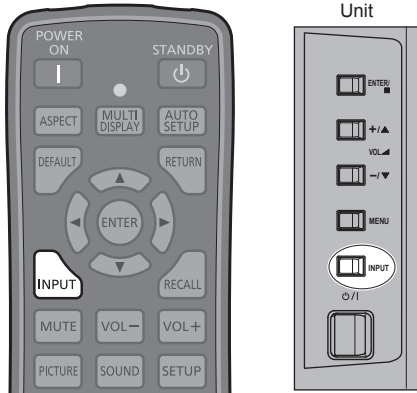
Switches input every time the buttons are pressed.

● Or, press <INPUT>, select the input with ▲ ▼ and press <ENTER> to set.

INPUT	
HDMI1	**1**
HDMI2	**2**
HDMI3	**3**
HDMI4	**4**
DisplayPort	**5**
DIGITAL LINK	**6**
DVI-D	**7**
PC	**8**
SDI1	**9**
SDI2	
SDI3	
SDI4	

1 Input in HDMI 1 terminal (Supports 4K picture)*
2 Input in HDMI 2 terminal (Supports 4K picture)*
3 Input in HDMI 3 terminal*
4 Input in HDMI 4 terminal*
5 Input in DisplayPort terminal (Supports 4K picture)
6 Input in DIGITAL LINK terminal (Supports 4K picture)
7 Input in DVI-D IN terminal
8 Input in PC IN terminal
9 Displayed when the optional "3G-SDI Terminal Board with Audio" (TY-TBN03G) is connected.

∗: During 4K picture input, [HDMI1] - [HDMI4] may be displayed differently depending on the settings of [Setup] - [HDMI 4K Interface]. (see page 51)

Note

● Displays the signal name as set in [Input label]. (see page 48)
● Outputs the sound as set in [Audio input select] in the [Options] menu. (see page 57)
● Input will not be switched unless [Input lock] is set to [Off]. (see page 58)
● Image retention (image lag) may occur on the LCD display panel when a still picture is kept on the panel for an extended period. To prevent such a problem, using the screensaver is recommended. (see page 45)

RECALL

It is possible to check the setting status of input label, picture mode, etc.

Press <RECALL>.

Current setting status will be displayed.

HDMI1	**1**
16:9	**2**
♪ AUDIO IN	**3**
Memory name: MEMORY2	**4**

10:00		
🔇	Off timer	90 min	**5**
		6
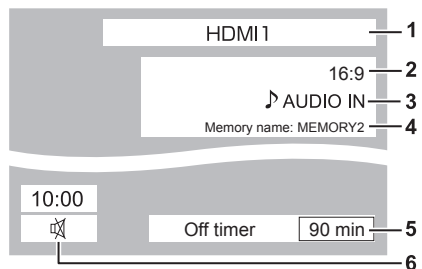
1 Input label
2 Aspect mode (see page 29)
3 Audio input (see page 57)
4 Profile name (see page 40)
5 Off timer remaining time (see page 28)
6 Clock / Mute (see page 28)

● When there is no signal to the selected input, [No Signal] is displayed for about 30 seconds at the end.
● To display the clock, set [Time], and then set [Clock display] to [On]. (see page 50, 61)
● You can set its position to be displayed with [Setup] - [OSD position]. (see page 51)

English **27**

Volume Adjustment

Press <VOL +> <VOL -> or <VOL + (Unit)> <VOL - (Unit)> to adjust volume.

Unit

```
Volume        20 ▮▮▮▮▮▮
```
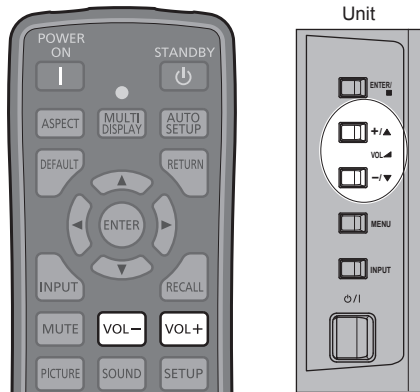
● The current sound volume level is memorised even if the power is turned off.

● When [Maximum VOL level] is set to [On], the volume can only be adjusted to the maximum point you set, and the displayed value turns red when it reached its maximum. (see page 58)

Sound mute On / Off

It is useful when you want to mute the sound temporarily, for example, when answering the phone or door.

Press <MUTE>.

● ⊠ appears on the screen and the sound is muted. Press again to reactivate the sound.

● It is also reactivated when the power is turned on / off or the volume level is changed.

● While MUTE is active, ⊠ is displayed as a reminder after operation.

● In [ENGLISH(US)] OSD language, ⊠ is displayed as [MUTE].

OFF TIMER

The Display can be preset to switch to stand-by after a fixed period. (30 min, 60 min, 90 min)

The setting switches each time <OFF TIMER> is pressed.

● [30 min] → [60 min] → [90 min] → [0 min] (Cancel)

● When three minutes remain, the remaining time will flash (Red). After that, it switches to stand-by.

● To see the Off timer remaining time, press <RECALL>.

● The Off timer is cancelled if a power interruption occurs.

ASPECT Controls

Press <ASPECT> or <ENTER (Unit)> repeatedly to move through the aspect options:

Unit
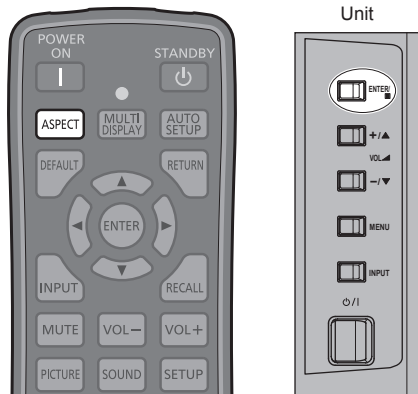
The Display will allow you to enjoy viewing the picture at its maximum size, including wide screen cinema format picture.

[4:3] → [Zoom1] → [Zoom2] → [16:9]

> **Note**
>
> ● The aspect mode is memorised separately for each input terminal.

■ List of Aspect Modes

Aspect mode	Description
16:9	**Picture** ➡ **Enlarged screen** Pictures are displayed filling the screen. For SD signal, pictures with a 4:3 aspect ratio are enlarged horizontally. This mode is suited for displaying anamorphic pictures with a 16:9 aspect ratio.

Aspect mode	Description
4:3	Pictures with a 4:3 aspect ratio are displayed with their original aspect ratio. Side panels are displayed at the left and right edges of the screen.
	Pictures with a 4:3 aspect ratio in 16:9 signals are displayed with their original aspect ratio. The left and right edges of the pictures are masked by side panels.
Zoom1	Letterbox pictures with a 16:9 aspect ratio are enlarged vertically and horizontally to fill the screen. The top and bottom edges of the pictures are cut off.
Zoom2	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**
>
> ● Do not allow the picture to be displayed in 4:3 mode for an extended period, as this can cause a permanent image retention to remain on the Display Panel.
>
> ● Be aware that if you put the display in a public place for commercial purposes or a public showing and then use the aspect 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.
>
> ● In [ENGLISH(US)] OSD language, [16:9] is displayed as [FULL].

4 Input multi display

Displays the pictures input from 4 devices in "1-screen display" by dividing the screen into 4 sections.

4-screen display

Press <MULTI DISPLAY> during "1-screen display".

Switches "1-screen display" and "4-screen display" every time the button is pressed.

1-screen display

HDMI1

4-screen display

| HDMI1 | HDMI2 |
| HDMI3 | HDMI4 |
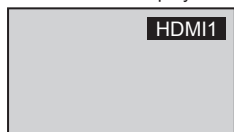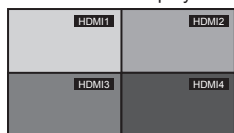
> **Note**
>
> ● The remote control is used for all the operations of 4 Input multi display. Unit buttons cannot be used for these operations.
> ● Set the input to display in "4-screen display" in [Setup] - [4 Input multi display settings].
>   (see page 42)
> ● 4K picture with 1-terminal or 2-terminal input or input from SLOT cannot be displayed in "4-screen display".
>   When connecting 4K video device to HDMI 1 or HDMI 2 terminals, change settings to output signal other than 4K.
>   For details, refer to the manual of the video device being used.
> ● In "4-screen display", the sound set in [Sound] - [4 Input multi display audio select] will be output.
>   (see page 35)
> ● When displaying 4K picture with 4-terminal input from HDMI 1 to HDMI 4, match the Picture adjustment values of the 4 inputs, since those of the each input are reflected. However, there are cases where the lines are visible on the borders of the screens.
>   (see page 36)

Changing "4-screen display" to "1-screen display"

While displaying in "4-screen display", select 1 of them to display in "1-screen display".

1 Select the screen with ▲ ▼ ◄ ►.
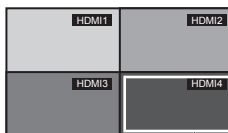
| HDMI1 | HDMI2 |
| HDMI3 | HDMI4 |

Frame

Frame appears when the cursor buttons are pressed. Move the frame to the screen you want to display in "1-screen display".

● The frame disappears when there is no operation for more than 5 seconds.
● The frame also appears when the following buttons are pressed:
  <ENTER> <INPUT>
  Move it using the cursor buttons.

2 Press <ENTER>.

HDMI4

● The selected screen is displayed in "1-screen display".
● Press <RETURN> to put back to "4-screen display" while displaying the frame.
● <RETURN> will be invalid after the frame disappeared. To display in "4-screen display" again, press <MULTI DISPLAY>.

Switching the input of "4-screen display"

1 Select the screen with ▲ ▼ ◄ ►.

Frame

Frame appears when the cursor buttons are pressed. Move the frame to the screen you want to switch input.

- The frame disappears when there is no operation for more than 5 seconds.
- The frame also appears when the following buttons are pressed:
  <ENTER> <INPUT>

  Move it using the cursor buttons.

2 Press <INPUT> to switch input.

Selecting the input signal (see page 27)

(Note)

- Depending on the input combination of the following 4 screens, the input unable to be switched will be greyed out.

Input combination of 4 screens

It is possible to select 1 input from each of the following 4 groups (A to D).

A to D can be displayed on any quarter of the screen.

A	HDMI1 HDMI2 DisplayPort DIGITAL LINK
B	HDMI1 HDMI2 DisplayPort DIGITAL LINK
C	HDMI3
D	HDMI4 DVI-D PC
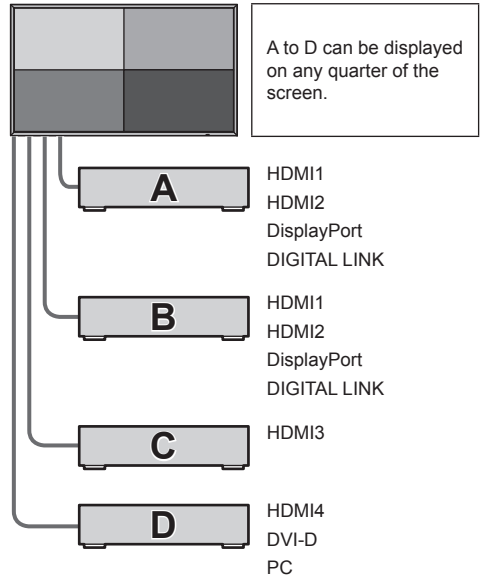
(Note)

- It is possible to display an image from 1 input in 4-screen display.

  Example: HDMI1 for all the 4 screens

- When 1 input is displayed in 2 to 4-screen display, the picture may look slightly different from each other, but it is not a malfunction.

- For details on input combinations which are possible to display, refer to the document on the site below.

  http://panasonic.net/prodisplays/download/specsheets02.html

On-Screen Menu Displays

1 Display the menu screen.

Remote Control
Unit

Press to select.

Press for several times.
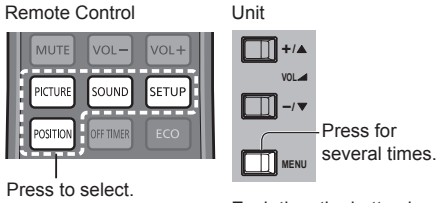
Each time the button is pressed, the menu screen will switch.

Normal Viewing →
[Picture] → [Setup] →
[Position] → [Sound]

2 Select the item.

❷ Press.

❶ Press to select.

(Example: [Picture] menu)

Picture	
Default	Default
Picture mode	◄ Normal ►
Backlight	80
Contrast	50
Brightness	50
Colour	50
Hue	50
Sharpness	0
Gamma	2.2
Colour temperature	6500K
FRAME CREATION	Off
Memory save	
Memory load	
Memory edit	
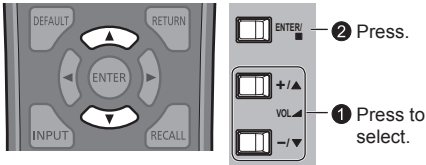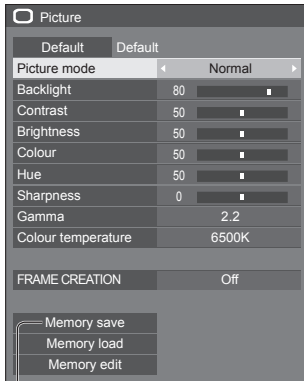
Submenu
Press <ENTER> to display the submenu.

3 Set.

❷ Press.

❶ Press to select.
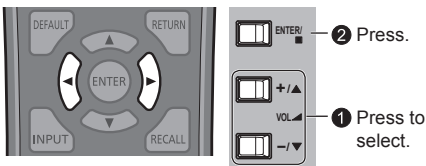
4 Exit from the menu.

Press.

MENU — Press for several times.
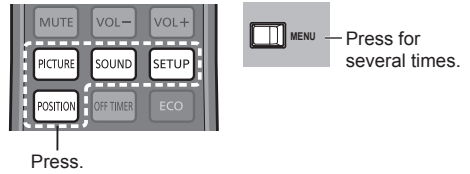
Press <RETURN> to return to the previous screen.

Menu display list

● Menu that cannot be adjusted is greyed out.
Adjustable menu changes depending on signal, input and menu setting.

[Picture] menu

Picture	
Default	Default
Picture mode	◄ Normal ►
Backlight	80
Contrast	50
Brightness	50
Colour	50
Hue	50
Sharpness	0
Gamma	2.2
Colour temperature	6500K
FRAME CREATION	Off
Memory save	
Memory load	
Memory edit	
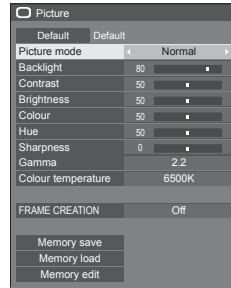
(see page 36-37)

[Setup] menu

Setup	
4 Input multi display settings	
Network settings	
Signal	
Screensaver	
ECO mode settings	
Input label	
Function button settings	
On/Off timer settings	
Day/Time settings	
HDMI 4K Interface	Single [HDMI1,HDMI2]
Display orientation	Landscape
High altitude mode	Off
No activity power off	Disable
Menu display duration	60 sec
OSD brightness	5
OSD position	Right
OSD language	English(UK)

(see page 42-54)

[Position] menu

Position	
Default	Default
Auto setup	
H-position	◄ 0 ►
H-size	0
V-position	0
V-size	0
Dot clock	0
Clock phase	0
Clamp position	0
Over scan	On

(see page 33-34)

[Sound] menu

Sound	
Default	Default
Output select	◄ SPEAKERS ►
Sound mode	Normal
Bass	0
Mid	0
Treble	0
Balance	0
Surround	Off
4 Input multi display audio select	Off
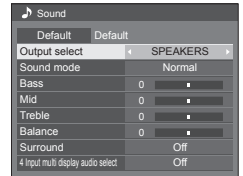
(see page 35)

Adjusting Position

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

Position	
Default	Default
Auto setup	
▭ H-position	◄ 0 ■ ►
▭ H-size	0 ■
▭ V-position	0 ■
▭ V-size	0 ■
Dot clock	0 ■
Clock phase	0 ■
Clamp position	0 ■
Over scan	On
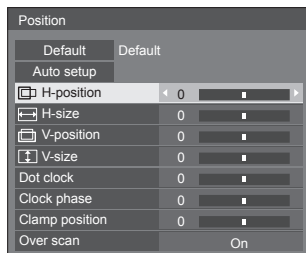
2 Select the item to adjust with ▲ ▼.

● Unadjustable items are greyed out.

Adjustable items differ depending on the input signal and the display mode.

3 Adjust with ◄ ►.

4 Press <POSITION> to exit from adjust mode.

■ **To return to the previous screen**

Press <RETURN>.

■ **To reset to defaults**

Press <DEFAULT> while the menu is displayed, or press <ENTER> when [Default] is selected, then the settings will be set to factory settings.

⎯ **Note** ⎯

● [Position] cannot be adjusted during 4 Input multi display.

● [Position] is invalid during 4K picture mode. 4K format signal will be displayed filling the entire screen.

● For 4096 × 2160 signal (2048 × 1080 signal), the left and right side of the picture will be cut off according to the pixel number of the panel.

● Settings for [Position] are memorised separately for each input terminal.

Setting [Position] when the display is installed vertically

When adjusting, please note that even when the display is installed vertically, setting directions of position / size are the same as that of horizontal installation.

Auto setup

When inputting a PC signal as an example, [H-position] / [V-position], [H-size] / [V-size], [Dot clock] and [Clock phase] are automatically corrected.

This setting is enabled under the following conditions:

● When inputting an analogue signal (PC):

This setting is enabled when [Component/RGB-in select] (see page 43) in [Signal] menu is [RGB].

● When inputting a digital signal (HDMI/DVI-D/ DisplayPort):

A PC format signal enables this setting.

This setting is enabled when the signal is not PC format or [Over scan] (see page 34) is [Off]. [H-size] / [V-size] is not automatically adjusted.

While displaying the picture of the corresponding signal, select [Auto setup] and press <ENTER>.

Using Remote Control

Press <AUTO SETUP>.

When Auto Setup does not work, [Invalid] is displayed.

Auto mode

When the [Auto setup] is set to [Auto] in the [Options] menu (see page 61), automatic position adjustment starts:

● When the display power is turned ON.

● When the input signal is switched.

⎯ **Note** ⎯

● [Auto setup] is invalid during 4K picture mode.

● When the dot clock frequency of an analogue signal is 162 MHz or higher, [Dot clock] and [Clock phase] cannot be automatically corrected.

● During digital signal input, auto setup for [Dot clock] and [Clock phase] cannot be made.

● Auto Setup may not work when a cropped or dark image is input. In such case, switch to a bright image with borders and other objects are clearly shown, and then try auto setup again.

● Depending on the signal, out of alignment may occur after Auto Setup. Carry out fine tuning for the position/size as required.

● If Auto Setup cannot set properly for vertical frequency 60Hz XGA signal (1024×768@60Hz, 1280×768@60Hz, and 1366×768@60Hz), pre-selecting the individual signal in [XGA mode] (see page 43) may results in correct Auto Setup.

● Auto Setup does not work well when a signal such as additional information is superimposed out of valid image period or intervals between synchronizing and image signals are short, or for image signal with tri-level synchronizing signal added.

● If Auto Setup does not work well, select [Default], press <ENTER>, and then adjust the position/size manually.

[H-position]   Adjust the horizontal position with ◄ ►.
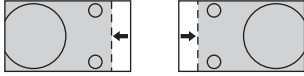
[H-size]   Adjust the horizontal size with ◄ ►.
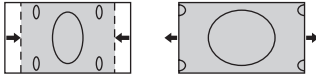
[V-position]   Adjust the vertical position with ◄ ►.
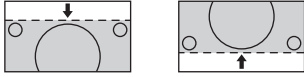
[V-size]   Adjust the vertical size with ◄ ►.
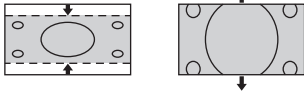
[Dot clock]   **(During PC input signal)**

Periodic striped pattern interference (noise) may occur when a striped pattern is displayed. If this happens, adjust so that any such noise is minimized.

[Clock phase]   **(During PC input signal)**

In some cases, frame of the screen appears blurred or smudged, when RGB signal or PC signal are input.

[Clamp position]   **(During PC input signal)**

Adjusts the clamp position when black parts of the image have no detail due to underexposure or are tinged with green.

Optimum value for Clamp Position adjustment

When black parts have no detail due to underexposure (blackout)

● Value that causes least blackout is the optimum.

When black parts are tinged with green

● Value that cancels the greenishness without causing blackout is the optimum.

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

Configurable signals are as follows:

525i, 525p, 625i, 625p, 750/60p, 750/50p (Component Video, RGB, DVI-D, SDI, HDMI)

1125 (1080) / 60i, 50i, 60p, 50p, 24p, 25p, 30p
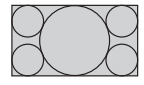
[On]   [Off]

(**Note**)

● This menu cannot be adjusted during 4K mode.

● When [Off] is set, [H-size] and [V-size] cannot be adjusted.

(**Note**)

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

Sound Adjustment

1 Press <SOUND> to display the [Sound] menu.
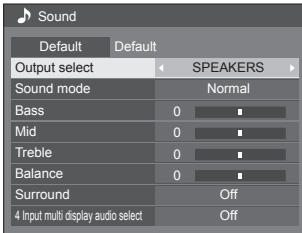
♪ Sound		
Default	Default	
Output select	◀	SPEAKERS ▶
Sound mode		Normal
Bass	0	▪
Mid	0	▪
Treble	0	▪
Balance	0	▪
Surround		Off
4 Input multi display audio select		Off

2 Select the item to adjust with ▲ ▼.

- Menu that cannot be adjusted is greyed out. Adjustable menu changes depending on signal, input and menu setting.

3 Select the desired level with ◀ ▶ by listening to the sound.

4 Press <SOUND> to exit from adjust mode.

■ **To return to the previous screen**

Press <RETURN>.

■ **To reset to defaults**

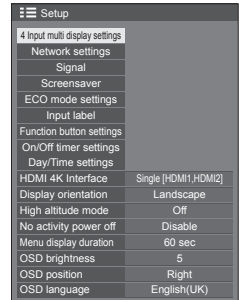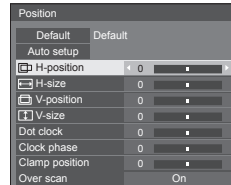Press <DEFAULT> while the menu is displayed, or press <ENTER> when [Default] is selected, then the settings will be set to factory settings.

[Output select]   Select the audio output.

     [SPEAKERS]: Internal speakers

     [AUDIO OUT]: AUDIO OUT terminal output

- When [AUDIO OUT] is selected, only [Balance] can be selected. The other menus are greyed out and cannot be selected.
- Audio volume and [Balance] settings are memorized separately for each output.

[Sound mode]

     [Normal]: Emits the original sound.

     [Dynamic]: Accentuates sharp sound.

     [Clear]: Attenuates human voice.

[Bass]   Adjusts low pitch sounds.

[Mid]   Adjusts normal sounds.

[Treble]   Adjusts high pitch sounds.

[Balance]   Adjusts left and right volumes.

[Surround]

     [Off]: Normal sound

     [On]: Surround sound

[4 Input multi display audio select]   Sets the sound for 4 Input multi display.

     [Upper right] - [Lower left]: The input sound of the selected screen will be output.

     [Off]: The sound will not be output during 4 Input multi display.

(Note)

- [Bass], [Mid], [Treble] and [Surround] settings are memorised separately for [Normal], [Dynamic] and [Clear] in [Sound mode].

Picture Adjustments

1 **Press <PICTURE> to display the [Picture] menu.**
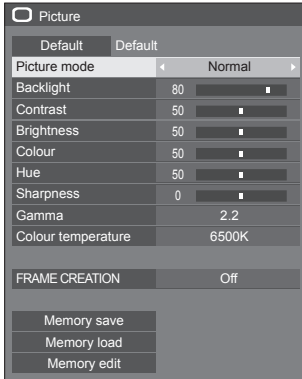
Picture		
Default	Default	
Picture mode	◄	Normal ►
Backlight	80	■
Contrast	50	■
Brightness	50	■
Colour	50	■
Hue	50	■
Sharpness	0	■
Gamma	2.2	
Colour temperature	6500K	
FRAME CREATION	Off	
Memory save		
Memory load		
Memory edit		

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

- Menu that cannot be adjusted is greyed out. Adjustable menu changes depending on signal, input and menu setting.

3 **Select the desired level with ◄► by looking at the picture behind the menu.**

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

■ **To return to the previous screen**

Press <RETURN>.

■ **To reset to defaults**

(except [FRAME CREATION])

Press <DEFAULT> while the menu is displayed, or press <ENTER> when [Default] is selected, then the settings will be set to factory settings.

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

    [Normal]

    For viewing in standard (evening lighting) environments.

    [Dynamic]

    For viewing in brighter environments.

    [Cinema]

    For use in viewing tone-focused pictures with brightness reduced.

- The setting are memorised separately for each input terminal.

  Set [Backlight] to [Colour temperature], for each [Picture mode].

- In [ENGLISH(US)] OSD language, [Normal] is displayed as [STANDARD].
- In [ENGLISH(US)] OSD language, the [Picture mode] is displayed as [PICTURE MENU].

[Backlight]	Adjusts luminance of the back light.

    Darker ↔ Brighter

- Adjustable when [ECO mode] is set to [Custom] and [Power save] to [Off]. (see page 46)

[Contrast]	Selects the proper brightness and density for the room.

    Less ↔ More

- In [ENGLISH(US)] OSD language, [Contrast] is displayed as [PICTURE].

[Brightness]	Adjusts for easier viewing of dark pictures such as night scenes and black hair.

    Darker ↔ Brighter

[Colour]	Adjusts colour saturation.

    Less ↔ More

[Hue]	Adjusts for nice skin colour.

    Reddish ↔ Greenish

[Sharpness]	Adjusts picture sharpness.

    Less ↔ More

[Gamma]	Adjusts gamma.

    [2.0] - [2.6]

    Small tilt - Large tilt

| [Colour temperature] | Adjusts colour tone. |

[3000K] - [11500K], [USER1], [USER2], [USER3]

> **Note**
>
> ● Emphasizes red when the numerical value of [Colour temperature] is small, and emphasizes blue when it is big.
>
>   You can select [USER1] - [USER3] when you set the following user settings.

User setting of [Colour temperature]

   3 kinds of detailed [Colour temperature] settings can be stored.

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

Sharpness	0	■
Gamma	2.2	
Colour temperature	◄ 6500K ►	

   Example: When [Colour temperature] is [6500K], it is possible to reflect the set point, [6500K], to the set point of [USER1] to [USER3].

2 Select the user to memorise settings with ▲ ▼ and press <ENTER>.

| Adjust colour temperature |
| Change to 6500K |
| USER1 |
| USER2 |
| USER3 |

3 Select [Ok] with ◄ ► and press <ENTER>.

| Adjust colour temperature |
| Overwrite colour temperature "USER1"? |
| Ok | Cancel |

4 Set each item on detail settings screen.

| Adjust colour temperature |
| USER1 |
R gain	◄ 255 ►
G gain	150 ■
B gain	64 ■
R bias	0 ■
G bias	0 ■
B bias	0 ■

[R gain]

Adjusts the white balance for light red areas.

   0 (colour temperature high) to 255 (colour temperature low)

[G gain]

Adjusts the white balance for light green areas.

   0 to 255

[B gain]

Adjusts the white balance for light blue areas.

   0 (colour temperature low) to 255 (colour temperature high)

[R bias]

Adjusts the white balance for dark red areas.

   -120 (colour temperature high) to +120 (colour temperature low)

[G bias]

Adjusts the white balance for dark green areas.

   -120 to +120

[B bias]

Adjusts the white balance for dark blue areas.

   -120 (colour temperature low) to +120 (colour temperature high)

The settings are memorised separately for each input terminal.

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

Sharpness	5	■
Gamma	2.2	
Colour temperature	◄ USER1 ►	

| [FRAME CREATION] | Improves motion picture quality. |

Select [Off] when the motion picture looks unnatural.

> **Note**
>
> ● The mode is memorised per input terminal.
>
>   During 4 Input multi display, all the 4 screens are switched to On / Off. The mode is also memorised separately from that of 1-screen display.
>
> ● Even when [Default] is selected, the Normal setting will not be restored.
>
> ● The picture and the menu will disappear for a moment after you changed settings.

Picture Profiles

Up to 8 combinations of picture adjustment values (in the [Picture] menu) can be stored in the display memory as profiles and applied as needed, for a convenient way to enjoy your preferred picture settings.

Picture	
Default	Default
Picture mode	Normal
Backlight	80 ∎
Contrast	50 ∎
Brightness	50 ∎
Colour	50 ∎
Hue	50 ∎
Sharpness	0 ∎
Gamma	2.2
Colour temperature	6500K
FRAME CREATION	Off
Memory save	
Memory load	
Memory edit	
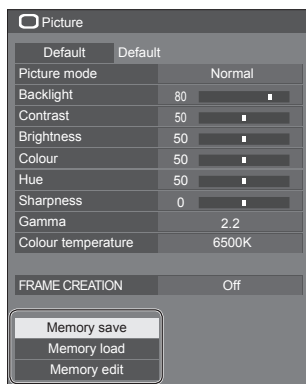
[Memory save]
(see page 39)
[Memory load]
(see page 40)
[Memory edit]
(see page 40)

1. [ ]	MEMORY1
2. [*]	MEMORY2
3. [*]	MEMORY3
4. [ ]	MEMORY4
5. [ ]	MEMORY5
6. [ ]	MEMORY6
7. [ ]	MEMORY7
8. [ ]	MEMORY8

Overview of Picture Profiles

Original picture

Adjust picture.
(see page 36)

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

1. [*]	MEMORY1
2. [*]	MEMORY2
3. [*]	MEMORY3

Example:
Change the memory name to [MY PICTURE].
[Memory edit]

1. [*]	MY PICTURE
2. [*]	MEMORY2
3. [*]	MEMORY3

● The remote control is used for all the operations of Picture Profiles function. Unit buttons cannot be used for these operations.

Saving profiles

Follow these steps to save picture adjustment values as profiles.

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

(see page 36)

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

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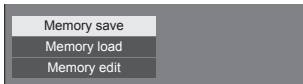
3 **Select a profile name for saving the picture adjustment values with ▲ ▼ and press <ENTER>.**

```
Memory save

1. [  ]    MEMORY1
2. [∗]    MEMORY2
3. [∗]    MEMORY3
4. [  ]    MEMORY4
5. [  ]    MEMORY5
6. [  ]    MEMORY6
7. [  ]    MEMORY7
8. [  ]    MEMORY8
```
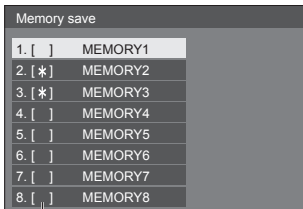
● [∗] appears for a profile in which the picture adjustments have already been saved.

4 **Select [Ok] with ◄ ► and press <ENTER>.**

```
Memory save

Save the adjusted value in "MEMORY1"
        Ok          Cancel
```
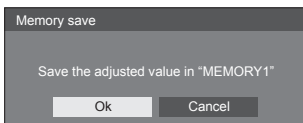
5 **Enter a profile name with ▲ ▼ ◄ ►.**

● Entering characters (see page 71)

```
Memory name input

MEMORY1

A  B  C  D  E  F  G  H  I  J  K  L  M   All delete
N  O  P  Q  R  S  T  U  V  W  X  Y  Z   Delete
a  b  c  d  e  f  g  h  i  j  k  l  m
n  o  p  q  r  s  t  u  v  w  x  y  z
0  1  2  3  4  5  6  7  8  9    Space
!  "  #  $  %  &  '  ∗  +  –  /  =  ?  @  \  ^
_  `  |  ~  <  >  (  )  [  ]  {  }  .  ,  ;  :
        Ok                    Cancel
```

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

```
Memory name input

MY MEMORY1

A  B  C  D  E  F  G  H  I  J  K  L  M   All delete
N  O  P  Q  R  S  T  U  V  W  X  Y  Z   Delete
a  b  c  d  e  f  g  h  i  j  k  l  m
n  o  p  q  r  s  t  u  v  w  x  y  z
0  1  2  3  4  5  6  7  8  9    Space
!  "  #  $  %  &  '  ∗  +  –  /  =  ?  @  \  ^
_  `  |  ~  <  >  (  )  [  ]  {  }  .  ,  ;  :
        Ok                    Cancel
```
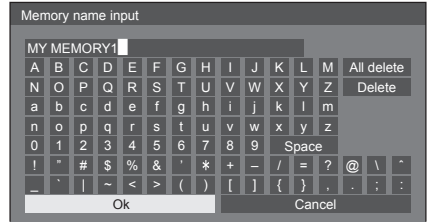
● To cancel saving the profile, select [Cancel].

Loading profiles

Load profiles and apply the picture adjustment values to the display as follows.

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

Memory save
Memory load
Memory edit
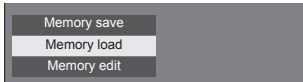
2 Select the profile to load with ▲ ▼ and press <ENTER>.

Memory load

1. [∗]   MEMORY1
2. [∗]   MEMORY2
3. [∗]   MEMORY3
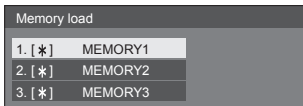
Loading profiles using numeric buttons on the remote control.

Each numeric button <1> - <8> is allocated for loading [MEMORY1] - [MEMORY8].

[Function button settings] (see page 48)

1 Press any of <1> - <8>.

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

Memory load

Load from "MEMORY2"

Ok   Cancel
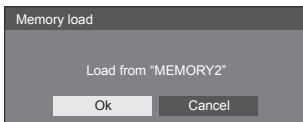
When profile is being loaded, profile name is displayed.

PC

16:9

Memory name: MEMORY2
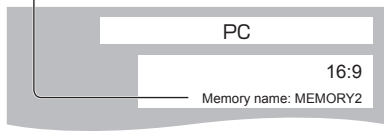
Note

● Loaded profiles are stored in memory according to the selected input terminal.

Editing profiles

Delete or rename profiles as follows.

■ Deleting profiles

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

Memory save
Memory load
Memory edit
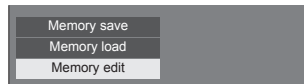
2 Select [Memory delete] with ▲ ▼ and press <ENTER>.

Memory edit

Memory delete
Memory name change
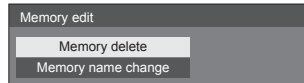
3 Select the profile to delete with ▲ ▼ and press <ENTER>.

Memory delete

1. [∗]   MEMORY1
2. [∗]   MEMORY2
3. [∗]   MEMORY3
        All delete
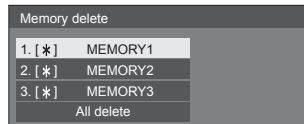
● To delete all profiles, select [All delete].

4 Select [Ok] with ◀ ▶ and press <ENTER>.
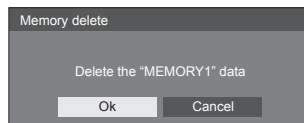
Memory delete

Delete the "MEMORY1" data

Ok   Cancel

■ Renaming profiles

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

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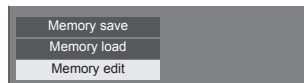
2 Select [Memory name change] with ▲ ▼ and press <ENTER>.

Memory edit

Memory delete
Memory name change
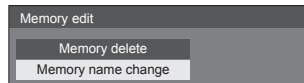
3 Select the profile to rename with ▲ ▼ and press <ENTER>.

Memory name change

1. [∗]   MEMORY1
2. [∗]   MEMORY2
3. [∗]   MEMORY3
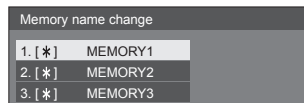
4 **Enter a name for the profile with ▲ ▼ ◀ ▶.**

● Entering characters (see page 71)

Memory name input

MEMORY1

A	B	C	D	E	F	G	H	I	J	K	L	M	All delete
N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Delete
a	b	c	d	e	f	g	h	i	j	k	l	m	
n	o	p	q	r	s	t	u	v	w	x	y	z	
0	1	2	3	4	5	6	7	8	9	Space			
!	"	#	$	%	&	'	*	+	–	/	=	?	@	\	^
_	`	|	~	<	>	(	)	[	]	{	}	,	.	;	:
Ok						Cancel							
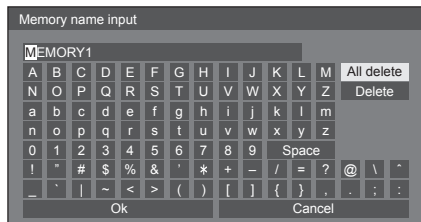
5 **When you finished entering the profile name, select [Ok] with ▲ ▼ ◀ ▶ and press <ENTER>.**

| Ok | Cancel |

● To cancel renaming the profile, select [Cancel].

English **41**

Setup menu

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

Setup	
4 Input multi display settings	
Network settings	
Signal	
Screensaver	
ECO mode settings	
Input label	
Function button settings	
On/Off timer settings	
Day/Time settings	
HDMI 4K Interface	Single [HDMI1,HDMI2]
Display orientation	Landscape
High altitude mode	Off
No activity power off	Disable
Menu display duration	60 sec
OSD brightness	5
OSD position	Right
OSD language	English(UK)
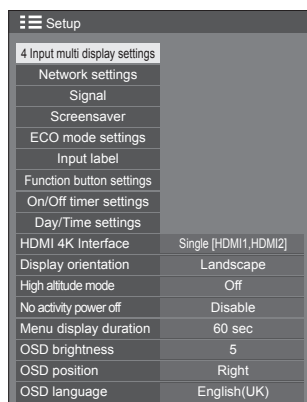
2 Select the item to set with ▲ ▼.

● Menu that cannot be adjusted is greyed out. Adjustable menu changes depending on signal, input and menu setting.

3 Set with ◄ ►.

4 Press <SETUP> to exit from adjust mode.

■ **To return to the previous screen**

Press <RETURN>.

4 Input multi display settings

Set 4 Input multi display function.

● 4 Input multi display (see page 30)

4 Input multi display settings	
4 Input multi display	◄ On ►
INPUT(upper-left)	HDMI1
INPUT(upper-right)	HDMI2
INPUT(lower-left)	HDMI3
INPUT(lower-right)	HDMI4
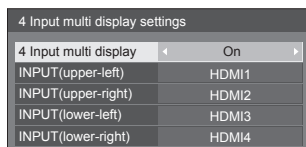
[4 Input multi display]

When this is set to [On], the display will be in "4-screen display".

The following settings will be available.

[INPUT(upper-left)] - [INPUT(lower-right)]

Set the inputs to display in "4-screen display".

(Note)

● The mode set in [4 Input multi display settings] are maintained even when the unit is turned on or off.

Network settings

Set to communicate with computers via Network. (see page 52)

For details about PJLink and Network, see page 63.

Signal

For Digital

Signal	
Signal range	◄ Auto ►
1080i/PsF	Auto
Noise reduction	Off
H-Freq.	33.7 kHz
V-Freq.	60.0 Hz
Dot Clock Freq.	108.0 MHz
Signal Format	1125(1080)/60i

For Component

Signal	
Component/RGB-in select	◄ Component ►
Sync	Auto
XGA mode	Auto
Input level	0
1080i/PsF	Auto
Noise reduction	Off
H-Freq.	33.7 kHz
V-Freq.	60.0 Hz
Dot Clock Freq.	-- Hz
Signal Format	1125(1080)/60i

For RGB

Signal	
Component/RGB-in select	◄ RGB ►
Sync	Auto
XGA mode	Auto
Input level	0
1080i/PsF	Auto
Noise reduction	Off
H-Freq.	33.7 kHz
V-Freq.	60.0 Hz
Dot Clock Freq.	-- Hz
Signal Format	1125(1080)/60i

For DisplayPort

Signal	
Signal range	◄ Auto ►
Stream setting	Auto
1080i/PsF	Auto
Noise reduction	Off
H-Freq.	33.7 kHz
V-Freq.	60.0 Hz
Dot Clock Freq.	108.0 MHz
Signal Format	1125(1080)/60i

(Note)

● Depending on the input signal type, an optional Terminal Board may be required.

● [Signal] setup menu displays a different setting condition for each input signal.

[Component/RGB-in select]

Select to match the signals from the source connected to the PC IN terminal.

[Component] Y, P$_B$, P$_R$/Y, C$_B$, C$_R$ signals

[RGB] RGB signals

[YUV/RGB-in select]

Select to match the signals from the source connected to the DVI-D IN terminal.

[YUV] YUV signals

[RGB] RGB signals

[Sync]

This function operates only during PC input.

Setting RGB/PC sync signal

[Auto]:

The H and V sync or synchronized signal is automatically selected. When both of them have sync, H and V sync will be selected.

[on G]:

Uses a synchronized signal on the Video G signal, which is input from the G connector.

Setting Component sync signal

[Auto]:

The H and V sync or synchronized signal is automatically selected. When both of them have sync, H and V sync will be selected.

[on Y]:

Uses a synchronized signal on the Video Y signal, which is input from the Y connector.

[XGA mode]

This menu is displayed when the input signal is analogue (Component/PC). This unit supports three types of XGA signals with 60Hz vertical frequency having different aspect ratios and sampling rates (1024 × 768 @60Hz, 1280 × 768 @60Hz and 1366 × 768 @60Hz).

[Auto]:

Automatically selected from [1024x768]/[1280x768]/[1366x768].

Switch the setting to suit the input signal for better display depends on the angle of view or display resolution condition.

> **Note**
>
> ● After making this setting, be sure to make each adjustment (such as [Auto setup]) on the [Position] menu as necessary. (see page 33)

[Signal range]

Switches the dynamic range according to the input signals below.

HDMI1 to HDMI4, DIGITAL LINK, DisplayPort, SLOT (SDI1 to SDI4)

[Video(16-235)]:

If the input signal is the video range, Example: HDMI terminal output for DVD player

[Full(0-255)]:

If the input signal is full range, Example: HDMI terminal output for personal computer

[Auto]:

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

● [Auto] cannot be selected during the DIGITAL LINK and SLOT (SDI1 to SDI4) input.

[Stream setting]

This menu is displayed during DisplayPort input.

Set the display method for stream of the device connected to the DisplayPort terminal.

[Auto]:

Automatically switches to the appropriate stream according to the input signal.

[Single stream]:

Displayed as single stream.

[Input level]

This menu is displayed at PC IN input.

Adjustment of parts which are extremely bright and hard to see.

- 32 to + 32:

(Level low) - (Level high)

[1080i/PsF]

Sets the mode of image processing most suitable for the picture to display.

[Auto]:

Discriminates automatically according to the input signal.

[i]:

Displays the picture signal with IP conversion processing.

[PsF]:

Displays the picture signal with progressive conversion processing.

[Noise reduction]

Reduces picture noise.

[Off]:

Disables Noise Reduction.

[Min], [Mid], [Max]:

Sets strength of Noise Reduction.

(**Note**)

● [Noise reduction] cannot be adjusted while a PC signal is being applied.

Input signal display

Displays the frequency and the type of the current input signal.

H-Freq.	33.7	kHz
V-Freq.	60.0	Hz
Dot Clock Freq.	108.0	MHz
Signal Format	1125(1080)/60i	

Display range:

Horizontal (15 kHz - 135 kHz)

Vertical (24 Hz - 120 Hz)

The dot clock frequency is displayed during Digital signal input.

Displays each signal of the 4 inputs during [4 Input multi display].

Signal			
Upper left	HDMI1		
	H-Freq.	33.7	kHz
	V-Freq.	60.0	Hz
	Dot Clock Freq.	108.0	MHz
	Signal Format	1125(1080)/60i	
Upper right	HDMI2		
	H-Freq.	48.1	kHz
	V-Freq.	59.6	Hz
	Dot Clock Freq.	64.6	MHz
	Signal Format	1024x768/60Hz	
Lower left	HDMI3		
	H-Freq.	48.1	kHz
	V-Freq.	59.6	Hz
	Dot Clock Freq.	64.6	MHz
	Signal Format	1024x768/60Hz	
Lower right	HDMI4		
	H-Freq.	48.1	kHz
	V-Freq.	59.6	Hz
	Dot Clock Freq.	64.6	MHz
	Signal Format	1024x768/60Hz	

Displays each signal during 4K input from 2 terminals (Dual Link), HDMI 1 and HDMI 2.

Signal			
Signal range	◄	Auto	►
1080i/PsF		Auto	
Noise reduction		Off	
Left	HDMI1		
	H-Freq.	33.7	kHz
	V-Freq.	60.0	Hz
	Dot Clock Freq.	108.0	MHz
	Signal Format	1125(1080)/60i	
Right	HDMI2		
	H-Freq.	33.7	kHz
	V-Freq.	60.0	Hz
	Dot Clock Freq.	108.0	MHz
	Signal Format	1125(1080)/60i	

Screensaver (For preventing image retention)

Do not display a still picture, especially in 4:3 mode, for any length of time.

If the display must remain on, a Screensaver should be used.

Screensaver		
	Time	10:00
Start		
Mode	◄ Off ►	
Side panel	Off	

■ Screensaver settings

Screensaver operation

When the Screensaver is operating, the following 5 patterns are displayed full screen for 5 seconds each, and it will be repeated.

Black → Dark grey → Grey → Light grey → White → Light grey → Grey → Dark grey

Note

● When the Screensaver is operating, the screen brightness will be reduced, but it is not a malfunction.

To start Screensaver now

① Select [On] in [Mode].

② Select [Start] and press <ENTER>.

● The menu screen will disappear and the Screensaver will be activated.

Screensaver		
	Time	10:00
Start		
Mode	On	

Note

● To stop the Screensaver under On, press the <RETURN> button or any buttons on the main unit.

● When the display is turned off, the Screensaver will be deactivated.

To set interval of Screensaver

① Select [Interval] in [Mode].

② Set [Periodic time].

● Press ◄ ► to change the time by 15 minutes.

③ Set [Operating time].

● Press ◄ ► once to change the time by 1 minute. Keep pressing down to change the time by 15 minutes.

Screensaver		
	Time	10:00
Start		
Mode	Interval	
Periodic time	◄ 0:00 ►	
Operating time	◄ 0:00 ►	

Periodic time

Deactivated.　　　　Operating time
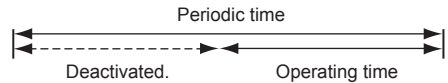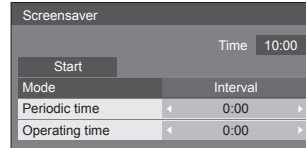
To set start and finish time of Screensaver

① Select [Time designation] in [Mode].

② Set [Start time] and [Finish time].

● Press ◄ ► once to change the time by 1 minute. Keep pressing down to change the time by 15 minutes.

Screensaver		
	Time	10:00
Start		
Mode	Time designation	
Start time	◄ 0:00 ►	
Finish time	◄ 0:00 ►	
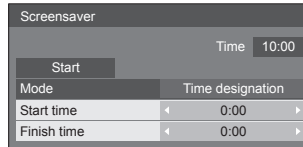
Note

● Please set [Time] before setting [Start time] and [Finish time]. (see page 50)

To turn the power off after Screensaver

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

② Set [Screensaver duration].

● Press ◄ ► once to change the time by 1 minute. Keep pressing down to change the time by 15 minutes.

③ Select [Start] and press <ENTER>.

● Screensaver will be activated and the power will be turned off (Standby) at the time set.

Screensaver		
	Time	10:00
Start		
Mode	Standby after SCR saver	
Operating time	◄ 0:00 ►	
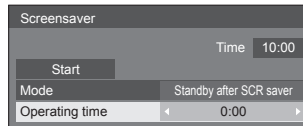
Note

● [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.

■ Side panel

Do not display a picture in 4:3 mode for an extended period, as this can cause an image retention to remain on the side panels on either side of the display field.

To reduce the risk of such an image retention, illuminate the side panels.

This function may be applicable to the non-picture area.

side panel
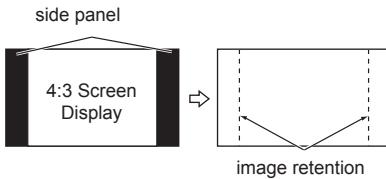
image retention

[Off]: Darken both ends.

[Low]: Make it dark grey.

[Mid]: Make it grey.

[High]: Make it light grey.

> **Note**
> ● To reduce the occurrence of image retention, set the [Side panel] to [High].

ECO mode settings

Set each item to reduce power consumption.

ECO mode settings	
ECO mode	◄ Custom ►
Power save	Off
HDMI1 power management	Off
HDMI2 power management	Off
HDMI3 Power management	Off
HDMI4 power management	Off
PC power management	Off
DVI-D power management	Off
No signal power off	Disable

Using Remote Control

When <ECO> is pressed, the [ECO mode] setting changes.
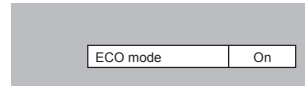
ECO mode	On

■ ECO mode: On

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

[Power save]: [On]

[HDMI1 power management]: [On]

[HDMI2 power management]: [On]

[HDMI3 Power management]: [On]

[HDMI4 power management]: [On]

[PC power management]: [On]

[DVI-D power management]: [On]

[No signal power off]: [Enable]

■ ECO mode: Custom

The menu of the power consumption reduction is individually set. This setting is enabled when [ECO mode] is set to [Custom].

[Power save]
This function adjusts the brightness of the backlight to reduce power consumption.

[Off]:
This function does not operate.

[On]:
Backlight brightness is reduced.

[Sensor]:
The backlight brightness is automatically adjusted according to the viewing environment.

> **Note**
> ● When this function is set to [On] or [Sensor], the [Backlight] setting in the [Picture] menu is disabled.

[HDMI1 power management] -
[HDMI4 power management]

When this function is set to [On], it operates under the following conditions to turn the power on or off automatically.

[Standard mode]

When no pictures (sync signal) are detected for 60 or so seconds at HDMI1 - HDMI4 input:

Power is turned off (standby); the power indicator lights up orange.

When pictures (sync signal) are subsequently detected:

Power is turned on; the power indicator lights up green.

[Low power mode]

When neither +5V DC nor pictures (sync signal) from HDMI terminals are detected for 60 or so seconds at HDMI1 - HDMI4 input:

Power is turned off (standby); the power indicator lights up orange.

When +5 V DC and pictures (sync signal) are subsequently detected:

Power is turned on; the power indicator lights up green.

● In the [Standard mode], power consumption during sleep is higher than that in the [Low power mode].

You can switch the [Standard mode] / [Low power mode] in [HDMI power management mode] of the [Options] menu. (see page 61)

[PC power management] (DPMS function)

When this function is set to [On], it operates under the following conditions to turn the power on or off automatically.

When no pictures (HD/VD sync signals) are detected for 60 or so seconds at PC input:

Power is turned off (standby); the power indicator lights up orange.

When pictures (HD/VD sync signals) are subsequently detected:

Power is turned on; the power indicator lights up green.

(**Note**)

● This function is effective when [Sync] in [Signal] is set to [Auto] and [Component/RGB-in select] is set to [RGB] and during normal viewing. (see page 43)

[DVI-D power management]

When this function is set to [On], it operates under the following conditions to turn the power on or off automatically.

[Standard mode]

When no pictures (sync signal) are detected for 60 or so seconds at DVI-D input:

Power is turned off (standby); the power indicator lights up orange.

When pictures (sync signal) are subsequently detected:

Power is turned on; the power indicator lights up green.

[Low power mode]

When +5V DC in DVI-D IN terminal or pictures (sync signal) are not detected for about 60 seconds at DVI-D input:

Power is turned off (standby); the power indicator lights up orange.

When +5V DC or pictures (sync signal) are subsequently detected:

Power is turned on; the power indicator lights up green.

● In the [Standard mode], power consumption during sleep is higher than that in the [Low power mode].

You can switch the [Standard mode] / [Low power mode] in [DVI-D power management mode] of the [Options] menu. (see page 61)

[No signal power off]

When this is set to [Enable], the power supply of the unit goes off automatically when there is no operation or sync signal for about 10 minutes.

Input label

This function can change the label of the Input signal to be displayed.

Input label	
HDMI1	◀ HDMI1 ▶
HDMI2	HDMI2
HDMI3	HDMI3
HDMI4	HDMI4
DisplayPort	DisplayPort
DIGITAL LINK	DIGITAL LINK
DVI-D	DVI-D
PC	PC
SDI1	SDI1
SDI2	SDI2
SDI3	SDI3
SDI4	SDI4

[HDMI1]	[HDMI1] / [DVD1] / [DVD2] / [DVD3] / [DVD4] / [Blu-ray1] / [Blu-ray2] / [Blu-ray3] / [Blu-ray4] / [CATV] / [VCR] / [STB] / (Skip)
[HDMI2]	[HDMI2] / [DVD1] / [DVD2] / [DVD3] / [DVD4] / [Blu-ray1] / [Blu-ray2] / [Blu-ray3] / [Blu-ray4] / [CATV] / [VCR] / [STB] / (Skip)
[HDMI3]	[HDMI3] / [DVD1] / [DVD2] / [DVD3] / [DVD4] / [Blu-ray1] / [Blu-ray2] / [Blu-ray3] / [Blu-ray4] / [CATV] / [VCR] / [STB] / (Skip)
[HDMI4]	[HDMI4] / [DVD1] / [DVD2] / [DVD3] / [DVD4] / [Blu-ray1] / [Blu-ray2] / [Blu-ray3] / [Blu-ray4] / [CATV] / [VCR] / [STB] / (Skip)
[DisplayPort]	[DisplayPort] / [DVD1] / [DVD2] / [DVD3] / [DVD4] / [Blu-ray1] / [Blu-ray2] / [Blu-ray3] / [Blu-ray4] / [CATV] / [VCR] / [STB] / (Skip)
[DIGITAL LINK]	[DIGITAL LINK] / [DVD1] / [DVD2] / [DVD3] / [DVD4] / [Blu-ray1] / [Blu-ray2] / [Blu-ray3] / [Blu-ray4] / [CATV] / [VCR] / [STB] / (Skip)
[DVI-D]	[DVI-D] / [DVD1] / [DVD2] / [DVD3] / [DVD4] / [Blu-ray1] / [Blu-ray2] / [Blu-ray3] / [Blu-ray4] / [CATV] / [VCR] / [STB] / (Skip)
[PC]	[PC] / [DVD1] / [DVD2] / [DVD3] / [DVD4] / [Blu-ray1] / [Blu-ray2] / [Blu-ray3] / [Blu-ray4] / [CATV] / [VCR] / [STB] / (Skip)
[SDI1]∗	[SDI1] / (Skip)
[SDI2]∗	[SDI2] / (Skip)
[SDI3]∗	[SDI3] / (Skip)
[SDI4]∗	[SDI4] / (Skip)

∗: [SDI1] - [SDI4] is displayed when a 3G-SDI Terminal Board with Audio (TY-TBN03G) is installed.

● (Skip): When <INPUT> is pressed, the input will be skipped.

Function button settings

Assigns specific functions to the numeric buttons (<0> to <9>). The buttons can be used as shortcut keys by assigning frequently used operations.

1 Switch [Function group] with ◀▶.

Function button settings	
Function group	◀ INPUT ▶
Function button 1	HDMI1
Function button 2	HDMI2
Function button 3	HDMI3
Function button 4	HDMI4
Function button 5	DisplayPort
Function button 6	DIGITAL LINK
Function button 7	DVI-D
Function button 8	PC
Function button 9	SDI1
Function button 0	SDI2
Function button guide	On

INPUT
↓
Memory load
↓
Shortcut

2 Select the numeric button with ▲▼ and set the function to assign with ◀▶.

■ **Functions assignable to the numeric buttons**

[INPUT] (Direct input select)

Input can be selected with single-touch operation.

HDMI1 - HDMI4 / DisplayPort / DIGITAL LINK / DVI-D / PC / SDI1 - SDI4

● SDI1 to SDI4 can be set when 3G-SDI Terminal Board with Audio (TY-TBN03G) is mounted.

[Memory load]

Memory can be loaded with single-touch operation.

Memory load (see page 40)

[MEMORY1] - [MEMORY8]

● [MEMORY1] to [MEMORY8] load functions are already assigned to <1> to <8> respectively. These settings cannot be changed.

[Shortcut]

[ECO mode settings], [Signal],
[On/Off timer settings], [Network settings],
[4 Input multi display settings]

● Pressing the numeric button displays the menu screen. Pressing the button again exits the menu screen.

[AV Mute]

● Pressing the numeric button mutes the audio and pictures.

  To cancel, press any button on the remote control.

Shipping condition

The following functions are assigned to the numeric buttons as factory default.

	[INPUT]	[Memory load]	[Shortcut]
1	HDMI1	MEMORY1	[AV Mute]
2	HDMI2	MEMORY2	[ECO mode settings]
3	HDMI3	MEMORY3	[Signal]
4	HDMI4	MEMORY4	[On/Off timer settings]
5	DisplayPort	MEMORY5	[Network settings]
6	DIGITAL LINK	MEMORY6	4 Input multi display settings
7	DVI-D	MEMORY7	—
8	PC	MEMORY8	—
9	—	—	—
0	—	—	—

■ Function button guide

Sets the function display when numeric buttons are pressed. Set this for each function group.

[On]: Displays the function list for the numeric buttons.

[Off]: Does not display the function list. Operation starts when numeric buttons are pressed.

> **Note**

● When <FUNCTION GROUP> is pressed, [Function button guide] will be displayed regardless of the [On] / [Off] settings.

To use shortcut (numeric buttons)

1 Press <FUNCTION GROUP> or <0> - <9>.

[Function button guide] will be displayed.

[Function button guide]: When [Off] is set, pressing the numeric button starts operation.

```
INPUT

1. HDMI 1
2. HDMI 2
3. HDMI 3
4. HDMI 4
5. DisplayPort
6. DIGITAL LINK
7. DVI-D
8. PC
9. SDI1
0. SDI2
```
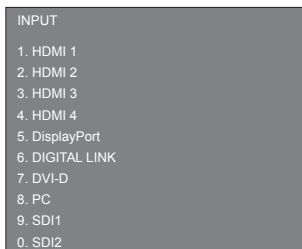
2 Press <FUNCTION GROUP> to switch function group.

```
Memory load

1. MEMORY 1
2. MEMORY 2
3. MEMORY 3
4. MEMORY 4
5. MEMORY 5
6. MEMORY 6
7. MEMORY 7
8. MEMORY 8
9. ---
0. ---
```
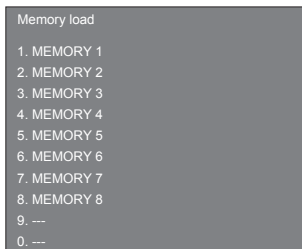
Example: Memory load

3 Press <0> - <9>.

The function for the pressed button starts to operate.

```
Memory load

Load from "MEMORY2"
   Ok         Cancel
```
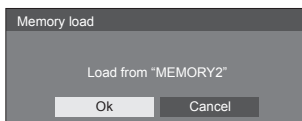
Example: When <2> is pressed.

On/Off timer settings

Set to turn the power on / off automatically.

On/Off timer settings		
	Time	10:00
Power on function	◄	Off ►
Power on time		0:00
Power off function		Off
Power off time		0:00

■ To turn the power on or off at the time set

① Select [Power on time] or [Power off time].

② Set [Power on time] or [Power off time].

● Press ◄ ► once to change the time by 1 minute. Keep pressing down to change the time by 15 minutes.

On/Off timer settings		
	Time	10:00
Power on function		Off
Power on time	◄	0:00 ►
Power off function		Off
Power off time	◄	0:00 ►

③ Select [Power on function] or [Power off function].

④ Set to [On].

On/Off timer settings		
	Time	10:00
Power on function	◄	Off ►
Power on time		0:00
Power off function	◄	Off ►
Power off time		0:00

(Note)

● Please set [Time] first. (see page 50)

Day/Time settings

Set day and the current time.
(They are not set when [99:99] is displayed.)

Day/Time settings		
	Time	MONDAY 99:99
Set		
Day	◄	MONDAY ►
Time		18:00

■ Set [Day] and [Time]

① Select [Day] or [Time].

② Set [Day] or [Time].

● Press ◄ ► once to change the time by 1 minute. Keep pressing down to change the time by 15 minutes.

Day/Time settings		
	Time	MONDAY 99:99
Set		
Day	◄	TUESDAY ►
Time	◄	18:00 ►

③ Select [Set] and press <ENTER>.

Day/Time settings		
	Time	TUESDAY 18:00
Set		
Day		TUESDAY
Time		18:00

(Note)

● [Set] cannot be selected unless [Time] is set.

● The settings of [Day] and [Time] are reset when leaving the display turned off for more than about 7 days for the following reasons:

・ <Main Power On / Off switch> was pressed to turn off the display.

・ The AC cord was disconnected.

・ Interruption of power supply.

● Unless setting the present time other than [99:99], [Day] and [Time] cannot be set.

HDMI 4K Interface

Sets the combination of input for HDMI 1 to HDMI 2 terminals in 4K resolution images.

[Single [HDMI1,HDMI2]]:

4K input with 1 terminal via HDMI 1 or HDMI 2

[Dual [HDMI1&HDMI2]]:

4K input with 2 terminals via HDMI 1 and HDMI 2

(Note)

● Input combination in 4K resolution images (see page 16)

Display orientation

Sets the on-screen display orientation in the portrait setting.

[Landscape]:

Cooling fan control will be set for horizontal installation.

[Portrait]:

Cooling fan control will be set for vertical installation.

The on-screen display rotates anticlockwise by 90 degrees for easy view in the portrait setting.

Portrait

Landscape
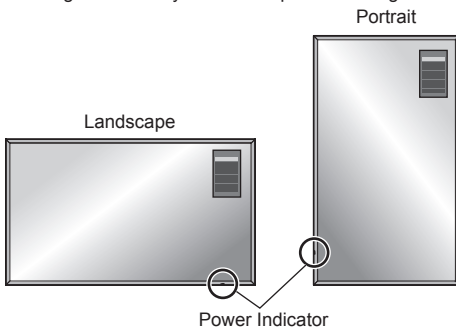
Power Indicator

(Note)

● In the portrait setting, the power indicator shall come to the downside.

● Make sure to set to [Landscape] when installing horizontally, and set to [Portrait] when installing vertically.

Failure to do so may shorten the life of the internal parts and result in malfunctions.

High altitude mode

Change settings when using the unit at high altitudes.

[Off]: Cooling fan control will be set to use the unit where it is below 1 400 m (4 593 ft) above sea level

[On]: Cooling fan control will be set to use the unit at high altitudes (1 400 m (4 593 ft) and higher and below 2 400 m (7 874 ft) above sea level)

(Note)

● When using the unit where it is 1 400 m (4 593 ft) and higher and below 2 400 m (7 874 ft) above sea level, make sure to set to [On].

Failure to do so may shorten the life of the internal parts and result in malfunctions.

No activity power off

When this function is set to [Enable], the power is turned off (standby) automatically when there is no operation of the Display for 4 hours.

Starting from 3 minutes before the turn off, the remaining time will be displayed.

Press any key to abort.	
No activity power off	3 min
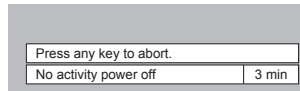
When the power is turned off due to this function, a message [Last turn off due to 'No activity power off'.] is displayed next time the power is turned on.

(Note)

● During the screensaver is running, this function is disabled.

Menu display duration / OSD brightness / OSD position

Set the display time, brightness and the position of the on-screen menu display.

[Menu display duration]: [5 sec] - [180 sec]

[OSD brightness]: [1] - [5]

[OSD position]: [Right], [Left]

(Display installation: Horizontal)

[Upper], [Lower]

(Display installation: Vertical)

OSD language

Select your preferred language.

Selectable languages

  English(UK)
  Deutsch
  Français
  Italiano
  Español
  ENGLISH(US)
  中文　　　　: Chinese
  日本語　　　: Japanese
  Русский　　: Russian

Network settings

Set when networking with a computer.

[Network settings] submenu will be displayed.

Network settings	
LAN setup	
Name change	
Network control	On
AMX D.D.	Off
DIGITAL LINK	
DIGITAL LINK status	
Digital Interface Box	
DIGITAL LINK mode	Auto(LAN)
Extron XTP	Off

Note

● The remote control is used for all the [Network settings] menu operations. Unit buttons cannot be used for these operations.

■ [LAN setup]

Detailed network settings for the LAN established via the LAN terminal of the Display or twisted pair cable transmitter can be configured.

Select [LAN setup] with ▲ ▼ and press <ENTER>.

LAN setup	
Save	
DHCP	◄　　　Off　　　►
IP address	192.168. 0. 8
Subnet mask	255.255.255. 0
Gateway	192.168. 0. 1
Port	1024
DUPLEX	Auto
Network ID	0
MAC address	--:--:--:--:--:--

[DHCP], [IP address], [Subnet mask], [Gateway]

① **Press ◄► to set [On] / [Off] of [DHCP] and press <ENTER>.**

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 the Display is going to be connected.

  [Off]:

    When a DHCP server does not exist in the network the Display is going to be 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**
> ● IP address will not be displayed when [DHCP] is set to [On].

Entering numbers

1. Select the item and press <ENTER>.
2. Select digits with ◄ ►.
3. Change numbers with numeric buttons (<0> - <9>).

   It is also possible to change with ▲ ▼.
4. Press <ENTER>.

   You can cancel the change by pressing <RETURN>.

---

② **Select [Save] and press <ENTER>.**

Save the current network Setup.

> **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].
> ● Shipping condition
> [DHCP]: Off
> [IP address]: 192.168.0.8
> [Subnet mask]: 255.255.255.0
> [Gateway]: 192.168.0.1

[Port]

Set the port number used for command control.

Select [Port] and press <ENTER> to set the number.

● The available setting range is 1024 - 65535.

● Entering numbers (see page 53)

> **Note**
> ● When the PJLink protocol is used, the port setting is not necessary.

[DUPLEX]

Set the transmission method of the LAN environment.

[Auto], [100 Half], [100 Full]

[Network ID]

Set the ID to identify this unit.

Press [Network ID] and press <ENTER> to set the number.

● The available setting range is 0 - 99.

● Entering numbers (see page 53)

■ **[Name change]**

The name of the Display that is shown on the network can be changed.

Select [Name change] with ▲ ▼ and press <ENTER>.

Name change
Name0000
A B C D E F G H I J K L M All delete
N O P Q R S T U V W X Y Z Delete
a b c d e f g h i j k l m
n o p q r s t u v w x y z
0 1 2 3 4 5 6 7 8 9 Space
! " # $ % & ' * + – / = ? @ \ ^
_ `	~ < > ( ) [ ] { } , . ; :
Ok Cancel
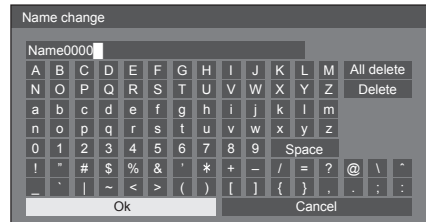
● Up to 8 characters can be set for Display name.

● Entering characters (see page 71)

■ **[Network control]**

Set when controlling with the unit's DIGITAL LINK / LAN terminal.

[On]:

Controls via LAN using the LAN terminal of the Display or twisted pair cable transmitter or via RS-232C using the SERIAL (RS-232C) terminal of twisted pair cable transmitter. The power indicator lights orange when the power is turned off with the remote control (standby).

[Off]:

Invalidates control with DIGITAL LINK / LAN terminal.

(In this case, the power consumption of Standby condition (when the power is turned off with the remote control) will be slightly reduced.)

> **Note**
> ● Even when [Off] is selected, when the power is turned on, HDMI communication via twisted pair cable transmitter becomes possible.
> ● For the case of [On], see [DIGITAL LINK mode] (see page 54)
> ● When this is set to [On] and [DIGITAL LINK(RS-232C)] is selected in [DIGITAL LINK mode], it is not possible to control with the unit's SERIAL terminal.

■ **[AMX D.D.]**

Set whether to allow the Display to be detected by AMX Device Discovery.

[On]:

Enables detection by AMX Device Discovery.

[Off]:

Disables detection by AMX Device Discovery.

● For more details, visit the following web site.

http://www.amx.com/

■ **[DIGITAL LINK status]**

Display the DIGITAL LINK connection environment.

Select [DIGITAL LINK status] with ▲ ▼ and press <ENTER>.

DIGITAL LINK status	
LINK status	No link
HDMI status	No HDMI
Signal quality	
Min	-XX dB
Max	-YY dB

[LINK status]:

1 of the followings will be displayed.

[No link]:

No LAN connection, etc.

[DIGITAL LINK]:

Connected to the DIGITAL LINK device by LAN.

[Ethernet]:

The PC is connected to the DIGITAL LINK terminal of this product and is LAN connected.

[HDMI status]:

1 of the followings will be displayed.

[No HDMI]: DIGITAL LINK not connected

[HDMI ON]: DIGITAL LINK connected

[HDCP ON]: HDCP supported on DIGITAL LINK

[Signal quality]:

It is the quantified minimum and maximum numbers of errors that have occurred. The display colours are red, yellow, or green, depending on the number.

Signal quality	Display Colours	Reception Status
-12dB or below	Green	Good
-11 to -8dB	Yellow	Bad
-7dB or above	Red	Terrible

● The number is represented by yellow or red if the LAN cable is disconnected or the cable is not shielded.

● This signal quality shows figures between the twisted pair cable transmitter that is connected and the display.

■ **[Digital Interface Box]**

Displays the setting menu of Digital Interface Box.

Select [Digital Interface Box] with ▲ ▼ and press <ENTER>.

> **Note**

● This function can only be selected when the Digital Interface Box (ET-YFB100G) made by our company is connected to a LAN terminal and its power is on.

■ **[DIGITAL LINK mode]**

You can switch the setting of DIGITAL LINK/LAN terminal.

[LAN]:

Enables LAN communication via the Display's LAN terminal.

[Auto(LAN)]:

Enables automatic selection between LAN communication via the Display's LAN terminal and HDMI/LAN communication via the twisted pair cable transmitter.

[DIGITAL LINK(LAN)]:

Enables HDMI/LAN communication via the twisted pair cable transmitter.

[DIGITAL LINK(RS-232C)]:

Enables HDMI/RS-232C communication via the twisted pair cable transmitter.

> **Note**

● To use the control methods shown on pages 67 to 69, select [LAN], [Auto(LAN)] or [DIGITAL LINK(LAN)].

● Power consumption during standby is slightly larger when you set to any other setting than [LAN].

● When [DIGITAL LINK(RS-232C)] is selected, it is not possible to control with the unit's SERIAL terminal.

■ **[Extron XTP]**

Set to [On] when connecting XTP Transmitter made by Extron to DIGITAL LINK terminal.

● For more details on Extron, visit the following web site.

http://www.extron.com

Options Adjustments

This unit offers special functions conveniently used according to the installation location and application.

1 Press <SETUP>.

[Setup] menu screen will be displayed.

2 Select [OSD language] with ▲ ▼ and press <ENTER> for more than 3 seconds.

Following screen will be displayed.

Options
Display serial number
Shipping
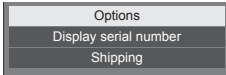
3 Select [Options] with ▲ ▼ and press <ENTER>.

[Options] menu screen will be displayed.

Options		1/3
Weekly command timer		
Audio input select		
Input search		
Onscreen display	◄ On ►	
Initial input	◄ Off ►	
Initial VOL level	◄ Off 0 ►	
Maximum VOL level	◄ Off 0 ►	
Input lock	◄ Off ►	
Button lock	◄ Off ►	
Controller user level	◄ Off ►	
Local dimming	◄ Off ►	

Options	2/3
Off-timer function	◄ Enable ►
Initial power mode	Normal
Display ID	0
Controller ID function	Off
Serial ID function	Off
LAN control protocol	Protocol 1
RS-232C/LAN information timing	

Options	3/3
Power on screen delay	◄ Off ►
DVI-D power management mode	Standard mode
HDMI power management mode	Standard mode
Clock display	Off
Auto setup	Manual
Power on message(No activity power off)	On
Power on message(Power management)	On

4 Select the item to set with ▲ ▼.

- For [Weekly command timer], [Audio input select], [Input search] and [RS-232C/LAN information timing], the sub menu screen will be displayed when you press <ENTER>.
  (see page 56 - 57, 60)

5 Set with ◄ ►.

6 Press <SETUP> to exit from [Options] menu.

(Note)

- The remote control is used for all the [Options] menu operations. Unit buttons cannot be used for these operations.
- Press <RETURN> to return to the previous menu.
- The serial number of this device is displayed when [Display serial number] is selected in step 3.

Weekly command timer

You can set 7-day timer programming by setting time and command.

● Before setting [Weekly command timer], set [Day/Time settings]. (see page 50)

1 Select [Function] with ▲ ▼.

Select [On] with ◀ ▶.

Weekly command timer		
Function	◀	On ▶
MONDAY	◀	Program1 ▶
TUESDAY		Program3
WEDNESDAY		---
THURSDAY		Program3
FRIDAY		---
SATURDAY		Program6
SUNDAY		Program4
ProgramEdit		

2 Select day with ▲ ▼.

Select programme number with ◀ ▶.

You can set from [Program1] to [Program7]. [---] indicates it is not set.

(Note)

● When [Function] is set to [On], [On/Off timer settings] (see page 50) is unavailable and [Interval] / [Time designation] in [Mode] of [Screensaver] (see page 45) cannot be selected.

3 Select [ProgramEdit] with ▲ ▼ and press <ENTER>.

The following screen will be displayed.

Weekly command timer		
Program	◀ 1 ▶	— **1**
01	8:00 PON	
02	10:30 IMS:SL1	— **2**
03	—:— ---	
04	—:— ---	
05	—:— ---	
06	12:00 POF	
07	9:12 AVL:10	
08	—:— ---	
		— **3**

1 Programme number (1 - 7)

2 Setting status of the programme number, currently selected

● [--:--] indicates the time is not set.

[---] indicates the command is not set.

3 Command number (1 - 64)

On this screen, setting status for each program number is displayed. You can set up to 64 command numbers for 1 programme.

4 Select [Program] with ▲ ▼, and then switch programme number (1 - 7) with ◀ ▶.

5 Select the command number to set with ▲ ▼.

The command numbers to be displayed on the screen are 8 commands. Press ◀ ▶ to switch page.

6 Press <ENTER>.

The following screen will be displayed.

Weekly command timer		
	Program	1
Command No	◀	02 ▶
Time	◀	12:34 ▶
Command	◀	IMS:SL1 ▶

7 Select [Time] or [Command] with ▲ ▼ and set with ◀ ▶.

[Time]:

Press ◀ ▶ once to change the time by 1 minute.

Keep pressing down to change the time by 15 minutes.

[Command]:

Select a command to execute at the set time. This unit has 64 commands to set. (see page 72)

To set other command numbers

Select [Command No] with ▲ ▼, and then select command number with ◀ ▶ to set other command numbers directly without returning to the previous screen.

(Note)

● Press <RETURN> to return to the previous screen.

● Command is performed in order of execution time, regardless of the command number.

● When a command execution time overlaps with that of other commands, these commands are performed in number order.

● By pressing <DEFAULT>, [Time] is displayed as --:--, and [Command] is displayed as ---.

Audio input select

Set up the sound when an image input is selected.

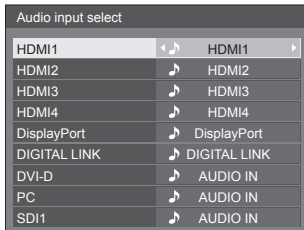**Select image input with ▲ ▼.**

Select audio input with ◀ ▶.

Audio input select		
HDMI1	◀♪	HDMI1 ▶
HDMI2	♪	HDMI2
HDMI3	♪	HDMI3
HDMI4	♪	HDMI4
DisplayPort	♪	DisplayPort
DIGITAL LINK	♪	DIGITAL LINK
DVI-D	♪	AUDIO IN
PC	♪	AUDIO IN
SDI1	♪	AUDIO IN

Image input	Audio input
HDMI1	HDMI1 / AUDIO IN / NO AUDIO
HDMI2	HDMI2 / AUDIO IN / NO AUDIO
HDMI3	HDMI3 / AUDIO IN / NO AUDIO
HDMI4	HDMI4 / AUDIO IN / NO AUDIO
DisplayPort	AUDIO IN / DisplayPort / NO AUDIO
DIGITAL LINK	AUDIO IN / DIGITAL LINK / NO AUDIO
DVI-D / PC	AUDIO IN / NO AUDIO
SDI1∗	SDI1∗/ AUDIO IN / NO AUDIO

● [NO AUDIO]: No audio input (Mute)

∗: When a Terminal Board is installed to the SLOT, its Terminal name will be displayed and it will be possible to select sound.

When Image input and Audio input differ from each other, the Audio input is displayed as below.

HDMI1
16:9
♪ AUDIO IN
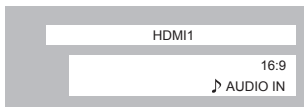
Input search

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

Select the item with ▲ ▼.

Select the set point with ◀ ▶.

Input search		
Input search	◀ Off	▶
Primary input		
Secondary input		
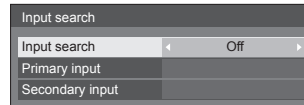
[Input search]

[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 [PC]

[PC] → [SDI1]∗ → · · · · · · · · · · → [DVI-D]

[Priority]:

Searches [Primary input] and [Secondary input] in order and switches to an input with a signal.
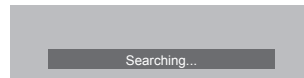
Searching...

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

[Primary input], [Secondary input]
Set the input to search when [Priority] is selected.
(NONE) / [HDMI1] / [HDMI2] / [HDMI3] / [HDMI4] / [DisplayPort] / [DIGITAL LINK] / [DVI-D] / [PC] / [SDI1]∗

∗: When a Terminal Board is installed to the SLOT, its Terminal name will be displayed.

> **Note**
>
> ● This menu is available only when [Input lock] is [Off]. (see page 58)
> ● 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.
>
> ● Not available during [4 Input multi display].

Onscreen display

Set to display / hide the following Onscreen display.

● Power on display
● Input signal switch display
● No signal display
● MUTE display after displaying the menu screen
● MUTE and off timer remaining time display after <RECALL> is pressed
● Off timer remaining time display when 3 minutes remaining

[On]:	Displays the Onscreen display.
[Off]:	Hides the Onscreen display.

Initial input

Adjusts the input signal when the unit is turned on.

[Off] / [HDMI1] / [HDMI2] / [HDMI3] / [HDMI4] / [DisplayPort] / [DIGITAL LINK] / [DVI-D] / [PC] / [SDI1]∗

∗: When a Terminal Board is installed to the SLOT, its Terminal name will be displayed.

(**Note**)

● This menu is available only when [Input lock] is [Off]. (see page 58)

Initial VOL level

Adjusts the sound volume level when the unit is turned on.

[Off]:	It will be the sound volume level which had been set before the power of the unit was turned off.
[On]:	Sets your preferred volume.

● You can hear the changed volume regardless of your volume setting before opening the [Options] menu if you adjust the volume when [Initial VOL level] is [On] and cursor is on the menu.

■ To adjust sound volume level

Press <VOL +> <VOL ->.

(**Note**)

● When [Maximum VOL level] is [On], the volume can only be adjusted between 0 and your maximum range. (see page 58)

Maximum VOL level

Adjusts the maximum volume.

[Off]:	The sound volume level can be set up to 63 (maximum).
[On]:	The sound volume level will not exceed the set point.

■ To adjust sound volume level

Press <VOL +> <VOL ->.

(**Note**)

● When 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].

  The volume display can go up to 63 regardless of the settings.

● You can hear the changed volume regardless of your volume setting before opening the [Options] menu if you adjust the volume when [Maximum VOL level] is [On] and cursor is on the menu.

Input lock

Locks the input switch operation.

[Off] / [HDMI1] / [HDMI2] / [HDMI3] / [HDMI4] / [DisplayPort] / [DIGITAL LINK] / [DVI-D] / [PC] / [SDI1]∗

∗: When a Terminal Board is installed to the SLOT, its Terminal name will be displayed.

(**Note**)

● Input switch can be used when this is set to [Off].

Button lock

Limits operation of the buttons on the unit.

[Off]:	All the buttons on main unit can be used.
[MENU&ENTER]:	Locks <MENU (Unit)> and <ENTER (Unit)> buttons.
[On]:	Locks all the buttons on the unit.

■ To set [Button lock]

Set with the buttons on the unit.

[Off]:
  ①Press <VOL + (Unit)> for 4 times.
  ②Press <INPUT (Unit)> for 4 times.
  ③Press <VOL - (Unit)> for 4 times.
  ④Press <ENTER (Unit)>.

[MENU&ENTER]:
  ①Press <ENTER (Unit)> for 4 times.
  ②Press <VOL + (Unit)> for 4 times.
  ③Press <INPUT (Unit)> for 4 times.
  ④Press <ENTER (Unit)>.

[On]:
  ①Press <VOL - (Unit)> for 4 times.
  ②Press <ENTER (Unit)> for 4 times.
  ③Press <VOL + (Unit)> for 4 times.
  ④Press <ENTER (Unit)>.

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]:	You can only use <POWER ON>, <STANDBY>, <INPUT>, <RECALL>, <MUTE>, <VOL +> and <VOL -> buttons on the remote control.
[User2]:	You can only use <POWER ON> and <STANDBY> buttons on the remote control.
[User3]:	Locks all the buttons on the remote control.

Local dimming

This function partially controls the light emission amount of the LED back light to enhance the contrast. The contrast ratio for different areas in the same screen can be greatly increased.

[Off]:	Disables the local dimming function.
[On]:	Enables the local dimming function.

Off-timer function

Enables / disables Off timer function.

[Enable]:	Enables the [Off-timer function].
[Disable]:	Disables the [Off-timer function].

(Note)

● When [Disable] is set, the Off-timer is cancelled.

Initial power mode

Sets the power mode of the unit for when the power recovers from failure or after plugging off and in again.

[Normal]:	Power returns in as the same state as before the power interruption.
[Standby]:	Power returns in standby mode. (Power Indicator: red/orange)
[On]:	Power returns in power On. (Power Indicator: green)

(Note)

● When using multiple displays, [Standby] is preferred to be set in order to reduce a power load.

Display ID

Sets ID number when controlling the Display with [Controller ID function] and [Serial ID function].

0 - 100 (Standard value: 0)

Controller ID function

Enables/Disables the ID remote control function.

[Off]:	Disables the ID remote control function. (Can be operated as normal remote control.)
[On]:	Enables the ID remote control function. Effective on switching to [On].

(Note)

● To use the ID remote control function, setting ID numbers both for the remote control and for the display unit is required.

Serial ID function

Set to control external control with the PC connected to SERIAL terminal according to the Display's ID number (Panel ID).

[Off]: Disables external control by the ID.

[On]: Enables the external control by the ID.

LAN control protocol

Select the LAN control protocol.

[Protocol 1]: Control with the Panasonic Display sequence.

[Protocol 2]: Control with the sequence that compatible with Panasonic Projector.

> **Note**

● When using "Early Warning Software" (see page 66), set to [Protocol 2].

RS-232C/LAN information timing

Set up the informing manner for no signal or temperature rising.

During RS-232C controls:

Warning or error message sent on the display automatically.

During LAN controls:

Acquire the warning or error message from the display.

1 Select the item with ▲ ▼.

Select the set point with ◄ ►.

RS-232C/LAN information timing	
No signal warning	◄ On ►
No signal warning timing	5min
No signal error	On
No signal error timing	10min
Temperature warning	On

[No signal warning]

When set to [On], the display sends out the no signal warning.

[No signal warning timing]

Set up the detecting time for no signal warning.

(Range: 01 - 60, Interval: 1 minute)

[No signal error]

When set to [On], the display sends out the no signal error.

[No signal error timing]

Set up the detecting time for no signal error.

(Range: 01 - 90, Interval: 1 minute)

● The warning of [No signal warning] and the error of [No signal error] are not sent when the no signal state is detected through any of the following functions:

[No signal power off], [PC power management], [DVI-D power management], [HDMI1 power management] - [HDMI4 power management] (see page 46)

● If there is no signal when [PC IN] is input, [PC power management] is activated first and the Display enters the standby mode.

Setting Example:

[No signal warning timing]: 5 minutes

[No signal error timing]: 10 minutes

[PC power management]: [On] (60 seconds)

> **Note**

● The [No signal error timing] cannot be set shorter than [No signal warning timing].

[Temperature warning]

When set to [On], the display sends out the warning temperature.

Power on screen delay

You can set the power-on delay time of the displays to reduce the power load, when you press <Main Power On / Off switch> to turn on the multiple displays that are set together.

Set each display's setting individually.

[Off]:	The display will be turned on at the same time as <Main Power On / Off switch> is pressed.
[AUTO]:	Sets the delay time automatically according to the number set for [Display ID].
[1 to 30]:	Set the power-on delay time (second). After pressing <Main Power On / Off switch>, the display will be powered on with time delay depending on this setting.

(Note)

● During this function is working, the power indicator is blinking green.

● This function also works when the power recovers from failure or after plugging off and in again the power cord.

DVI-D power management mode

Sets the operational mode of [DVI-D power management].

[Standard mode]:

Activates power management when synchronization signals are not detected.

[Low power mode]:

Activates power management also when +5V DC in [DVI-D IN] terminal is not detected.

HDMI power management mode

Sets the operational mode of HDMI Power management.

[Standard mode]:

Activates power management when synchronization signals are not detected.

[Low power mode]:

Activates power management also when +5V DC in HDMI terminal is not detected.

Clock display

Sets to display / hide the clock.

[Off]:	Hides the clock.
[On]:	Displays the clock.

(Note)

● The clock is displayed at the lower left of the screen when <RECALL> button is pressed.

● When [Day/Time settings] is not set, the clock is not displayed even when [Clock display] is [On]. (see page 50)

Auto setup

Sets the operational mode of the automatic position adjustment in the [Position] menu.

[Manual]:	Automatic position adjustment starts when <AUTO SETUP> is pressed on the remote control or automatic position adjustment is executed from the [Position] menu.
[Auto]:	Other than remote control or menu operation, automatic position adjustment starts: When the display power is turned ON. When the input signal is switched.

Power on message(No activity power off)

Sets to show/hide [No activity power off] precautions at the time the unit is turned on.

[On]:	The warning precautions are shown at the time of power ON.
[Off]:	The warning precautions are not shown at the time of power ON.

(Note)

● This setting is enabled only when [No activity power off] is [Enable] (see page 51).

Power on message(Power management)

Whether to show/hide an information message that tells the power has been turned off by Power Management when the power is set to [On].

| **[On]:** | The information is shown at the time of power [On]. |
| **[Off]:** | The information is not shown at the time of power [On]. |

(**Note**)

● This setting is enabled only when "Power management" function is [On] (see page 46).

Initialization

When both main unit buttons and remote control buttons are disabled due to the [Button lock], [Controller user level] and [Controller ID function] settings, set all the values [Off] so that all the buttons are enabled again.

Press <VOL - (Unit)> together with <RETURN> and hold for more than 5 seconds.

[Shipping] is displayed and the lock is released when it disappears.

Shipping

● Settings for [Button lock], [Controller user level] and [Controller ID function] will be back to [Off].

Using Network Function

This unit has a network function and you can control the Display connected to the network using your computer.

Necessary environment for computers to be connected

First of all, confirm your computer whether it has a wired LAN or a built-in wireless LAN.

Before connecting the Display to the computer, be sure to check the following settings.

Check 1: About LAN cable

● Is the cable connected properly?
● Use LAN cable that is compatible with category 5 or above.

Check 2: LAN settings

Computer with a built-in LAN function

● Is your LAN switched on?

Computer without a built-in LAN function

● Is your LAN adapter recognized properly?
● Is your LAN adapter switched on?
● Install the LAN adapter driver beforehand.

For details on how to install the driver, refer to the instructions accompanying the LAN adapter.

■ About Web Browser

Web Browser is necessary to use WEB control.

● Compatible OS:

Windows XP / Windows Vista / Windows 7 / Windows 8,

Mac OS X v10.4 / v10.5 / v10.6, OS X v10.7 / v10.8

● Compatible Web Browser:

Internet Explorer 7.0 / 8.0 / 9.0 / 10.0,

Safari 4.x / 5.x / 6.x (Mac OS)

Example of network connection

Note

● To use the network function, set each item in [Network control] and make sure to set [Network control] to [On].

(see page 53)

When it is set to [On], power indicator lights orange under the condition of power "Off" with remote control (stand-by state).

■ LAN Terminal connection
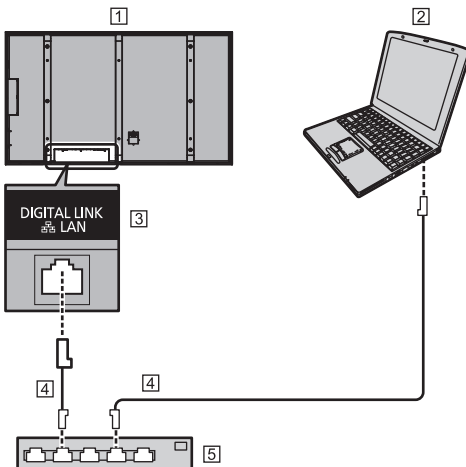
1 Back of the Display
2 COMPUTER
3 LAN Terminal
4 LAN cable (not supplied)
5 Hub or broadband router

Note

● For LAN cable, use shielded cable, otherwise picture noise may be caused.
● Make sure the broadband router or hub supports 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 part of the LAN cable.

● For instructions on connection, consult your network administrator.

■ DIGITAL LINK Terminal connection

A twisted pair cable transmitter, such as the Panasonic Digital Interface Box (ET-YFB100G), uses twisted pair cables to transmit inputted video and audio signals, and these digital signals can be input to the Display via the DIGITAL LINK terminal.
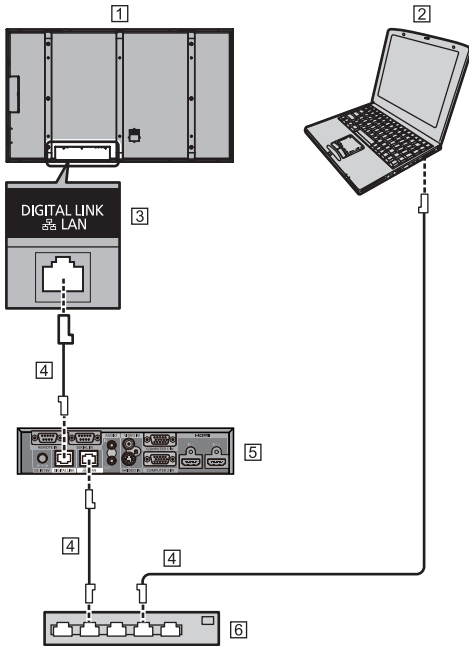
1 Back of the Display
2 COMPUTER
3 LAN Terminal
4 LAN cable (not supplied)
5 Example: Panasonic ET-YFB100G
6 Hub or broadband router

(Note)

● When using a DIGITAL LINK connection, set each item in [Network settings]. (see page 52)

● The Panasonic Digital Interface Box (ET-YFB100G) does not correspond to 4K signal.

Precautions for use while connecting with a twisted pair cable transmitter

About installation / connection

● Ask the dealer or a qualified technician to carry out the cable wiring work for DIGITAL LINK connections. Insufficient wiring work may cause the inability to apply the cable transmission characteristics and cropped or fuzzy images and sounds.

● The transmission distance between the twisted pair cable transmitter and the device is up to 100 meters.

Exceeding this distance can cause cropped images or sounds, as well as LAN communication errors.

● Do not use a hub between the twisted pair cable transmitter and the device.

● When connecting the Display using the twisted pair cable transmitter (receiver) of other manufacturer, do not use another twisted pair cable transmitter between the twisted pair cable transmitter of other manufacturer and this device. The images and sounds may be interrupted or become unstable.

● If possible, lay the cable extended and not coiled in order to minimize both external and internal noise.

● Lay out cables of the twist pair cable transmitter and this product away from other cables, especially from the power supply cable.

● When laying multiple cables, keep them together as close as possible running parallelly and not bundled.

● After laying the cable(s), check that the signal quality in [DIGITAL LINK status] is -12 dB or below.

About Twisted pair cables

● Between the twisted pair cable transmitter and the device, use a LAN cable that conforms to the following conditions.

  • It meets or exceeds CAT5e standards

  • It is a straight cable

  • It is a shielded cable (with a connector)

  • It is a solid cable

● When laying the cable(s), use an instrument such as a cable tester or cable analyser and check whether the cable characteristics are CAT5e or above. When using a relay connector along the path, also include this in the measurements.

● Do not pull cables hard. Also, avoid bending or folding them forcefully.

Other

● This device is compatible with our Digital Interface Box (ET-YFB100G). For the twisted pair cable transmitter of the other maker, see the web site:

http://panasonic.net/prodisplays/support/digitallink.html

Command control

Network function of the unit can control the unit in the same way as serial control from a network.

Supported commands

Commands used in the serial control are supported. (see page 21)

(Note)

● If you would like more detail, please contact the dealer.

PJLink protocol

The unit's Network function is compatible with PJLink Class 1. The following operations can be performed from a computer when PJLink protocol is used.

● Setting the Display
● Querying the Display status

Supported commands

The commands to control the unit with PJLink protocol are as follows.

Command	Control
POWR	Power control
	0: Standby
	1: Power On
POWR?	Power status query
	0: Standby
	1: Power On
INPT	Input switch
	● The numbers from 12 to 15 depend on the installed SLOT.
	31: HDMI1 input (HDMI1)
	32: HDMI2 input (HDMI2)
	33: HDMI3 input (HDMI3)
	34: HDMI4 input (HDMI4)
	35: DisplayPort input (DisplayPort)
	36: DIGITAL LINK input (DIGITAL LINK)
	37: DVI-D IN input (DVI-D)
	11: PC IN input (PC)
	When installed "3G-SDI Terminal Board with Audio" to either SLOT 1 or SLOT 2.
	12: SDI1 input / SDI3 input (SDI1 / SDI3)
	13: SDI2 input / SDI4 input (SDI2 / SDI4)
	When installed "3G-SDI Terminal Board with Audio" to both SLOT 1 and SLOT 2.
	12: SDI1 input (SDI1)
	13: SDI2 input (SDI2)
	14: SDI3 input (SDI3)
	15: SDI4 input (SDI4)

Command	Control
INPT?	Input switch query
	● The numbers from 12 to 15 depend on the installed SLOT.
	31: HDMI1 input (HDMI1)
	32: HDMI2 input (HDMI2)
	33: HDMI3 input (HDMI3)
	34: HDMI4 input (HDMI4)
	35: DisplayPort input (DisplayPort)
	36: DIGITAL LINK input (DIGITAL LINK)
	37: DVI-D IN input (DVI-D)
	11: PC IN input (PC)
	When installed "3G-SDI Terminal Board with Audio" to either SLOT 1 or SLOT 2.
	12: SDI1 input / SDI3 input (SDI1 / SDI3)
	13: SDI2 input / SDI4 input (SDI2 / SDI4)
	When installed "3G-SDI Terminal Board with Audio" to both SLOT 1 and SLOT 2.
	12: SDI1 input (SDI1)
	13: SDI2 input (SDI2)
	14: SDI3 input (SDI3)
	15: SDI4 input (SDI4)
AVMT	Shutter control
	10: Picture On (picture mute deactivated)
	11: Picture Off (picture on mute)
	20: Audio On (audio mute deactivated)
	21: Audio Off (audio on mute)
	30: Shutter mode Off (picture and audio mute deactivated)
	31: Shutter mode On (picture and audio on mute)
AVMT?	Shutter control query
	11: Picture Off (picture on mute)
	21: Audio Off (audio on mute)
	30: Shutter mode Off (picture and audio mute deactivated)
	31: Shutter mode On (picture and audio on mute)

Command	Control
ERST?	Error status query
	First byte: Fan error. 0 or 2.
	Second byte: 0
	Third byte: 0
	Fourth byte: 0
	Fifth byte: 0
	Sixth byte: Other error. 0 or 2.
	● Meaning of 0, 2.
	0: Error is not detected,
	2: Error
LAMP?	Lamp status query
	Not supported
INST?	Input switch list query
	● The numbers from 12 to 15 depend on the installed SLOT.
	31: HDMI1 input (HDMI1)
	32: HDMI2 input (HDMI2)
	33: HDMI3 input (HDMI3)
	34: HDMI4 input (HDMI4)
	35: DisplayPort input (DisplayPort)
	36: DIGITAL LINK input (DIGITAL LINK)
	37: DVI-D IN input (DVI-D)
	11: PC IN input (PC)
	When installed "3G-SDI Terminal Board with Audio" to either SLOT 1 or SLOT 2.
	12: SDI1 input / SDI3 input (SDI1 / SDI3)
	13: SDI2 input / SDI4 input (SDI2 / SDI4)
	When installed "3G-SDI Terminal Board with Audio" to both SLOT 1 and SLOT 2.
	12: SDI1 input (SDI1)
	13: SDI2 input (SDI2)
	14: SDI3 input (SDI3)
	15: SDI4 input (SDI4)
NAME?	Display name query
	The name selected in [Network settings] is returned.
INF1?	Manufacturer name query
	Returns "Panasonic".
INF2?	Model name query
	Returns "84LQ70U".
	(Example: 84-inch U model)
	Returns "84LQ70W".
	(Example: 84-inch W model)
INFO?	Other information query
	Returns version number.
CLSS?	Class information query
	Returns "1".

PJLink security authentication

When using PJLink with security authorization, either of the password set for administrator privileges and the password set for user privileges with Web browser control can be used as the password for PJLink. (see page 68)

When using PJLink without security authorization, set use without the password for administrator privileges and the password for user privileges of Web browser control.

● Concerning the specification of PJLink, see the web site of Japan Business Machine and Information System Industries Association (JBMIA) below:

http://pjlink.jbmia.or.jp/english/index.html

Early Warning Software

This unit supports "Early Warning Software" which monitors the statuses of devices (projectors or flat-panel displays) connected to an intranet, reports failures of devices and gives advance warning by detecting a predicted abnormality.

The maximum number of devices that can be registered to monitor differs according to the type of license. Up to 2048 devices can be registered and used for free for a maximum of 90 days after the installation to PC has completed.

● For more details, visit the following web site.

http://panasonic.net/prodisplays/products/et-swa100/index.html

Connecting with LAN

> **Note**
> ● To use the network function, set each item in [Network settings] and be sure to enable LAN in [Network control] and [DIGITAL LINK mode]. (see page 54)

Computer operation

1 Turn on the computer.

2 Make the network setting according to your system administrator.

When the Display settings are the default settings (see page 52), the computer 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

To use the Web browser control, the unit and computer set ups are required.

■ About Web Browser

Set each item in [Network settings] and be sure to set [Network control] to [On]. (see page 53)

■ Computer Setup

Disable the proxy server settings and enable JavaScript.

● The setting procedure differs depending on the software version.

Please refer to description in HELP, etc. of the software.

(Windows)

Windows 7 is used as an example.

Disable proxy server settings

1 Display [Internet Properties] window.

Click [Start] - [Control Panel] - [Network and Internet] - [Internet Options].

● If the on screen display looks different, please set [View by:] to [Category].

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] - [Control Panel] - [Network and Internet] - [Internet Options].

● If the on screen display looks different, please set [View by:] to [Category].

2 Set the security level on the [Security] tab to [Default Level]. Alternatively enable [Active scripting] from the [Custom Level] button.

(Macintosh)

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.
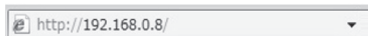
2 Select [Enable JavaScript] under [Web content].

Access to the TOP screen of the Web browser control using a Web browser.

1 Start your Web browser.
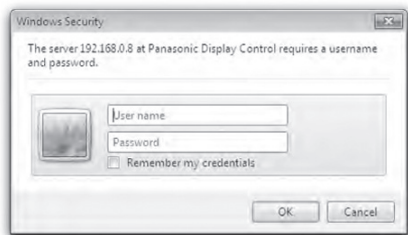
2 Enter the IP address set with the [LAN setup] of the unit.

(see page 52)

> http://192.168.0.8/   ▼

3 Enter the user name and password when the Authentication screen is displayed.

4 Click [OK].

After logged in, the TOP screen of the Web Browser Control is displayed. (see page 68)

(Note)

● The password used here is the same password used for command control and the PJLink security authentication.

● Default user name and password are as follows:
User name: user1 (user information), admin1 (administrator rights)

Password: panasonic

Change password first.

● The password can be changed on the Password Setup screen after logging in (see page 69). The user name cannot be changed.

● When using "Early Warning Software" (see page 66), log in with the administrator rights.

● Under no circumstances, Panasonic Corporation 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

After logging in, the TOP screen of the Web browser control is displayed.
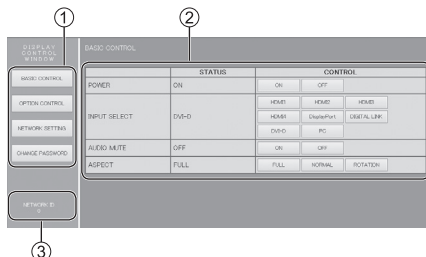
① Menu items are displayed. When a button is clicked, setup screen of each item is displayed.

BASIC CONTROL	The following [BASIC CONTROL] screen is displayed.
OPTION CONTROL	The following [OPTION CONTROL] screen is displayed.
NETWORK SETTING	Network settings screen is displayed. (see page 69)
CHANGE PASSWORD	Password setting screen is displayed. (see page 69)

② According to the selected item from the menu, setup status or set items are displayed.

③ ID to identify the unit is displayed.

[BASIC CONTROL] screen

Click [BASIC CONTROL] from the menu. Unit status and buttons to change settings are displayed.

POWER	Switch the power of the unit [ON] / [OFF].
INPUT SELECT	Switch the input signals. Displayed buttons vary according to the connection status of the video device.
AUDIO MUTE	Switch the sound mute [ON] / [OFF].
ASPECT	Switch the screen modes.

[OPTION CONTROL] screen

Click [OPTION CONTROL] from the menu. Command input field for command control of the unit is displayed.

COMMAND	
RESPONSE	

SEND

COMMAND	Enter a command. Use the same command used for the serial control. (see page 21)
RESPONSE	Response from the unit is displayed.
SEND	Command is sent and run.

Note

● After the settings are changed, it may take a while until the Display's response is displayed.

[NETWORK SETTING] screen

Click [NETWORK SETTING from the menu. Various settings of a network can be set. For details of the setting items, please check [LAN setup] in [Network settings] of the unit. (see page 52)

DHCP	● OFF ○ ON
IP ADDRESS	192.168.0.8
SUBNET MASK	255.255.255.0
GATEWAY	192.168.0.1
PORT	1024
DUPLEX	● AUTO ○ 100 FULL ○ 100 HALF
NETWORK ID	0

SAVE

DHCP	Set to [ON] when a DHCP server is used, or [OFF] when it is not used.
IP ADDRESS	Enter an IP address.
SUBNET MASK	Enter a subnet mask.
GATEWAY	Enter a gateway address.
PORT	Enter the port number used for command control. The available setting range is 1024 - 65535.
DUPLEX	Set the connection speed of the LAN environment.
NETWORK ID	Set the ID to identify this unit. The available setting range is 0 - 99.
SAVE	Save the each set value.

Note

● To use a DHCP server, make sure the DHCP server is started.

● While a DHCP server is used, [IP ADDRESS], [SUBNET MASK], and [GATEWAY] values cannot be entered.

● When the set values are changed successfully, [NETWORK SETTING CHANGED.] message and the changed set items are displayed.

[CHANGE PASSWORD] screen

Click [CHANGE PASSWORD] from the menu. Password to access the Web Browser Control can be set. When the password is changed in this screen, the password used for command control and the PJLink security authentication is also changed.

OLD PASSWORD	●●●●●●
NEW PASSWORD	●●●●●●●●●
NEW PASSWORD (RETYPE)	●●●●●●●●●

SAVE

OLD PASSWORD	Enter the old password.
NEW PASSWORD	Enter the new password.
NEW PASSWORD (RETYPE)	Enter the password entered in [NEW PASSWORD] for confirmation.
SAVE	Save the new password. The confirmation screen is displayed. Click [OK] to change the password.

Note

● The default password is [panasonic].

● Up to 32 alphanumeric characters can be used for a password.

● When the password is changed properly, [Password has changed.] message is displayed.

ID Remote Control Function

You can set the remote control ID when you want to use this remote control on one of several different displays. In that case, you need to set the remote control's ID number to match the Display's ID number you have set in [Display ID] following the steps below.

Setting the remote control's ID number

1 **Set [Controller ID function] to [On].**
(see page 59)

● While displaying [Options] menu, you can operate even if the ID does not match.

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>.**

ID Set	
Display ID	100
Controller ID	---

4 **Press one of <0> - <9>.**
Sets the tens digit.

5 **Press one of <0> - <9>.**
Sets the units digit.

● The steps from 3 to 5 need to be done within 5 seconds.

● Adjustable ID number range is 0 - 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> <0>.

Cancelling the setting of remote control's ID number (ID [0])

You can operate even if the ID does not match the ID set in [Display ID].

Press <ID SET> for more then 3 seconds.

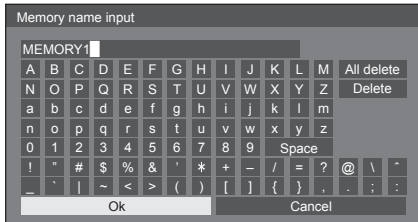This has the same effect as pressing <ID SET> <0> <0>.

(Note)

● The ID remote control cannot be used when [Display ID] is set to anything other than "0", and the remote control ID is not the same as the [Display ID] number. (see page 59)

Entering characters

Some settings require to enter characters.

To enter text, select characters in the on-screen keyboard.

Example: Entering profile names ([Memory save])

Memory name input													
MEMORY1													
A	B	C	D	E	F	G	H	I	J	K	L	M	All delete
N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Delete
a	b	c	d	e	f	g	h	i	j	k	l	m	
n	o	p	q	r	s	t	u	v	w	x	y	z	
0	1	2	3	4	5	6	7	8	9	Space			
!	"	#	$	%	&	'	*	+	−	/	=	?	@	\	^
_	`	|	~	<	>	(	)	[	]	{	}	,	.	;	:
Ok						Cancel							

The default profile name is [MEMORY1], here, we are changing it to [MY PICTURE] as an example.

1 Select [All delete] with ▲ ▼ ◄ ►, and press <ENTER>.

MEMORY1

All text is deleted.

To delete individual characters, select [Delete].

2 Select [M] with ▲ ▼ ◄ ►, and press <ENTER>.

M

Repeat this process to enter the next character.

3 Select [Space] with ▲ ▼ ◄ ►, and press <ENTER>.

MY

As shown in step 2, select the characters to enter [PICTURE].

4 When you finished entering the profile name, select [Ok] with ▲ ▼ ◄ ► and press <ENTER>.

Memory name input													
MY PICTURE													
A	B	C	D	E	F	G	H	I	J	K	L	M	All delete
N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Delete
a	b	c	d	e	f	g	h	i	j	k	l	m	
n	o	p	q	r	s	t	u	v	w	x	y	z	
0	1	2	3	4	5	6	7	8	9	Space			
!	"	#	$	%	&	'	*	+	−	/	=	?	@	\	^
_	`	|	~	<	>	(	)	[	]	{	}	,	.	;	:
Ok						Cancel							
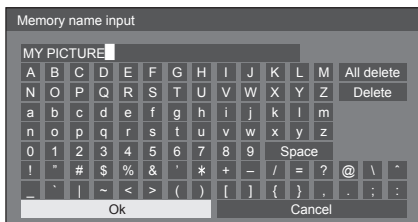
● To cancel saving the profile, select [Cancel].

Command list of Weekly Command Timer

No.	Command	Control details
1	AAC:4IM0	4 Input multi display Sound: Off
2	AAC:4IM1	4 Input multi display Sound: Upper left
3	AAC:4IM2	4 Input multi display Sound: Upper right
4	AAC:4IM3	4 Input multi display Sound: Lower left
5	AAC:4IM4	4 Input multi display Sound: Lower right
6	AMT:0	Audio Mute (OFF)
7	AMT:1	Audio Mute (ON)
8	–	–
9	–	–
10	AVL:00	Audio Volume (00)
11	AVL:10	Audio Volume (10)
12	AVL:20	Audio Volume (20)
13	AVL:30	Audio Volume (30)
14	AVL:40	Audio Volume (40)
15	AVL:50	Audio Volume (50)
16	AVL:60	Audio Volume (60)
17	DAM:FULL	Aspect (16:9)
18	DAM:NORM	Aspect (4:3)
19	DAM:ZOOM	Aspect (Zoom)
20	IMS:HM1	Input select (During 4 Input multi display: Upper left) HDMI1
21	IMS:HM2	Input select (During 4 Input multi display: Upper left) HDMI2
22	IMS:HM3	Input select (During 4 Input multi display: Upper left) HDMI3
23	IMS:HM4	Input select (During 4 Input multi display: Upper left) HDMI4
24	IMS:DP1	Input select (During 4 Input multi display: Upper left) DisplayPort
25	IMS:DL1	Input select (During 4 Input multi display: Upper left) DIGITAL LINK
26	IMS:DV1	Input select (During 4 Input multi display: Upper left) DVI-D
27	IMS:PC1	Input select (During 4 Input multi display: Upper left) PC
28	IMS:S1A	Input select SLOT 1A
29	IMS:S1B	Input select SLOT 1B
30	IMS:S2A	Input select SLOT 2A
31	IMS:S2B	Input select SLOT 2B
32	SSU:4IM2HM1	Input select during 4 Input multi display (Upper right) HDMI1
33	SSU:4IM2HM2	Input select during 4 Input multi display (Upper right) HDMI2
34	SSU:4IM2HM3	Input select during 4 Input multi display (Upper right) HDMI3
35	SSU:4IM2HM4	Input select during 4 Input multi display (Upper right) HDMI4
36	SSU:4IM2DP1	Input select during 4 Input multi display (Upper right) DisplayPort
37	SSU:4IM2DL1	Input select during 4 Input multi display (Upper right) DIGITAL LINK
38	SSU:4IM2DV1	Input select during 4 Input multi display (Upper right) DVI-D
39	SSU:4IM2PC1	Input select during 4 Input multi display (Upper right) PC
40	SSU:4IM3HM1	Input select during 4 Input multi display (Lower left) HDMI1
41	SSU:4IM3HM2	Input select during 4 Input multi display (Lower left) HDMI2
42	SSU:4IM3HM3	Input select during 4 Input multi display (Lower left) HDMI3
43	SSU:4IM3HM4	Input select during 4 Input multi display (Lower left) HDMI4
44	SSU:4IM3DP1	Input select during 4 Input multi display (Lower left) DisplayPort
45	SSU:4IM3DL1	Input select during 4 Input multi display (Lower left) DIGITAL LINK
46	SSU:4IM3DV1	Input select during 4 Input multi display (Lower left) DVI-D
47	SSU:4IM3PC1	Input select during 4 Input multi display (Lower left) PC
48	SSU:4IM4HM1	Input select during 4 Input multi display (Lower right) HDMI1

No.	Command	Control details
49	SSU:4IM4HM2	Input select during 4 Input multi display (Lower right) HDMI2
50	SSU:4IM4HM3	Input select during 4 Input multi display (Lower right) HDMI3
51	SSU:4IM4HM4	Input select during 4 Input multi display (Lower right) HDMI4
52	SSU:4IM4DP1	Input select during 4 Input multi display (Lower right) DisplayPort
53	SSU:4IM4DL1	Input select during 4 Input multi display(Lower right) DIGITAL LINK
54	SSU:4IM4DV1	Input select during 4 Input multi display (Lower right) DVI-D
55	SSU:4IM4PC1	Input select during 4 Input multi display(Lower right) PC
56	–	–
57	POF	Power OFF
58	PON	Power ON
59	SSU:4IM0	4 Input multi display Off
60	SSU:4IM1	4 Input multi display On
61	SSC:MOD0	Screen Saver (Mode (Off))
62	SSC:MOD3	Screen Saver (Mode (On))
63	VMT:0*	Picture Mute (OFF)
64	VMT:1*	Picture Mute (ON)

∗: Picture Mute cannot be unlocked by powering off/on with the remote control. Turn off and on again with the button on the unit or enter the command VMT:0 to unlock Picture Mute.

Preset Signals

Following signal timing is preset to this unit.

These preset signals are written on EDID of the each input terminal. (Except for ∗6)

In many cases, it is possible to receive the signals other than below with this unit's multi scan function. (Except for 4K signal)

✔ Mark: Preset signal

Signal name	H-Freq. (kHz)	V-Freq. (Hz)	Dot clock frequency (Hz)	PC IN	HDMI 1 HDMI 2	HDMI 3 HDMI 4 DVI-D IN	DIGITAL LINK	DisplayPort
525 (480) / 60i	15.73	59.94	13.5	✔				
625 (576) / 50i	15.63	50.00	13.5	✔				
525 (480) / 60i∗2	15.75	60.00	27.0		✔	✔	✔	
625 (576) / 50i	15.63	50.00	27.0		✔	✔	✔	
525 (480) / 60p∗2	31.50	60.00	27.0	✔	✔	✔	✔	
625 (576) / 50p	31.25	50.00	27.0	✔	✔	✔	✔	
750 (720) / 60p∗2	45.00	60.00	74.25	✔	✔	✔	✔	✔
750 (720) / 50p	37.50	50.00	74.25	✔	✔	✔	✔	✔
1 125 (1080) / 60i∗1 ∗2	33.75	60.00	74.25	✔	✔	✔	✔	
1 125 (1080) / 50i∗1	28.13	50.00	74.25	✔	✔	✔	✔	
1 125 (1080) / 24p∗1 ∗2	27.00	24.00	74.25	✔	✔	✔	✔	
1 125 (1080) / 25p∗1	28.13	25.00	74.25	✔	✔	✔	✔	
1 125 (1080) / 30p∗1 ∗2	33.75	30.00	74.25	✔	✔	✔	✔	
1 125 (1080) / 60p∗1 ∗2	67.50	60.00	148.5	✔	✔	✔	✔	✔
1 125 (1080) / 50p∗1	56.25	50.00	148.5	✔	✔	✔	✔	✔
640 × 480 (VGA)	31.47	59.94	25.18	✔	✔	✔	✔	✔
800 × 600 (SVGA)	37.88	60.32	40.00	✔	✔	✔	✔	✔
1 024 × 768 (XGA)	48.36	60.00	65.00	✔	✔	✔	✔	✔
1 280 × 768	47.70	60.00	80.14	✔	✔∗6	✔	✔	✔
1 366 × 768	48.39	60.04	86.71	✔	✔∗6	✔	✔	✔
1 280 × 1 024 (SXGA)	63.98	60.02	108.0	✔	✔	✔	✔	✔
1 600 × 900	60.00	60.00	108.0	✔	✔	✔	✔	✔
1 920 × 1 080	67.50	60.00	148.5	✔	✔	✔	✔	✔
1 920 × 1 200 (UXGA)	74.04	59.95	154.0	✔	✔	✔	✔	✔
4K signal								
3 840 / 24p∗2	54.00	24.00	297.0		✔		✔	✔
3 840 / 25p	56.25	25.00	297.0		✔		✔	✔
3 840 / 30p∗2	67.50	30.00	297.0		✔		✔	✔
4 096 / 24p∗2	54.00	24.00	297.0		✔		✔	
3 840 / 50p	112.5	50.00	594.0		✔		✔∗4	✔∗5
3 840 / 60p∗2	135.0	60.00	594.0		✔		✔∗4	✔∗5
4 096 / 50p	112.5	50.00	594.0		✔		✔∗4	
4 096 / 60p∗2	135.0	60.00	594.0		✔		✔∗4	
4K (Dual Link) signal								
3 840 / 50p	112.5	50.00	297.0		✔∗3			
3 840 / 60p∗2	135.0	60.00	297.0		✔∗3			
4 096 / 50p	112.5	50.00	297.0		✔∗3 ∗6			
4 096 / 60p∗2	135.0	60.00	297.0		✔∗3 ∗6			

∗1: Based on SMPTE 274M standard.

∗2: Compatible with frame frequency 1/1.001

∗3: The format supports Dual Link. (see page 16)

∗4: Supported in YC$_{BCR}$ 4:2:0 format

∗5: Supported with MST(Multi Stream Transport) only

∗6: Not written on EDID

In some cases, these signals may not be displayed when setting Resolution on your PC.

Note

● Signals without above specification may not be displayed properly.

● For the signals when 3G-SDI Terminal Board with Audio is installed, refer to the manual included with it.
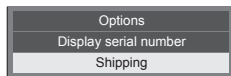
Shipping condition

You can reset the settings / the adjusted values of the following menus to the factory settings:
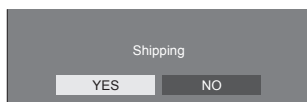[Picture], [Sound], [Setup], [Position], [Options]

■ **Remote control**

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

2   **Select [OSD language] with ▲ ▼ and press <ENTER> for more than 3 seconds.**

The following screen will be displayed.

Options
Display serial number
Shipping

3   **Select [Shipping] with ▲ ▼ and press <ENTER>.**

Shipping	
YES	NO

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, turn the power off pressing <Main Power On / Off switch>.**

■ **Unit**

1   **Press <MENU (Unit)> for several times and display the [Setup] menu.**

2   **Select [OSD language] with <VOL - (Unit)> or <VOL + (Unit)>, and then press and hold <ENTER (Unit)> for more than 5 seconds.**

3   **Select [YES] with <VOL - (Unit)> or <VOL + (Unit)> and press <ENTER (Unit)>.**

The message [Shipping (wait a moment)] will be displayed.

4   **After the message [Please turn off the power] is displayed, turn the power off pressing <Main Power On / Off switch>.**

Troubleshooting

Before you call for service, determine the symptoms and make a few simple checks as shown below.

Symptoms		Check
Picture	**Sound**	
Interference	Noisy Sound	Electrical Appliances Cars / Motorcycles Fluorescent light
Normal Picture	No Sound	Volume (Check whether the mute function has been activated on the remote control.)
No Picture	No Sound	Not plugged into AC outlet Not switched on Picture and Brightness/Volume setting (Check by pressing the power switch or stand-by button on the remote control.)
No Picture	Normal Sound	If a signal with a non-applicable colour system format, or frequency is input, only the input terminal indication is displayed.
No Colour	Normal Sound	Colour controls set at minimum level (see page 36, 37)
No remote control operations can be performed.		Check whether the batteries have discharged completely and, if they have not, whether they were inserted properly. Check whether the remote control sensor is exposed to an outdoor light or a strong fluorescent light. Check whether the remote control designed specifically for use with the unit is being used. (The unit cannot be operated by any other remote control.) Check whether the option other than [Off] is selected in [Controller user level] in the [Options] menu. (see page 59) Check whether [Controller ID function] in [Options] menu is set to [On]. (see page 59) Check whether <ID MODE> switch is set to <ON>. (see page 70)
[Controller ID function] function cannot be used.		Check whether [Controller ID function] is set to [On], or <ID MODE> switch is set to <ON>. (see page 59) (When [Controller ID function] is set to [On], you need to set <ID MODE> switch to <ON> and set the ID number.)
The top or bottom of the picture on the screen is cut off.		Adjust the position of the picture on the screen. (see page 33, 34)
There are areas at the top and bottom of the screen where picture is not displayed.		When using a video software program (such as a cinema size program) with a screen wider than one in the 16:9 mode, blank areas separate from the images are formed at the top and bottom of the screen. (see page 29)
Parts of the unit become hot.		Even when the temperature of parts of the front, top and rear panels has risen, these temperature rises will not pose any problems in terms of performance or quality.

Symptoms	Check
Power automatically turns off unexpectedly.	Check the settings of [No signal power off], [PC power management], [DVI-D power management], [HDMI1 power management], [HDMI2 power management], [HDMI3 Power management], [HDMI4 power management] and [No activity power off]. Any of them may be set to [On (Enable)]. (see page 46)
There is no picture displayed or sound output sometimes.	When HDMI or DVI signals are input to the Display using a selector or distributor, sound or images may not be output in the normal fashion depending on the selector or distributor used. The symptoms may be improved by turning the power off and on again, or by replacing the selector or distributor.
Whirring sounds can be heard from the display unit.	The display unit is fitted with a cooling fan to dissipate heat generated during normal use. The whirring sound is caused by rotation of the fan and is not a malfunction.
The RS-232C is uncontrollable	Check whether the connection has been made properly. (see page 20) To control RS-232C command (see page 21) with the Display's SERIAL terminal, when [Network control] in [Network settings] is set to [On], is [DIGITAL LINK mode] set to the item other than [DIGITAL LINK(RS-232C)]? (see page 53) To control RS-232C command (see page 21) with the DIGITAL LINK equipment's SERIAL terminal, is [Network control] in [Network settings] set to [On] and [DIGITAL LINK mode] set to [DIGITAL LINK(RS-232C)]? (see page 53)
The LAN is uncontrollable	Check whether the connection has been made properly. (see page 63) When controlling with the Web Browser Control or the command control, check whether [Network control] is set to [On] (see page 53), [DIGITAL LINK mode] is set to [LAN], [Auto(LAN)] or [DIGITAL LINK(LAN)]. When connecting to a device of AMX or Extron, set [AMX D.D.] or [Extron XTP] according to the device to use. (see page 53, 54) See the [Signal quality] information of [DIGITAL LINK status] to check the LAN cable status such as whether the LAN cable is disconnected or the cable is not shielded. (see page 54)
There is no picture displayed or sound output from the [DIGITAL LINK] 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 product. (see page 64) Check that [DIGITAL LINK mode] is not set to [LAN]. (see page 54)
Power indicator is blinking in red.	There is possibility of malfunction. Please contact an Authorized Service Centre.

This LCD Display uses special image processing. Hence a slight time lag may occur between image and audio, depending on the type of input signal. However, this is not a malfunction.

LCD Display panel

Symptoms	Check
The screen darkens slightly when bright pictures with minimal movements are shown.	The screen will darken slightly when photos, still images of a computer or other pictures with minimal movements are shown for an extended period. This is done to reduce image retention on the screen and the shortening of the screen's service life: It is normal and not indicative of malfunctioning.
It takes a while for the picture to appear.	The unit digitally processes the various signals in order to reproduce esthetically pleasing images. As such, it sometimes takes a few moments for the picture to appear when the power has been turned on, when the input has been switched.
The edges of the images flicker.	Due to the characteristics of the system used to drive the panel, the edges may appear to flicker in the fast-moving parts of the images: This is normal and not indicative of malfunctioning.
There may be red spots, blue spots, green spots and black spots on the screen.	This is a characteristic of liquid crystal panels and is not a problem. The liquid crystal panel is built with very high precision technology giving you fine picture details. Occasionally, a few non-active pixels may appear on the screen as fixed points of red, blue, green, or black. Please note this does not affect the performance of your LCD.
Example Image retention appears	Image retention may occur. If you display a still picture for an extended period, the image might remain on the screen. However, it will disappear when a general moving picture is displayed for a while. This is not considered as malfunction.

Specifications

Model No.

84-inch model : TH-84LQ70U
98-inch model : TH-98LQ70U
84-inch model : TH-84LQ70W
98-inch model : TH-98LQ70W

Power Consumption

TH-84LQ70U:
  560 W
TH-98LQ70U:
  650 W
TH-84LQ70W:
  540 W
TH-98LQ70W:
  620 W

  Power off condition
    0.3 W
  Stand-by condition
    0.5 W

LCD Display panel

84-inch model
  84-inch IPS panel (LED backlight), 16:9 aspect ratio
98-inch model
  98-inch IPS panel (LED backlight), 16:9 aspect ratio

Screen size

84-inch model
  1 860 mm (W) × 1 047 mm (H) × 2 135 mm (diagonal) /
  73.2" (W) × 41.2" (H) × 84.0" (diagonal)

98-inch model
  2 159 mm (W) × 1 214 mm (H) × 2 477 mm (diagonal) /
  85.0" (W) × 47.8" (H) × 97.5" (diagonal)

  (No. of pixels)
    8 294 400 (3 840 (W) × 2 160 (H))

Dimensions (W × H × D)

84-inch model
  1 949 mm × 1 141 mm × 99 mm /
  76.7" × 44.9" × 3.9"

98-inch model
  2 233 mm × 1 288 mm × 122 mm /
  87.9" × 50.7" × 4.8"

Mass

84-inch model
  approx. 108.0 kg / 238.1 lbs net
98-inch model
  approx. 136.0 kg / 299.9 lbs net

Power source

TH-84/98LQ70U:
  110 - 127 V AC, 50/60 Hz
TH-84/98LQ70W:
  220 - 240 V AC, 50/60 Hz

Operating condition

Temperature
  0 °C to 40 °C (32 °F to 104 °F)*1
Humidity
  20 % to 80 % (no condensation)

Storing condition

Temperature
  -20 °C to 60 °C (-4 °F to 140 °F)
Humidity
  20 % to 80 % (no condensation)

Connection terminals

HDMI 1
HDMI 2
HDMI 3
HDMI 4

  TYPE A Connector*2 × 4

    (HDMI 1 and HDMI 2 support 4K. HDMI 3
    supports DEEP COLOR.)

  Audio signal:

    Linear PCM (sampling frequencies - 48 kHz,
    44.1 kHz, 32 kHz)

DVI-D IN

  DVI-D 24 Pin:

    Compliance with DVI Revision 1.0

  Content Protection:

    Compatible with HDCP 1.1

PC IN

High-Density Mini D-sub 15 Pin:
Compatible with DDC2B

Y/G:
1.0 Vp-p (75 Ω) (with sync)
0.7 Vp-p (75 Ω) (without sync)

$P_B/C_B/B$:
0.7 Vp-p (75 Ω)

$P_R/C_R/R$:
0.7 Vp-p (75 Ω)

HD/VD:
1.0 - 5.0 Vp-p (high impedance)

AUDIO IN

Stereo mini jack (M3) 0.5 Vrms

DisplayPort

DisplayPort Terminal × 1

Audio signal:
Linear PCM (sampling frequencies - 48 kHz, 44.1 kHz, 32 kHz)

SERIAL

External Control Terminal

D-sub 9 Pin:
RS-232C compatible

DIGITAL LINK / LAN

For RJ45 network and DIGITAL LINK connections, compatible with PJLink

Communication method:
RJ45 100BASE-TX

Sound

Speakers
120 mm × 40 mm × 2 pcs

AUDIO OUT
Stereo mini jack (M3) 0.5 Vrms

Output: Variable (-∞ to 0 dB)
(1 kHz 0 dB input, 10 kΩ load)

Audio Output
20 W [10 W + 10 W] (10 % THD)

Remote Control Transmitter

Power source
DC 3 V (battery (AAA/R03/UM4 type) × 2)

Operating range
Approx. 30 m (90 ft)
(when operated directly in front of receptor)

Mass
102 g (including batteries)

Dimensions (W × H × D)
48 mm × 145 mm × 27 mm /
1.89" × 5.71" × 1.06"

∗1: Environmental temperature to use this unit at high altitudes (1 400 m (4 593 ft) and higher and below 2 400 m (7 874 ft) above sea level): 0 °C to 35 °C (32 °F to 95 °F)

∗2: VIERA LINK is not supported.

(Note)

- Design and specifications are subject to change without notice. Mass and dimensions shown are approximate.
- This equipment complies with the EMC standards listed below.
  EN55022, EN55024, EN61000-3-2, EN61000-3-3.

Software License

■ Software Information for This Product

This product has software installed partially licensed under the Free BSD LICENSE.

Free BSD LICENSE regulations under the above specifications are as follows:

(These regulations are set by the third party; therefore the original (English) regulations are stated.)

Copyright © 1980, 1986, 1993

The Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: This product includes software developed by the University of California, Berkeley and its contributors.
4. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Information for Users on Collection and Disposal of Old Equipment and used Batteries

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should 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 and the Directives 2002/96/EC and 2006/66/EC.

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

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

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

[Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

Note for the battery symbol (bottom two symbol examples):

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.

Cd

USA only: Disposal may be regulated in your community due to environmental considerations. For disposal or recycling information, please visit Panasonic website:
http://www.panasonic.com/environmental
or call 1-888-769-0149.

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**

For TH-84LQ70U and TH-98LQ70U

Panasonic System Communications Company of North America

Unit of Panasonic Corporation of North America

Executive Office :

Two Riverfront Plaza, Newark, New Jersey 07102-5490

Panasonic Canada Inc.

5770 Ambler Drive
Mississauga, Ontario
L4W 2T3

For TH-84LQ70W and TH-98LQ70W

Pursuant to the directive 2004/108/EC, article 9(2)
Panasonic Testing Centre
Panasonic Service Europe, a division of Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg, F.R. Germany

English

Panasonic Corporation

Web Site: http://panasonic.net

© Panasonic Corporation 2014